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NAVAL STAFF MONOGRAPHS (HISTORICAL).

FLEET ISSUE.

VOLUME XV.

HOME WATERS—Part VI.

From October 1915 to May 1916.

September 1926.

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From October 1915 to May 1916.

Monograph No. 31.

NAVAL STAFF,

TRAINING AND STAFF DUTIES DIVISION,

September, 1926.



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NAVAL STAFF MONOGRAPHS

FIRST ISSUE

VOLUME XV

HOME WATERS Part VI

Even October 1915 to May 1916

HOME WATERS, PART VI.

October 1915 to May 1916.

CONTENTS.

	PAGE
INTRODUCTION	viii
NOTE ON SOURCES	viii
CHAPTER I.—CRUISER SWEEPS AND MINELAYING OPERATIONS, SEPTEMBER 29 TO NOVEMBER 8	1
1. British Submarines off the Norwegian Coast, September 29 to December 31. 2. Anti-minelayer Patrols and Minefields, October. 3. Sweeps by Grand Fleet Cruisers, October. 4. Sweeps by the Harwich Force, October. 5. Commodore Tyrwhitt's Sweep across the German Bight, October 31. 6. German Operations in the Bight, October. 7. The High Sea Fleet preparing for a Sortie. 8. The German Sortie of October 23-24. 9. Transfer of Battleships and Submarines to the Mediterranean. 10. Sweep to the Skagerrak, November 6 and 7. 11. The Borkum Area Mined again, November 8-9. 12. <i>Matchless</i> Mined in the Swept Channel, November 9.	
CHAPTER II.—OPERATIONS FROM ZEEBRUGGE AND ATTEMPTS TO COUNTER THEM, OCTOBER AND NOVEMBER	15
13. Work of the <i>U.C.</i> Boats in the first half of October. 14. Scheme to bar the Thames Estuary to Submarines. 15. Bombardment of Zeebrugge, October 3. 16. Operations of <i>U.B.</i> Boats. 17. The <i>U.C.</i> Minefields off Portsmouth. 18. Minefields in the East Coast and in the Dover Command, last half of October. 19. Effect of the Counter-measures. 20. The November Minefields.	
CHAPTER III.—EVENTS IN THE NORTH SEA, NOVEMBER 9 TO THE END OF 1915	24
21. The question of employing Submarines with the Fleet in a Fleet Action. 22. Function of the Blyth Submarine Flotilla. 23. The Submarine-towed-by-a-trawler Scheme abandoned. 24. Two British Submarines in Heligoland Bight, November 16 to 22. 25. A supposed Enemy Cruiser emerging from the Kattegat, November 18. 26. German Sweep of the Kattegat, November 17. 27. Three Submarines Reconnoitre the Orkneys, November 19 to 24. 28. Sweep to the Skagerrak, November 29. 29. German Sweep of the Skagerrak and Kattegat, December 16 to 18. 30. Sweeps to prevent Minelaying by Surface Vessels, December. 31. The Harwich Force Sweeps across the German Bight, December 21. 32. Four British Submarines in the Bight, December 19 to 23. 33. The <i>U.C.</i> Minefields of December. 34. Minesweeping Routine in the Thames Estuary. 35. Revival of <i>U.B.</i> Warfare. 36. Operations of <i>U.</i> Boats in December. 37. One <i>U.</i> Boat operates in the South-west Approach, end of December.	

CHAPTER IV.—THE WHITEN BANK MINEFIELD AND THE RESUMPTION OF *U.B.* AND ZEPPELIN ATTACKS IN JANUARY 1916 47

38. Anti-minelayer Patrols, January 2 to 10. 39. Loss of the *King Edward VII*, January 6. 40. The First Cruise of the *Moewe*. 41. Premature Explosion of a Depth Charge, January 11. 42. Scapa Boom Defences Wrecked. 43. Another German Minelayer expected, January 29. 44. British Submarines watching the Bight. 45. Harwich Force Operations, first half of January. 46. Air Attack on Hage Sheds frustrated by the weather, January 18. 47. Second attempt at the Air Attack abandoned, January 28. 48. Resumption of *U.B.* Boat Attacks on Fishing Smacks, January. 49. Zeppelin Raid of January 31. 50. Hunt for a disabled Zeppelin. 51. Supposed Destruction of a ship by a Zeppelin.

CHAPTER V.—THE NORTH SEA AND HOOFDEN IN FEBRUARY 1916. LOSS OF THE *ARABIS* AND *ARETHUSA* 65

52. Aeroplane Bombardments of Dover, Broadstairs and Lowestoft, January and February. 53. The *U.C.* Minefields of January and February. 54. Efforts to counter the Minelaying Submarines, January and February. 55. Inauguration of Q Messages to warn H.M. Ships of *U.C.* Minefields, January 1916. 56. Work of the *U.B.* Boats in February. 57. Battle Cruiser Raid expected, February 9. 58. The 10th Sloop Flotilla encounter the Enemy, February 10. 59. British Movements. 60. The *Arabis* in action with German Destroyers, February 10. 61. German Movements, February 9 to 11. 62. British Submarines in the German Bight, February 6 to 15. 63. Further Sweeping of L Channel, February 19 to 21. 64. Attempt to Exercise the Harwich Force with the Grand Fleet, February 26. 65. British Submarines in the Bight, last half of February. 66. The Skagerrak Patrol, first half of February. 67. Discovery of a Leon Mine, February 12. 68. The Skagerrak Patrol, last half of February. 69. A German Raider sunk North-east of the Shetlands, February 29. 70. The Dover Barrage forced, February 29. 71. Measures to meet the possibility of a Hostile Landing behind the French Lines.

CHAPTER VI.—THE SECOND SUBMARINE CAMPAIGN AGAINST MERCHANT VESSELS; THE SOUTH-WEST APPROACH, MARCH 1915 94

72. The New German Submarine Policy. 73. *U.32* raids the South-west Approach, March 4 to 8. 74. New Route for Incoming Transports. 75. Submarine Attack on the *Crescent*, March 15. 76. The North Channel Patrol in March 1916. 77. The North Channel and South-west Approach forbidden to Shipping, March 15 to 19. 78. The Q-ship *Farnborough* encounters a Submarine, March 22. 79. The Beginning of the Control of the Movements of Merchant Vessels, March 1916. 80. *U.43* and *U.70* Operating North and South of Ireland, middle of March. 81. Westbound Traffic Stopped, March 25. 82. The North Channel Reopened, March 26. 83. The Attack in the South-west Approach, end of March. 84. A Defensively Armed Merchant Vessel claims a Submarine, March 24.

CHAPTER VII.—THE SECOND SUBMARINE CAMPAIGN IN THE SOUTH-WEST APPROACH, APRIL AND MAY 1916 111

85. *U.44* and *U.28* return Home, April 2. 86. Westbound Traffic Suspended again, April 6. 87. General Resumption of Sailings, April 11. 88. Shipping on the Move, April 11 to 17. 89. The Queenstown Q-ships, April 15. 90. Sailings Suspended, April 17 to 19. 91. *U.67* and *U.69* return Home. 92. Continuation of the Attack, end of April. 93. End of the Second Submarine Campaign. 94. *U.20* the last Submarine to operate in the Second Campaign. 95. The First Sinn Fein Rebellion, April 1916.

CHAPTER VIII.—WORK OF THE FLANDERS FLOTILLA IN THE SECOND SUBMARINE CAMPAIGN 130

96. Operations on the Transport Routes to France. 97. Havre Closed March 23 to 25 and April 2 to 4. 98. Destruction of a *U.B.* Boat by the Havre Drifter Flotilla, April 5. 99. Further Attacks on the Transport Route, April. 100. Raids on the Lowestoft Fishing Fleet, March 1 and 6; and Anti-submarine Operations from Lowestoft, March. 101. Holland takes Action to Protect Dutch Shipping. 102. The Torpedoing of the *Sussex*, March 24. 103. A Barrage Instituted off Lowestoft, April 16. 104. The "*Zareba*" laid off the Belgian Coast, 24 April to 7 May 1916. 105. Effect of the Torpedoing of the *Sussex*.

CHAPTER IX.—NORTH SEA OPERATIONS IN THE FIRST THREE WEEKS OF MARCH 145

106. Zeppelin Raid on Hull, March 5. 107. The German Fleet out, March 6. 108. German Plan of Operations. 109. The German Sweep of March 6. 110. British Submarines in Heligoland Bight and the Kattegat, March 5-10. 111. First British Submarine Mining of Heligoland Bight, March 8. 112. Destroyer Sweep for Submarines in K Channel, March 10. 113. Further Mining of Borkum Riff, March 15. 114. A British Submarine Mined off the Ems, March 22. 115. Sweeps across the Skagerrak and Watch on Horn Reefs, March 9 to 19. 116. Loss of *E.24*. 117. Air Raid on Zeebrugge Aerodromes, March 20.

CHAPTER X.—THE AIR RAID ON HOYER NEAR SYLT, MARCH 26; AND MOVEMENTS CONNECTED WITH IT 160

118. The Plan of Operations. 119. The Harwich Force Sails, March 24. 120. Movements of the Harwich Force during the Air Raid. 121. Taking the *Medusa* in tow. 122. The *Medusa* abandoned. 123. The Night Encounter with Enemy Destroyers. 124. The *Undaunted* damaged. 125. The German Fleet known to be at Sea. 126. The German Forces withdraw. 127. Movements of the Grand Fleet. 128. The *Undaunted's* voyage to the Tyne. 129. The end of the *Medusa*. 130. Movements of German Forces towards Horn Reefs. 131. German Destroyers encounter our Cruisers. 132. Withdrawal of the German Sweeping Forces. 133. The Westerly Sweep of the German Cruisers. 134. Mining of the Forth by *U.74* and German discovery of British Submarine Minelaying. 135. The German Decyphering Station at Neumünster.

	PAGE
CHAPTER XI.—ZEPPELIN RAIDS ON ENGLAND AND A SWEEP OF THE SKAGERRAK IN APRIL	178
136. A Week of Airship Raids Planned. 137. The Zeppelin Raid of March 31–April 1. 138. <i>L.15</i> captured in the Thames. 139. The Air Raids on Northumberland and Edinburgh, April 1–2 and 2–3. 140. Attack by Military Airships, April 2–3. 141. The Air Raids of April 4 and 5. 142. British Submarines in the German Bight, first half of April. 143. Further Sweeps of the Norwegian Coast. 144. British Submarines sent out to catch German Submarines. 145. German Attempt to Mine Fleet Bases. 146. Operation <i>L</i> , a Destroyer Sweep of the Kattegat. 147. The Grand Fleet Sails, April 21. 148. Sweep of the Skagerrak, April 22–23. 149. The Submarine Watch on the Belts and the Sound. 150. German Movements, April 21 and 22. 151. British Submarines in the Bight. 152. The Bombardment of Lowestoft, April 25.	

CHAPTER XII.—FROM THE BOMBARDMENT OF LOWESTOFT TO THE EVE OF THE BATTLE OF JUTLAND 192

153. Proposals to move the Battlefleet South. 154. Removal of the 3rd Battle Squadron from the Forth. 155. The Cruise of <i>U.B.27</i> . 156. Plan for a Combined Air and Mining Raid on the Bight. 157. A Zeppelin Raid expected. 158. Zeppelin Raid of May 2–3. 159. Grand Fleet Sails for Operation <i>XX</i> . 160. Laying of the Minefields at each end of the German Bight. 161. The Seaplane Raid. 162. Destruction of a Zeppelin. 163. Movements of the Grand Fleet and the Battle Cruisers. 164. The Enemy Discover the Presence of our Fleet. 165. British Submarines watching the Bight. 166. The Watch on the Scandinavian Coasts, May. 167. Submarine Watch in the Kattegat. 168. Defensive Minefields laid off Lowestoft and in the Moray Firth. 169. The Belgian Coast in May. 170. The Folkestone–Gris Nez Boom Dismantled. 171. Indications of a German Sortie.	
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APPENDICES.

	PAGE
Appendix A. Selection of Telegraphic Orders and Signals, General, September 1915 to May 1916	216
Appendix B. Selection of Telegrams connected with the Second Submarine Attack in the South-west Approach ...	230
Appendix C. Selection of Telegrams connected with Operation <i>H.R.A.</i> , 24 to 26 March 1916	251
Appendix D. <i>U.C.</i> Minefields	258
Appendix E. Minelayers with the Fleet in Action, 2 October 1915 ...	261
Appendix F. Precautions against Minelaying, 1–12 December 1915	264
Appendix G. Shortage of Trained Personnel, 30 November 1915 ...	266
Appendix H. Regulations for Defensively Armed Merchant Ships, 1 December 1915	267
Appendix K. Orders for Submarines operating from Blyth, 9 December 1915	268
Appendix L. Organisation of the British Naval Forces in Home Waters, 31 December 1915	270
Appendix M. Memorandum on Enemy Mining, 11 January 1916 ...	272
Appendix N. Orders for Cruise to Norwegian Coast, 10 March 1916	276
Appendix O. Question of Moving the Grand Fleet to the Forth, 15 April 1916	277
Appendix P. Orders for Operation <i>L</i> , 18 April 1916	278
Appendix Q. Orders for Operation <i>XX</i> , 30 April 1916	282

P L A N S.

	FACING PAGE
1. The October Sweeps	6
2. Operations in Skagerrak, December 16–18	34
3. New Method of Minesweeping (Block)	40
4. Scapa Boom Defences	52
5. British Movements, 9–11 February 1916	80
6. Submarine Operations in South-west Approach, March 1916 ...	110
7. Submarine Operations in South-west Approach, April–May ...	126
8. High Sea Fleet Operations, March 6	152
9. Operation <i>H.R.A.</i> , March 24–26 (Plan 1)	166
10. Operation <i>H.R.A.</i> , March 26–28 (Plan 2)	178
11. Operations of Blyth Submarines, April 5–21	186
12. Operation <i>L</i> , April 21–23	192
13. 3rd Battle Squadron on passage to the Humber, April 29–30 ...	194
14. Operation <i>XX</i> , May 2–5	208

	PAGE
INDEX	290

HOME WATERS, PART VI.

October 1915 to May 1916.

Introduction.

This volume covers that part of the naval war which comes between the end of the first submarine attack on merchant vessels and the end of the second. In it will be found the Admiralty's adoption of such measure of protection for merchant ship traffic as then seemed possible; a principle which implied the control and concentration of shipping in preference to the earlier plan of dispersal which had been the rule throughout 1915, in the hope that thereby submarines would find fewer victims.

Other subjects which have been treated in this volume are the development of the German submarine bases in Flanders, and the attempt to hinder the free passage in and out of those bases by Admiral Bacon's "zareba"; the continuous efforts to stop the passage of iron ore into Germany by sweeps of the Norwegian coast and by stationing submarines in the Kattegat; the gradual development of British seaplane raids into fleet operations involving the presence of battle squadrons so near to Germany as Jutland Bank; and the corresponding effect of Zeppelin raids in forcing the High Sea Fleet to sea.

Note on Sources.

The sources from which this volume has been compiled are the same as those which were used for Volume V of this series (C.B. 960*d*). The Admiralty telegrams for the period are contained in H.S. Vols. 103-108, 112-117, 122-124, 207-238. Telegrams based on, or connected with, intercepted German signals are in H.S. 203 and 451.

In Appendix A is given a selection of Admiralty telegrams on general subjects; in Appendix B will be found telegrams concerning the Second Submarine Attack; in Appendix C, telegrams and signals dealing with the last of the seaplane raids in which the Harwich Force took part.

HOME WATERS, PART VI.

CHAPTER I.

CRUISER SWEEPS AND MINELAYING OPERATIONS,
SEPTEMBER 29 TO NOVEMBER 8.

1. **British Submarines off the Norwegian Coast, September 29 to December 31.**—The abandonment of the submarine campaign against merchant vessels, temporary though it was intended to be, removed for a time one of the principal forms of activity in Home Waters and left operations mainly to surface ships. But Admiral von Pohl's decision that he would not use his submarines to attack merchant vessels was not known to the British Admiralty; and the anti-submarine service round the coast continued its patrols as actively as before. An extension of these, the British submarine based on Aberdeen for the purpose of catching German submarines working off the coast of Norway, was several times employed in October. Receiving information from the Admiralty on September 22 that an enemy submarine had left for the north, Admiral Jellicoe ordered *E.16* on the 28th to cruise on the line St. Abbs Head to the Naze in the hope of meeting the enemy boat. The weather on that day was bad, delaying the departure of *E.16* till the following morning. She remained at sea from September 29 to October 8, when she returned for repairs. She had seen nothing of the enemy, but on October 1 found traces of its work in the burning wrecks of two wooden sailing ships, doubtless the Norwegian *Flora* and *Florida*, set on fire the previous day by *U.16*, then operating in the mouth of the Skagerrak.

It was now arranged that *E.16* should be relieved at Aberdeen by *E.17*, and she proceeded on October 13 for Harwich. Information had been received that a German submarine was protecting the trawlers fishing on Jutland and Little Fisher Banks near Horn Reefs, and *E.16* made a wide detour to that district, passing north of the area south-east of Kinnaird Head, believed to be mined, and keeping east of Mined Area No. 1 in returning to Harwich, which she reached on the 20th.

E.17 left Aberdeen on her first cruise off Norway on October 24 with orders to work between the Naze and Skudesnaes and to keep a special lookout for a submarine which it was believed would meet and escort in to the Bight a Swedish steamer from Trondhjem. In a few days it was discovered that the Swedish

steamer had been taken in to another port by a Norwegian destroyer. The weather during *E.17's* cruise was uniformly bad, and she suffered some damage on deck. To repair this she spent a few hours of the night of October 28–29 under the lee of Ertensø Island, where she was observed and reported, an unfortunate proceeding which the Commander-in-Chief feared would have the effect of scaring German submarines away from those waters. *E.17* operated off the Skagerrak again from November 12 to 17 and from November 25 to December 1, taking great care not to be seen. Only once was she likely to have been observed; this was when, in a sudden lull in a snowstorm which had been raging for several days, a steamer appeared close to the submarine, then on the surface as the only chance of sighting an enemy boat. Her two cruises, the last of the year, were uneventful in that she saw no German vessels; indeed, shipping of every kind was noticeably scarce.¹

The Norwegian patrol was now taken up by *D.7* and *D.8* operating from Blyth. *D.7* left on December 15 for the Norwegian shore of the Skagerrak, and *D.8* two days later for the Danish shore. *D.8* returned to Blyth on the 25th with nothing special to report; but the cruise of *D.7* had been marked by some incidents. Whereas the orders to the "E" boats had enjoined on them to keep their presence secret, *D.7* was instructed to board vessels sighted.² On the 19th she was attacked by three destroyers, but escaped without damage; and on the 21st, a very clear night with moonlight, she saw the track of a torpedo passing under her, though nothing was visible which might have fired it. She was back at Blyth on the 23rd.³

This concluded the submarine patrol of Norwegian waters for 1915. It was carried on more or less continuously throughout the next year.

2. Anti-minelayer Patrols and Minefields, October.—To meet any minelayers which might succeed in approaching Scapa the destroyer patrol to the south-eastward of Pentland Firth was sent out with one or two cruisers in support, whenever the moon conditions made an attempt at minelaying probable. Similar precautions were taken at Rosyth. The expectation of further minelaying by the enemy was kept active by frequent reports from agents ashore that vessels were fitting out for the purpose and were ready to sail. There was in addition a report that Germany had prepared two small decoys of the tramp steamer type, with the specially elusive armament of submerged torpedo tubes only.⁴

As regards the approach to the Forth, where during the campaign just concluded submarines had been specially active,

¹ G.F.S.P., Vol. XLV, H.S.A. 127, pp. 150–226.

² The orders are in G.F.O. and M., Various, H.S.A. 222, p. 534.

³ Reports in H.S. 626.

⁴ General Tel. of September 28, H.S. 153, p. 908.

it had been decided towards the end of August that a deep minefield should be laid in some situation where the surface patrol vessels would force the enemy to dive. Orders for the minelayers to prepare for the operation were issued on September 16 and 23, and they left Sheerness for the north on September 27. By that time so long an interval had elapsed since any submarine had been seen off the Forth that Admiral Jellicoe suggested the laying of the deep minefield there should be deferred unless it was certain that the mines would not drag into shallow water and endanger our own ships.¹ Admiral Lowry, commanding on the coast of Scotland, was in favour of laying the mines at once, pointing out that it would be too late when submarines again infested the Forth, and his view gained acceptance, the Commander-in-Chief agreeing to a reduced number of lines of mines. This alteration had the effect of throwing out the arrangement of the mines in the minelayers where they had been secured on the rails, each with its proper length of mooring rope, in a sequence agreeing with the original programme. The adjustments necessary for the reduced field having been made, the minelayers *Paris* and *Biarritz* laid part of the field in the forenoon of October 2; it consisted of a single row of mines, 48 ft. deep, 2½ miles long, across the 20-fathom line 2 miles east of Bass Rock.² Its southern end was a mile or so north of South Carr headland, and it was known as the South Carr minefield.

On October 7 the *Orvielo* laid 500 mines at 48 ft. depth near the North Carr at Fifeness.³ This was called the St. Andrew's Bay Field. A third line, intended for the neighbourhood of May Island, was not laid.

Further protection to the inner waters of the Forth against submarines was afforded by a net maintained by drifters right across from Eyebroughty near Fidra to East Vows near Elie Ness. This was complete from November 7 onwards.

3. Sweeps by Grand Fleet Cruisers, October.—Besides sending out patrols near home to meet minelayers on their approach to our shores the Commander-in-Chief despatched his cruisers for frequent sweeps, of which the motive was partly the hope of intercepting minelayers on the high seas. It was now a matter of routine that cruiser squadrons changing base from Scapa to Rosyth or vice versa should make a detour to the eastern side of the North Sea in the course of their passage. In addition to this, between October 1 and 3 the 3rd Light Cruiser Squadron swept from Rosyth to Scapa via the Little Fisher Bank near Horn Reefs.

The squadron had come for gunnery and torpedo practices, which could be carried out more safely at Scapa than in the

¹ Tel. 21 from C.-in-C., H.F., 28.9.15.

² From 56° 4' 15" N, 2° 35' 50" W, to 56° 6' 20" N, 2° 32' 55" W (Lockhart Leith: *History of British Minefields*).

³ From 56° 19' 6" N, 2° 34' 18" W, to 56° 24' N, 2° 34' 55" W (Lockhart Leith).

Forth. When these were complete it left Scapa for Rosyth on October 10 and again proceeded by way of Little Fisher Bank. Neither sweep resulted in a meeting with enemy vessels.

Between October 27 and 30, the 1st Cruiser Squadron, accompanied by two armed boarding steamers, swept towards Norway and back. This was the first time since 1914 that armoured cruisers had been allowed by the Admiralty to cruise alone.¹

The Grand Fleet carried out a practice cruise to the eastward of the Shetlands between October 13 and 15. Prior to the departure of the fleet from Scapa, where all three Dreadnought squadrons were concentrated, the 2nd and 11th Flotillas searched the eastern approaches to the Pentlands,² while the 4th Flotilla searched the western approaches. The object of the fleet operations was to exercise the cruisers in locating the enemy's battlefleet and reporting its order, course and other particulars.³ The *Barham*, of the *Queen Elizabeth* class, which arrived at Scapa on October 2, took part as flagship of the new 5th Battle Squadron. The exercise proceeded according to programme, except that two destroyers of the 4th Flotilla collided and had to be sent to the Tyne for repairs.

The Grand Fleet carried out another fleet exercise between November 2 and 5 to the north-west of the Hebrides. On neither occasion was anything seen of the enemy.

4. Sweep by the Harwich Force, October.—The only ships to come into contact with enemy vessels were the cruisers of the Harwich Force, which now almost as a matter of routine made sweeps across to the mouth of Skagerrak whenever conditions were suitable. The first sweep of this district was made by the 5th Light Cruiser Squadron on August 4; it had been difficult to repeat it since the cruisers were required for Zeppelin patrols and to support the minelaying expeditions to the Bight.

At the end of September the moon was full and no Zeppelin raids or attempts by the Germans at minelaying were likely to take place. Commodore Tyrwhitt, therefore, obtained permission for a light cruiser sweep up the Danish coast, and left shortly after noon of September 29.⁴ Proceeding, as usual, through K Channel, with the *Arethusa*, *Conquest*, *Cleopatra*, *Penelope*, *Aurora*, and *Undaunted*, he was off the Vyl Light Vessel at 5.30 next morning; and spreading his cruisers 5 miles apart he swept round Horn Reefs Light Vessel and northward till 6 p.m., when he closed up his cruisers and shaped course for K Channel. During the progress of the sweep he came across a scattered fleet of German trawlers about half-way between Horn Reefs

¹ Appendix A. 3.

² The 11th Flotilla was constituted August 17; it consisted of the second batch of "M" class destroyers with *Kempenfeldt* as leader (M. 06224/15). Six destroyers had arrived at this date.

³ Orders in G.F.N., October, p. 70.

⁴ A. 1.

and Jutland Bank; one of the boats he sank and 13 he sent to the Humber and Tyne with prize crews on board. Probably he assumed them to be on outpost duty.

This type of sweep he repeated on October 6, having first obtained permission from the Admiralty.¹ On this occasion he took with him, as well as the light cruisers, the *Nimrod*, four "M" class and four "L" class destroyers. The sweep was further to the north than the previous one and proceeded in the direction of Hanstholm, in the vicinity of which a German submarine had been reported to be protecting the German fishing fleet.² The squadron saw nothing of the reported submarine, but captured 16 German trawlers. One of these, being short of coal, was sunk; the remaining 15 were sent in to the Humber.

The next operation in which the Harwich light cruisers engaged was the escorting of minelayers to the Bight. On the conclusion of this work, Commodore (T) proposed another sweep from the western edge of Little Fisher Bank to the coast of Denmark and back round the western edge of Mine Area No. 1. On former occasions the battle cruisers had remained at Rosyth in readiness to leave if required; but for this sweep the Commander-in-Chief suggested that the *Lion* and the 1st Battle Cruiser Squadron should sail and take up positions in support of the light cruisers.³

The sweep began on October 18. The Harwich Force—six light cruisers, two flotilla leaders, seven "L" class, eight "M" class destroyers—left at 9 a.m., and proceeding through K Channel, reached its position for spreading⁴ at 6 a.m., October 19. However, an enemy submarine had been reported to be operating ahead of the squadron, and the Commodore did not spread his force as he had originally intended, but proceeded towards the Danish coast in close formation. The sweep passed without special incident. Several trawlers were seen, but they all proved to be Dutch. There was no sign of enemy vessels beyond a Zeppelin, which for a short time was visible over Little Fisher Bank struggling against a strong east wind. After tactical exercises the squadron entered G Channel and arrived at Harwich at 4 p.m., October 20.

The supporting battle cruisers left Rosyth at 6 a.m., October 19, accompanied by eight destroyers of the 1st Flotilla. The intention had been for them to return to Cromarty for firing practices; but an incident occurred during the night of October 19–20, which made such a course seem inadvisable. About midnight the Moray Firth patrols sighted two suspicious vessels, apparently destroyers; these could not be overtaken. Thinking they were possibly minelayers the Vice-Admiral

¹ H.S. 163, p. 795.

² H.S. 163, pp. 795, 855.

³ H.S. 165, pp. 833, 866, 925.

⁴ 56.10 N, 5.15 E.

Commanding, 1st Battle Squadron, then at Cromarty, sent out destroyers to search for them; and all the patrols in the neighbourhood were put on the alert. The destination of the battle cruisers was changed to Scapa, the Commander-in-Chief ordering them to sweep on a wide front towards the Pentlands. By the time they had arrived at Scapa it was discovered that the suspicious vessels were really two Scapa trawlers returning after escorting an oiler to the southward; and the battle cruisers proceeded to Cromarty to carry out the full calibre firing for which they had come north. They returned to Rosyth on the 22nd.¹

5. Commodore Tyrwhitt's Sweep across the German Bight, October 31.—Four days later, on October 26, Commodore (T) proposed another sweep, this time well to the southward and, in fact, across the German Bight from south to north and back again. The Commander-in-Chief thought it unnecessarily hazardous to return to the Borkum end of the Bight after having perhaps attracted out superior forces, and suggested that on passage home the Commodore should pass west of Mined Area No. 1. But the Admiralty made no alteration in the orders and the sweep was carried out as in the Commodore's original proposal,² with the addition that one battle cruiser squadron was kept at short notice in the Forth.

Commodore (T)'s squadron left Harwich at 11 a.m., October 30, having been delayed nearly two hours by fog. It consisted of:—

Arethusa, Aurora, Penelope, Conquest, Cleopatra;

Lightfoot (flotilla leader);

<i>Meteor</i>	<i>Matchless</i>	<i>Lance</i>
<i>Moorsom</i>	<i>Minos</i>	<i>Lysander</i>
<i>Murray</i>	<i>Melpomene</i>	<i>Laurel</i>
<i>Morris</i>	<i>Mansfield</i>	<i>Lassoo</i>
		<i>Loyal.</i>

The *Medea, Milne* and *Legion* remained at Harwich available for service as required. The *Nimrod, Laertes* and *Mentor* were either under repair or boiler cleaning; the *Tipperary* and the remaining eight destroyers of the "L" class (now the 9th Flotilla) were working from Devonport on escort duty with Mediterranean and other transports.

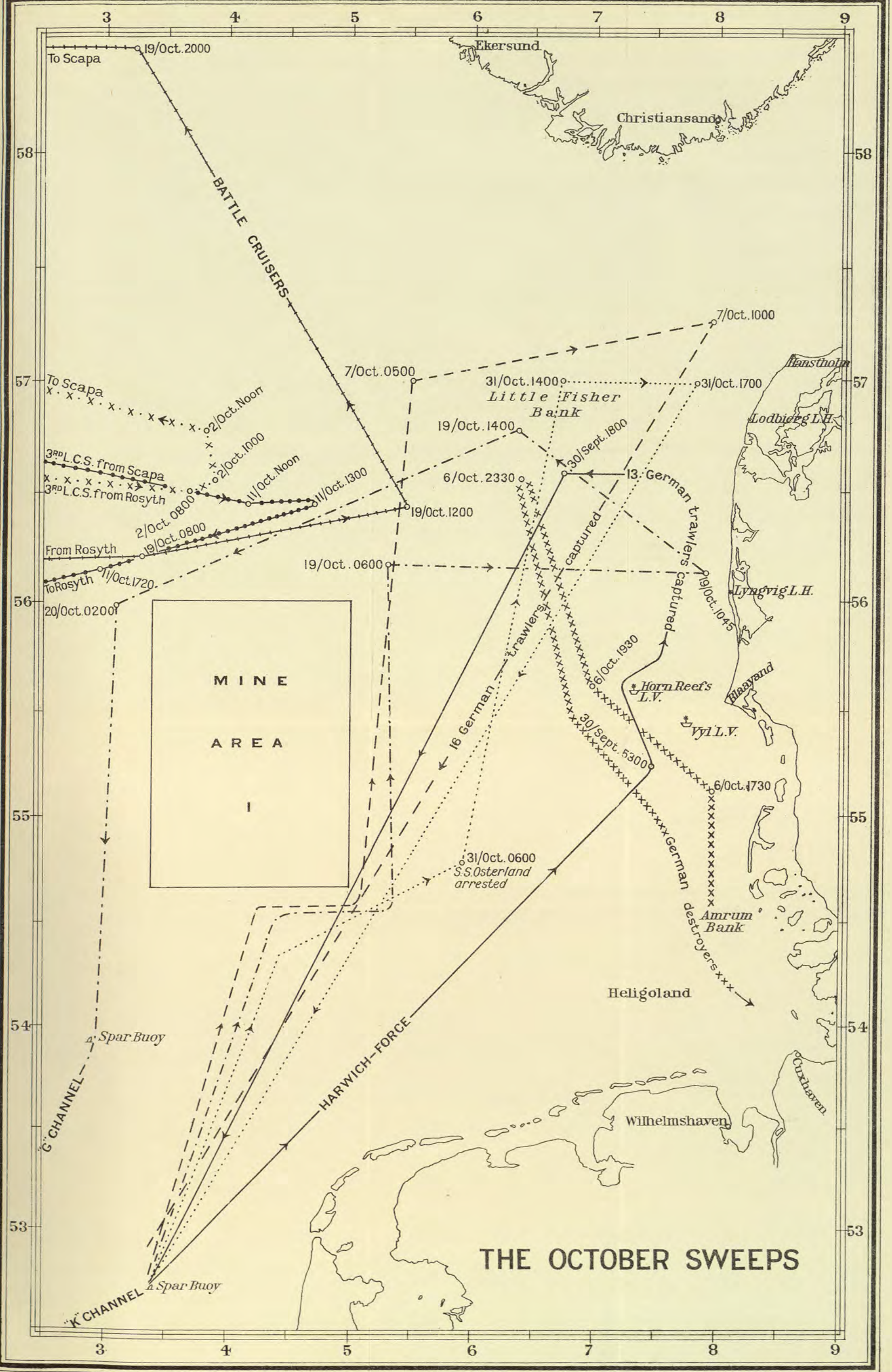
On the way across to the Bight the* Commodore laid a spar buoy at the seaward end of K Channel³ to serve as a leading mark for a net drifter patrol which was to be established there in addition to the similar patrol netting the entrance to G Channel at Jim Howe Buoy. These drifter patrols were partly to enable ships from seaward to find the entrances to the channels.⁴

¹ G.F.N.

² A. 4, 5.

³ The buoy was laid in 52.42 N, 3.19 E, at the north end of Brown Ridge (Comm. (T)'s Diary).

⁴ Minesweeping Statement, October 27.



THE OCTOBER SWEEPS

The squadron arrived in 54.45 N, 5.55 E, about 58 miles north of Borkum Riff Light Vessel at 6 a.m., October 31. Here they found a Swedish steamer¹ with a cargo of iron ore consigned to Rotterdam; and considering it suspicious the Commodore sent her to the Humber for examination.

From this point the squadron swept at 15 knots on a NNE course across the German Bight, the cruisers spread to 5 miles apart on either beam of the *Arethusa*, each with two destroyers, and zigzagging. Though numerous Dutch steam trawlers and some neutral steamers were seen, no German vessels were sighted. After steaming 120 miles the squadron turned eastward till, sighting the Danish coast, at 5 p.m., it turned back to steam once more across the German Bight. It reached Harwich in the afternoon of November 1, using K Channel.

Various strange objects looking like large horned mines were reported in the Hinder Channel, and on November 4 the duty division of destroyers went out to look for and deal with these. They found nothing. From November 5 the light cruisers' patrol on the lookout for Zeppelins was reinstated, as the moon conditions were becoming favourable for air raids.

6. German Operations in the Bight, October.—These excursions of the Harwich Force and the light cruisers of the Grand Fleet to the coast of Denmark, and the capture of German trawlers near Horn Reefs, naturally produced some movement of the German patrols, which were also kept on the alert by British submarines.

Two of these, *D.6* and *E.17*, left Harwich on October 1 to cruise off Borkum Riff till the 6th. Both sighted Zeppelins, evidently patrolling. *E.17*, Lieutenant-Commander Moncrieffe, at 6.14 p.m. on the 6th, discharged a torpedo at a steamer which she had observed coming down the Western Ems escorted by a destroyer. Lieutenant-Commander Moncrieffe thought the torpedo had missed in the dark,² but he was mistaken. The torpedo had hit its target, a barrage breaker, but failed to explode. This incident brought out *U.22* from the Ems to attack our submarine next morning, but *E.17* had left for Harwich the previous evening.³

Early on October 6,⁴ two and a half flotillas of destroyers were ordered to go out at dusk to the north of Horn Reefs. There is nothing to suggest that this movement had any connection with the Harwich Force sweep of October 7, though it nearly synchronised with it. The German destroyers turned back in about 56.20 N, 6.30 E, at 11 p.m., October 6, some six hours before Commodore Tyrwhitt arrived. It appears that *U.44*, which had been keeping guard on Little Fisher Bank, also returned that evening.⁵

¹ *Osterland*.

² Comm. (S) War Records, H.S.A. 270, pp. 544 to 552.

³ *Nordsee* IV, p. 334.

⁴ At 8.53 a.m. Signals 2153 and 0015, October 6, in I.D.H.S. Records.

⁵ *Nordsee* IV, p. 334, and Signal 0509/6 October.

Reports that a British minelaying squadron was about to lay a field on the western side of the Bight caused a torpedo boat reconnaissance towards Terschelling on the night of October 11. It was intended to repeat this for several nights, but bad weather prevented it.

Doubtless by accident, the report that the British contemplated mining the western side of the Bight happened to be correct. The operation, known as Operation K, started on October 12 but fog came on and the consequent delay postponed the programme for 24 hours, the ships which had proceeded to sea having to return to the Humber. It was carried out without special incident on the 13th by the *Paris* and *Biarritz*, escorted by the *Penelope* and four "M" class destroyers, with the rest of the Harwich Force in support. The escorting destroyers parted company from the minelayers at dark, October 13, rejoining in the morning; the *Penelope* led the minelayers to a position 15 miles due north of the spot where laying was to commence and then parted company, leaving the minelayers to finish their work alone. The field laid was a shallow one, 12 ft. deep, and consisted of 259 mines between 54° 3' N, 6° 46' 30" E, and 54° 1' 30" N, 6.22 E.¹

The minelaying operation passed totally unsuspected by the Germans, who did not discover the mines for a week, and then assumed them to be part of an earlier field.²

During the minelaying operation in the Bight, the Germans on their part had carried out a serious raid on England by the five airships, L.11, 13, 14, 15 and 16. Liverpool had been the objective when the orders were first considered; but on October 13, when the airships sailed, the wind and temperature conditions were not suitable for so distant an enterprise. London, therefore, was selected once more as the target.

The first Zeppelins to reach British waters were sighted by a patrol vessel at 5.30 p.m.³ and by Haisborough Light Vessel at 6.15 p.m.⁴ Commodore Tyrwhitt's light cruisers fitted with anti-aircraft guns were in the German Bight, and no firing by the trawlers is recorded by us; in the German account,⁵ however, most of the airships state they were fired on by darkened vessels as well as by the guns on shore.

In the raid which followed only one of the airships succeeded in finding the City of London. Another expended her bombs mainly on Tunbridge Wells and Croydon, while a third did some damage at Woolwich; the remaining two bombed Hertford

¹ Comm. (T)'s Diary; Lockhart Leith's *History of British Minefields*; M. 08005, 010059, 00106, 00107/15.

² This field and its laying are not mentioned in *Nordsee IV*.

³ H.S. 161, Lowestoft A.P. Reports.

⁴ H.S. 165, p. 151.

⁵ *Nordsee IV*, pp. 335 to 339.

and some Norfolk villages respectively.¹ The damage done was not great, but 71 persons were killed and 128 injured.

Totally undamaged by the anti-aircraft defences either fixed, mobile or flying, the five airships proceeded independently for home. At midnight and at intervals afterwards a message was made by the Admiralty to Commodore (T) ordering him to look out for them at daylight near Terschelling on their return from London.² He saw nothing of them, and they reached their sheds without incident, except that fog over Germany made re-entry difficult, and L.15 bumped on the ground and was out of action for eight days.³

7. The High Sea Fleet preparing for a Sortie.—Admiral von Pohl was at the time concerned with a cruise of the High Sea Fleet which circumstances were forcing upon him. The Commander-in-Chief in the Baltic was pressing for a flotilla of High Sea Fleet destroyers and a number of the North Sea patrol boats to be allotted to him to enable him to deal with British submarines which were becoming troublesome in the waters of his command. Admiral von Pohl resisted this demand on the score that he never had enough destroyers for operations of the whole fleet, without postponing repairs and the cleaning of boilers; as regards the removal of patrol boats, not only would reduction in their numbers make Heligoland Bight insecure, but he had recently asked for an increase so that groups for hunting the British submarines could be organised. Further reports of the damage done by our submarines to shipping in the Baltic somewhat softened this attitude of his, and on October 21 he agreed to despatch the units asked for by the Baltic command. But before doing so he intended to carry out a large fleet operation.

This had been postponed again and again on account of persistent east winds. That unfavourable winds should prevent the emergence of a fleet seems like a return to the old days of sailing ships and the blockade of Brest; but in fact there were many circumstances which, in the opinion of Admiral von Pohl, made the direction of the wind of considerable importance. In the first place, a high value was placed on airship reconnaissance; and an easterly wind was likely to endanger an airship's return to her shed. Again, the possibility of meeting the British Fleet had to be considered. The British would almost certainly be to the north or west at the time of contact, and the High Sea Fleet would have the wind behind it. This was considered a specially undesirable condition, in that German tactical opinion preferred a leeward position in action on account of the better chance it gave of observation of the fall of shot.

When at last circumstances were favourable for his departure it seemed to him probable that he would meet the Grand Fleet.

¹ *Air Raids 1915*.

² H.S. 165, p. 220.

³ *Nordsee IV*, p. 339.

Intelligence reports spoke of a prospective large landing operation by the British either on the Belgian or German coast, and various signs were taken to lend the colour of probability to these reports. Such an operation must be accompanied by a movement of the whole British Fleet, and it was certain that British submarines would be stationed in the Bight to cripple the German forces. Submarines were several times sighted inside the ring of minefields on October 16 for the first time for some weeks; and as they might be minelayers it was necessary to sweep the fleet's route out by Norderney. This sweeping was performed by the 10th Torpedo Boat Half-Flotilla, the first to be fitted with rapid minesweeping gear.

In point of fact, the submarines of October 16 were imaginary—or at least not British. There happened to be none of our boats in the Bight on that date, although on the 20th *D.3* and *E.6* left to keep a week's watch near Horn Reefs, while *D.4* and *D.7* cruised to the westward of the Borkum minefields for the same period. The sighting of these submarines only strengthened the opinion in the High Sea Fleet that a British landing was in train.

Orders came from the Supreme War Staff that two destroyers were to be sent to the Baltic by October 25 at latest, thus limiting the time available for the High Sea Fleet operation to only one or two more days, and Admiral von Pohl decided that it must take place on the night of October 23. He had to decide on some objective. One of these was to capture the British cruisers and destroyers constantly reported as operating to the north of Horn Reefs; another was to disturb the mercantile traffic between the Skagerrak and Newcastle; and a third was the possibility of an encounter with inferior British forces, an event made to seem more probable by reports that the heavy ships in the Forth had all gone to sea during the night of October 21. The operation orders gave a route inside Amrum Bank Light Vessel, and the extent of the cruise as 60 miles north of Horn Reefs, with the scouting groups and flotillas 30 miles farther north on the Skagerrak-Tyne steamer route. Two submarines were ordered to stations east of the Dogger Bank minefield, but could not leave on account of a heavy swell.

8. The German Sortie of October 23-24.—Aerial reconnaissance during the daylight hours of October 23 brought about an encounter with one of our submarines, *E.6*, which fired 30 shells at *L.7*, 15 miles south of Horn Reefs.¹ Although this incident made it clear that British submarines were in wait on the fleet's intended route, Admiral von Pohl could not defer his departure. He sailed between 6 and 7 p.m. that night with 20 modern heavy ships, 7 older battleships, 11 light cruisers and 35 destroyers. At 1 a.m. five airships went up, one to remain with the scouting forces, one

¹ Comm. (S) War Records, H.S.A. 270, p. 565. *Nordsee IV*, p. 344, in describing the encounter credits *E.6* with firing 70 shells.

to go as far as the Skagerrak, and the remainder to keep a lookout to westward. Admiral von Pohl placed so much reliance on his airships that when it was announced to him at 3.40 a.m. that a rising south-easterly wind made further air reconnaissance impossible, he felt he could not continue the cruise¹ without submarines or airships and with a wind which would force on him a windward position in action. Shortly before 5 a.m., therefore, he broke off the operation and turned back while still short of Horn Reefs.

E.6, Lieutenant-Commander F. H. D. Byron, after her encounter with the Zeppelin had been resting on the bottom. On coming to the surface early on the 24th, Lieutenant-Commander Byron sighted, in the light of the full moon, two destroyers very close to him, and he quickly dived out of sight. Rising again at 6 a.m. he observed a cruiser and some torpedo boats too far off to attack. Shortly afterwards the funnels and masts of eight large ships appeared and he hurried off at full speed to get into position to attack them. This unfortunately proved impossible, and he had to be content with a light cruiser which came so close that he could avoid being rammed only by going astern. He fired a torpedo at her, but at the short range it passed under her, as he dived to escape a destroyer. On putting up his periscope he found another cruiser within range accompanied by a destroyer. This time his torpedo produced two explosions, which he heard as he dived. When he came up to see the effect of his shot, both the cruiser and the destroyer had disappeared. Several destroyers were hurrying up and he dived away to westward.²

Captain Waistell thought it unlikely the cruiser had been sunk since in that case the destroyer would have remained to pick up survivors. In this conclusion he was right. The cruiser was the *Rostock*, which reported at 8.26 a.m. that she had been fired at by a submarine without result.³ The High Sea Fleet reached port without further incident. On arrival the Commander-in-Chief received orders to keep the 1st Squadron, the 2nd Scouting Group and 11 destroyers ready for service in the Baltic. After the end of October these forces proceeded into the Baltic for exercises, and the possibility of fleet operations in the North Sea came to an end for the time.

The excursion of the High Sea Fleet had not taken place without our knowledge; and the Grand Fleet was warned at 10.45 p.m., October 23, that it might have to go to sea. In the afternoon of the 24th, when it was known that the Germans were

¹ C.-in-C., to High Sea Fleet. Owing to the failure of airship reconnaissance, advance has been broken off (Signal 1759/24 October, in I.D.H.S. Records).

² Lieut.-Comdr. Byron's report in H.S.A. 270, pp. 565 to 567.

³ Signals 2126, 2132, October 24, in I.D.H.S. Records; *Nordsee IV*, p. 346.

home again, the Grand Fleet reverted to its usual notice.¹ From other intercepted telegrams it was expected that a German submarine had been off the Orkneys on the 22nd and Scapa destroyers went out to hunt it. There proved to be too much sea for destroyers to work usefully and they were recalled. The 2nd Battle Squadron was to have gone out that day for exercise, but on account of the submarine remained in port. It was, therefore, still at Scapa when news of the emergence of the High Sea Fleet came in.²

Our submarines keeping watch at the Borkum end of the Bight had seen nothing of special interest. Nor had *D.3*, stationed to the north of Horn Reefs. All four boats were back at Harwich on the 27th. Another cruise of *D.8*, *E.5* and *D.6*, at both ends of the Bight during the first week of November, also passed without incident.³

On November 6, the last day of this cruise in the Bight, two German flying machines on reconnaissance observed a submarine near the defensive minefield off the Ems. They dropped ten bombs on the boat, making it dive repeatedly without any noticeable result either from the bombs or the mines.⁴ If the object bombed was a British submarine, it can only have been *E.5*, which was off the mouth of the Ems at 7.45 that morning. Her commanding officer in his report mentions no such incident; yet if it were *E.5* that had been bombed the fact could scarcely have escaped his notice.⁵

9. Transfer of Battleships and Submarines to the Mediterranean.

—Whereas in Germany the Baltic situation was exercising a pull upon the High Sea Fleet, the condition of affairs at the Dardanelles was exerting its influence on the British Home Fleets. So unsatisfactory was the political and military situation in the Mediterranean that on November 5 the Admiralty ordered out there the *Hibernia*, *Zealandia*, *Albermarle* and *Russell* of the 3rd Battle Squadron, and two of the newest submarines, *E.21* and *E.25*.⁶

The battleships passed through the Pentland Firth during the night of November 6–7 in so severe a gale that the *Albermarle* had her forebridge carried away and was otherwise considerably damaged.⁷ The three others left Milford Haven on November 10 for the Mediterranean, but the *Albermarle* after repair rejoined the 3rd Battle Squadron. The two submarines proceeded from Devonport on the 9th and made their passage unescorted.

A further reduction of the fleet was the loss of the *Argyll*

¹ Tels. 406 and 413 to C.-in-C., H.F.

² G.F.N.

³ H.S.A. 270, p. 611.

⁴ *Nordsee* IV, p. 371.

⁵ Comm. (S) War Records, H.S.A. 270, pp. 593, 594.

⁶ A. 7, 8.

⁷ G.F.N.

of the 3rd Cruiser Squadron, which on October 28 grounded on the Bell Rock and became a total wreck, only her 6-in. guns being saved.

10. **Sweep to the Skagerrak, November 6 and 7.**—The policy of light cruiser sweeps, which had been so marked a feature of the month of October, was continued by a cruise of the 1st and 2nd Light Cruiser Squadrons across to the Skagerrak, with battle cruisers in support. This was proposed by the Commander-in-Chief on November 2,¹ but was not carried out until the conclusion of fleet battle exercises which took place to the westward of the Orkneys between November 2 and 5.²

The sweeping forces sailed at night, November 5–6, the 1st Light Cruiser Squadron from Scapa with six destroyers, and the 2nd Light Cruiser Squadron from Rosyth. The support, consisting of the *Lion*, the 1st and 3rd Battle Cruiser Squadrons, the *Fearless* and 12 destroyers, left Rosyth at noon, November 6. The light cruisers made a rendezvous well inside the Skagerrak³ and swept back towards Little Fisher Bank, while the battle cruisers advanced to 57° N, 5° E. Neither squadron met any trawlers, and though many ships were boarded none proved to be suspicious. In returning, the 1st Light Cruiser Squadron went to Rosyth and the 2nd to Scapa.⁴

11. **The Borkum Area Mined again, November 8–9.**—As soon as the moon was old enough (it would be new on November 7) another expedition, known as "Operation D.Z," started with the object of continuing the policy of mining the exits from the German Bight. The orders,⁵ issued on November 5, instructed the *Princess Margaret* and *Angora* to go out by G Channel and lay a zigzag field running roughly east and west about 10 miles north of that laid on October 13. They were to be escorted by six Harwich destroyers and led by a light cruiser as far as a position 40 miles north of Borkum Island; the escort would then part company while the minelayers went on alone to 54.10½ N, 6.42 E, where they would commence laying mines, one proceeding eastward and the other westward. During the operation Commodore (T) was to cruise near Terschelling with the rest of the Harwich Force in support.

The Captain-in-Charge of Minelayers was as before in charge both of the minelayers and their escort. His official title was now Captain (M),⁶ and by a curious coincidence he had changed his personal name from Litchfield to Litchfield-Speer. He left the Thames in thick weather at night on November 7 and was joined

¹ A. 6.

² G.F.N.

³ 58.6 N, 9.50 E.

⁴ M. 08917/15, "Operation F."

⁵ M. 00108/15.

⁶ M. 07247/15.

by his escort (*Cleopatra* and six "L" class destroyers) next morning off Cross Sands Light Vessel. The weather conditions were unpromising; a falling glass and freshening breeze made Captain Litchfield-Speer doubtful whether the mines could be safely laid.

The *Cleopatra*, which was acting guide for the minelayers, was afraid of running away from them in the darkness and drizzling rain, and in her anxiety to keep station on them collided with a fishing vessel in 54.17 N, 5.27 E. The cruiser was undamaged beyond the loss of two davits; but as she stopped to lower a boat the minelayers went on without her.¹

The weather had become still worse. The *Angora's* mining chamber was flooded and one mine was lifted off the rails. Lieutenant-Commander Maxwell-Scott promptly had the firing levers removed, and by doing so probably saved the ship from being blown up. The mine jammed in the trap, but was cleared and got overboard with crowbars. In spite of all the adverse circumstances, the field of 850 mines was laid according to the programme and stretched for about 15 miles in an irregular line from 54.10 N, 6.25 E, to 54.12 N, 6.56 E.

No German patrols made their appearance at any part of the operation, although the sky at midnight when the minelayers commenced laying was quite clear and the visibility remarkably high. The greatest danger the vessels ran was from their own mines, which required careful watching in case they should take charge. "I do not think," reported Captain Litchfield-Speer,² "that mines could have been safely laid an hour or two later when the wind and sea increased."

So bad was the weather that when the *Princess Margaret*, which was the better sea boat of the two, met the escort destroyers in the morning Captain Litchfield-Speer sent them to meet the *Angora*. He went in to the Humber for the night. The *Angora* was unable to find the G Channel Buoy, although a destroyer had specially been stationed there to mark it, and she remained at sea all night.

Commodore (T)'s cruise in support passed without incident, except that on account of the gale he sent in the seven destroyers which had come out with him.³

12. The "Matchless" Mined in the Swept Channel, November 9.

—One of the destroyers sent back by the Commodore was the *Matchless*. As rear ship of a division of five boats, the remaining three having rejoined the Commodore, she was proceeding for Harwich along the swept channel off Orfordness when, at 5.55 p.m., November 9, a mine exploded under her stern, blowing away all aft of the foremost wardroom bulkhead. She did not sink and

¹ M. 08902/15: *Collision during Operation D.Z.*

² M. 08737/15: "Operation D.Z."

³ M. 08703/15: Comm. (T)'s Report on Operation D.Z.

was taken in tow by a companion destroyer till next morning when the tow parted and a light cruiser took charge of her and towed her in.

The position of the accident is variously given by different authorities; but appears to have been 52.20 N, 1.49 E, 5 miles from shore. It was, in fact, in an area declared dangerous on November 6, but the general signal made at 8.30 p.m., November 6, cautioning all vessels to keep 3 miles from the coast between 52.5 and 52.20,¹ had not been received by the *Matchless*, which was therefore unaware of the danger. What she had struck was one of the mines laid by German submarines, which had been busy as ever in their attempts to sink vessels on the coast.

CHAPTER II.

OPERATIONS FROM ZEEBRUGGE AND ATTEMPTS TO COUNTER THEM, OCTOBER AND NOVEMBER 1915

13. Work of the "U.C." Boats in the first fortnight of October.

—During the month of October, 17 vessels struck mines laid by U.C. boats in the Dover and Nore areas alone, and the work of sweeping and of directing ships clear of dangerous areas became very arduous. This was the result of the operations of the six submarines, U.C.1, 3, 5, 6, 7 and 9, of which U.C.6 made five journeys during the month.² Sixteen different localities were mined, and a noteworthy feature of the situation was that U.C. boats succeeded in reaching the approaches to Portsmouth, which had so far escaped attention.³

The first vessel to suffer on the October fields was a French trawler, which during the night of October 4-5 blew up near the Dyck Light Vessel west of Dunkirk.⁴ Early next morning a steamer was mined and sank 2 miles east of Lowestoft; and in the course of the day the paddler *Brighton Queen*, sweeping a passage for the monitors then engaged in bombarding Ostend, struck a mine which exploded under her paddle box in the West Deep off Nieuport. There was some doubt at the time whether or not the *Brighton Queen* had been torpedoed,⁵ but we now know that U.C.5 laid a field in the West Deep on October 3.⁶ We also

¹ H.S. 168, p. 924.

² Gayer, III, 20.

³ Appendix D.

⁴ H.S. 163, p. 998.

⁵ Minesweeping Statement No. 80, dated 15 October 1915.

⁶ Field 42, 12 mines, 160° from 51.8 N, 2.34 E, for 1,900 metres, depth at L.W.O.S., 1½ metres. The *Brighton Queen* was mined in 51.13 N, 2.40 E, possibly on a drifting mine.

know that the *U.B.* boats at that time were tied to the close neighbourhood of Belgian ports and did not come so far west; the *Brighton Queen*, therefore, could not have been torpedoed.

Though the older minefields secured a few victims, two being off Folkestone, the next vessel sunk on the October mines was the drifter *Frons Olivae* of the Ramsgate Patrol Flotilla, blown up $\frac{1}{2}$ mile E by S from the Elbow Buoy on October 12.¹ All southbound vessels in the Nore area were at once ordered to anchor at Edinburgh Light Vessel till the locality was swept. On the 16th the area round the Elbow Buoy was reported clear at any state of the tide.² From the position, so close to the Elbow Buoy, it would seem the drifter struck a mine from the old field of August 3; but it is possible she had run on the field laid on October 12 by *U.C.5* further to the eastward.³

On the 14th the British steamer *Salerno* was mined near the North Knock Buoy.⁴ The field, laid the day before by *U.C.3*, sank two more vessels, the s.s. *Volscian* on the 16th and the minesweeping trawler *Javelin* on the 17th. All three were sunk in 51.45 N, 1.42 E, a mile or more to the north-eastward of the position given in the German official return. Mines continued to be found there till the 27th.

On the 18th two steamers, the *Aleppo* and the Norwegian s.s. *Salerno*, were mined a mile or two east of the Sunk Head Buoy, marking the northern entrance to the Black Deep. Only three days before, when mines were found off the Shipwash, shipping to and from the Downs was warned to use the Black Deep; but now that channel was closed to traffic. Nevertheless, the collier *Monitoria*, not having received instructions, blew up off the Sunk Head three days later. The passage was not declared clear till the end of the month.⁵

The fields off the Elbow Buoy, Sunk Head, Shipwash, and North Knock Buoy had been laid on October 12 and 13, and a week elapsed before the Thames Estuary was again visited by a *U.C.* boat. During that week we laid a minefield of special type, which it was hoped would be successful in reducing the activities of the minelaying submarines.

14. Scheme to bar the Thames Estuary to Submarines.—

A scheme for keeping submarines out of the Thames Estuary had been under consideration for some weeks. It was submitted by the Commander-in-Chief, The Nore, on September 16, and had for its object the closing of the channel from South Knock Buoy to Ostend by a line of various obstructions 10 miles wide.

¹ Papers N.L. 26837/15.

² H.S. 164, p. 945; H.S. 165, p. 640; Nore A.P. Reports.

³ Field 46a, 6 mines, 90° for 1,000 metres from 51° 23' 48" N, 1° 35' 6" E. Field 46b, 6 mines, 160° for 1,000 metres from 51° 23' 15" N, 1° 36' 6" E.

⁴ *Salerno* Papers, M. 46291/15.

⁵ H.S. 165, pp. 469, 545, 1005; H.S. 167, p. 1194; Papers titled C. 1309/15.

In his scheme some of these were to be indicator nets and some were to be mines. The Admiralty, however, found it impossible to provide more vessels for watching nets; but they approved of laying more mines. They gave instructions for a field to be laid between the North Falls Tail and the South Falls Head and another line south of it, leaving a fairway a mile wide for monitors going to the Belgian coast. The northern field, between the North and South Falls, was laid by the *Angora* on October 16, escorted by four torpedo craft.¹ It was of a new type, employing what were called "surface line connected mines." 320 mines were laid in groups of 4, with 300 ft. between the groups. The members of each group were fastened together by a connecting wire buoyed with small buoys on the surface.

The laying of the second part of the new field which should extend to the Belgian coast from the monitors' fairway was delayed until the new type of connected mines had been practically tested. Unfortunately, the new type proved as much a failure as all the other connected mine systems that were tried and it was never used again in Home Waters.² In fact, the project of completing the mine barrier seems to have been dropped, and monitors bombarding the Belgian coast were not restricted to the 1-mile fairway anticipated.

15. Bombardment of Zeebrugge, October 3.—From September 15 onwards Admiral Bacon bombarded various points on the Belgian coast with his monitors whenever weather conditions were favourable. The object he had in view was not directly the crippling of the submarine base. On September 15, for instance, he left Dover "with the intention," he states,³ "of attacking the military works at Ostend, and also, if possible, destroying the battery of heavy guns situated at the south-west of this town." On September 25 he commenced another bombardment as a form of co-operation with the army ashore during the battle of Loos. On this occasion his "method of carrying out the object in view," as he reports,⁴ "was by attacking the extreme ends of the coast line simultaneously so as to leave the Germans in doubt as to whether a landing in the vicinity of Knocke or an advance from Nieuport was contemplated." It was only on October 3 that his targets were definitely the batteries and military positions at Zeebrugge, and he carefully husbanded his ammunition, intending merely "to create discomfort and further tension."

The whole idea of his bombardments was not so much to interfere with the submarine campaign as to convey the impression that landing operations were imminent; and in this, aided by steps taken by the Admiralty, he was, as we have seen, completely

¹ M. 07228/15.

² Lockhart Leith: *History of British Minefields*, Chapter IV.

³ M. 08153/15: *Operations on the Belgian Coast*, 15 September to 3 October 1915.

⁴ *Ibid.*

successful. During the operations he was surprised at the "incredible lack of enterprise" on the part of the German torpedo boats, and only twice were submarines seen.

Desultory bombardments were continued throughout the autumn, and on October 6, 12, 13, 18 and November 16 and 19 batteries or positions of military value were attacked by his monitors;¹ but on none of these occasions was there any special attempt to concentrate on Zeebrugge with the object of checking the minelaying campaign.

16. Operations of "U.B." Boats.—The threat of a landing had produced the useful result of keeping the *U.B.* boats closely tied to the coast for the purpose of watch and outpost duty. When the British vessels approached on October 3, *U.B.17* was on patrol off Middlekerke Bank. She carried two torpedoes and fired them at the advancing craft; the first was seen and avoided, the second passed under the target ship. Another boat, *U.B.16*, was on watch near Thornton Bank; she also saw the monitors but had no chance to fire. In the later bombardments the *U.B.* boats were not near any of the monitors.²

By November 5 the German authorities had decided that a landing on the Flanders coast was no longer probable. The decision freed the *U.B.* boats from much guard duty; and a new field of activity was opened for them a few days later when permission was given them to torpedo without warning any vessels passing between Dunkirk and Havre.³

In order to reach Havre they would have to pass through the various minefields and barrages intended to prevent the passage of submarines. The netted area since August had been reduced on account of new minefields, and now was contained within the following buoys:—⁴

1.	50.58½ N,	1.10 E.
X.	50.55	1.20
2.	50.43	1.9
3.	50.39	0.59
4.	50.35	0.49½
5.	50.44	0.44½
6.	50.49	0.53½
7.	50.53	1.2½

All ships passing up or down the English Channel were now confined to within 2 miles of the line Royal Sovereign—Dungeness—Folkestone Gate, leaving the four northern buoys to the southward of them.⁵

¹ M. 09271/15: *Belgian Coast, Report of Proceedings*, August to November 1915.

² *Nordsee* IV, pp. 322, 323.

³ Gayer, III, pp. 25, 26.

⁴ Compare *Home Waters*, IV, Section 31, where the former limits of the netted area are given.

⁵ Papers titled X. 9125/15 and C.I.O. 817 of 10 August 1915.

17. The "U.C." Minefields off Portsmouth.—What seemed like an attempt to interfere with the transport traffic to France was revealed on October 19, when the trawler *Erin II* of Portsmouth Auxiliary Patrol blew up close to the Nab Light Vessel.¹ At first her loss was attributed to a submarine, one having been reported as chasing a merchant vessel off Beachy Head the previous morning, and being seen 20 miles nearer Portsmouth in the afternoon. The keeper of the Nab Light Vessel thought he saw a periscope soon after the explosion. As it was thought a submarine must be present the patrol vessels carrying the modified sweep were ordered to search the Owers—Dunnose line. That night an empty transport on arrival at Portsmouth reported passing a large submarine. The net drifters operated actively in the area until one of them, a quarter of a mile east of the Nab, hauled in with her net a mine which exploded, killing seven men.²

It was now fairly clear that the cause of the explosions was a minefield, not a submarine; and at 10 a.m., October 20, shipping was warned not to approach the Nab Light Vessel within 2 miles, unless making St. Helens, in which case they might keep 1 mile west of it.³ Nevertheless, the tug *Grappler* was sent out in the forenoon of the 22nd to salve the guns of *Erin II*, with the result that she also was blown up. Luckily for the two divers who were working on the wreck, they were both inboard at the time and escaped with no greater injury than loosened teeth; four dockyard men in the tug were killed.⁴

The area round the Nab was now thoroughly swept by mine-sweepers, but as in so many other localities they failed to locate even one mine.⁵ On the 25th, however, one was struck by the destroyer *Velox* of Portsmouth Extended Defence, which blew up about 3 miles north-west of the *Erin II*. A drifter came up and took off the wounded; and another destroyer of the Extended Defence endeavoured to tow in the remainder of her consort. Neither of these two rescuing vessels ran on mines.⁶

On November 4 the Admiralty informed the Commander-in-Chief, Portsmouth, that it was advisable to clear away the mines before attempting any salvage; the exact number to be expected was not then known, but it was thought they were laid in groups of 7 or 14.⁷ As regards the failure of the mine-sweepers to find any mines, a possible cause was that they might have towed the mines and then slipped the sweeps without realising that they had caught one.⁸ This might explain the

¹ A. 2.

² H.S. 543, Portsmouth A.P. Reports.

³ H.S. 166, p. 248.

⁴ M. 08248/15.

⁵ H.S. 543, p. 63, Section 25.

⁶ M. 08290/15.

⁷ M. 08142/15. We now know that the *U.C.* boats of that period carried only 12.

⁸ Letter M. 08343/15 to C.-in-C., Portsmouth, 8.12.15.

mining of the *Velox* so far from the spot where the mines had actually been placed.

The field¹ had been laid within a mile east of the Nab Light Vessel² by *U.C.5* on October 18. She had already deposited one mine at Dungeness, where, six days later, it blew up the steamer *Ilaro*. Supposed submarines had been sighted near Dungeness shortly before, and as no mines were found when sweepers worked at the spot, the weight of evidence led to the false conclusion that a torpedo was the cause of the loss.³ This was the first occasion that a solitary mine was laid by a *U.C.* boat.

U.C.5 on this cruise laid a third field⁴ which remained undiscovered for several months. This was a group of five mines about 2 miles to the south-westward of the Needles Light;⁵ there they remained till 10 January 1916, when the transport *Algerian* was blown up on them. Minesweepers were sent out and one of them, *Albion II*, struck a mine in the same position.

The discovery of the Nab minefield on October 19 was an additional proof that submarines were passing through Dover Strait; and the Admiralty urged on Admiral Bacon to do his utmost to extend the net drifters to the French coast, in spite of the difficulty experienced in keeping them in position in either south-westerly or easterly winds.⁶

18. Minefields on the East Coast and in the Dover Command, last half of October.—Four more fields were laid on the east coast in the last half of October. The first, laid on October 20 by *U.C.1* in 51.28 N, 1.28 E, caught the trawler *Scott* two days later, and caused the Edinburgh Channel to be closed for two days.⁷ It was closed again from November 9 to 18, owing to the loss of the steamer *Irene* on the same field, which sweeping had failed to clear entirely. The Commander-in-Chief, The Nore, represented that his force of minesweepers was inadequate to keep open the channels into the Thames, and he asked for six new motor launches to be used solely for warning and directing shipping. The motor launches were given him, but no increase of his number of minesweepers could then be made.⁸

The buoys of the Kentish Knock shoal were always attractive to the submarine minelayers, and none of the net or mine schemes yet availed to keep them away. Fields were laid there on October 29, again on November 16, and yet again on December 15 and 16. The October field secured no victims.

¹ Field 50*b*, 6 mines, 300 metres at 90° from 50° 39' 54" N, 0° 56' 36" W.

² Position of the Nab L.V., 50°, 40' N, 0° 57' W.

³ M. 08253/15; M. 47061/15.

⁴ Field 50*c*, extending 320 metres 270° from 50° 38' 30" N, 1° 38' 30" W.

⁵ Papers titled A. 954/16: *Minesweeping off Needles*.

⁶ A. 2.

⁷ H.S. 166, pp. 747, 749, 919, 1104.

⁸ M. 08172/15.

On the last day of October a group of 12 mines was dropped near North-East Bawdsey Buoy, at the western side of the northern entrance to the Shipway. A few days later the steamer *Friargate* was blown up some 4 miles to the northward of the buoy, possibly on an unswept mine from an old field laid in the first week in August. The October field seems to have remained undiscovered till December 8, when the sweepers brought one of the mines to light.

By far the most destructive of the October fields was that off the South Foreland laid on October 31. Before the day was out four vessels had come to grief on it. At 8 a.m. the Norwegian s.s. *Eidsiya* struck one of the mines. She was following the prescribed route and before there was time to divert the traffic another steamer, the *Toward*, blew up. The armed yacht *Aries*, which had seen the second explosion, proceeded in the hope of rendering assistance, only to be mined herself with a loss of 22 out of her crew of 31. Southbound traffic was held up in the Downs and eastbound at Folkestone Gate, and sweeping operations were begun. In the course of them the minesweeping trawler *Othello* was mined and sunk, only one man of her crew being saved.

At this time there was a sudden recrudescence of aeroplane attacks on shipping in the neighbourhood of the North Hinder Light Vessel. On October 30 three aeroplanes attacked the British steamer *Avocet*, dropping 30 bombs and firing on her from a machine gun; the aeroplanes were kept from descending below 800 ft. by rifle fire from the steamer. A few days later, on November 4, the steamer *Dotterel* had to endure an attack for three-quarters of an hour by two aeroplanes armed with bombs and quick-firing guns. These also were kept at a distance with rifle fire. A similar attack was made on the steamer *Balgownie* in the same district on November 27. In none of these cases was any damage done to the ships attacked.¹

19. Effect of the Counter-measures.—The *U.C.* boats had not escaped scot free in their dangerous undertakings. The most active of them, *U.C.6*, had two accidents. Early in October she was rammed by a destroyer but escaped with slight injuries;² in the middle of the month she found herself in a net north-west of Calais and, her screw being fouled by it, she had to return with her mines still on board. *U.C.7*, on October 20, also found herself netted off the Humber; she managed to free herself, but seems to have returned without laying any mines.³

¹ Papers titled *Cap. M. 93/15*.

² Date not given by Gayer; there is no British report of a destroyer ramming a submarine in October.

³ Gayer, III, p. 20. Compare Appendix D, which was compiled from *Nordsee IV*, Karte 14, and the *German Statement of Mines laid by the Flanders Command*, O.U. 6020*B*.

One of the *U.C.* boats was destroyed during the month, *U.C.9.* Soon after her arrival in Flanders she left on October 20 to lay a field south of the Longsand Light Vessel. She never returned, and nothing is known of the circumstances of her loss.¹

In fact, the little *U.C.* boats laid their mines at night and showed themselves so rarely that credible reports of them are remarkably scanty. Throughout October what might have been a *U.C.* boat was seen by the patrols on only ten occasions, and on none of these was there any chance of an encounter.² The struggles of *U.C.6* and *7* in the nets off Calais and the Humber passed unnoticed, or, at least, unreported. Most probably they happened at night.

Though most of the mines and losses were in the Thames Estuary, some were to the westward of Dover Straits, a circumstance which threw doubt upon the efficiency of the Dover barrage. The Folkestone–Grisnez boom, which was to have been an impassable barrier, was proving impracticable. After three moderate gales, only one section was left complete; none of it could be replaced that winter, and Admiral Bacon was called to the Admiralty for a conference on the subject. The general conclusions arrived at were (1) to cease during winter to maintain further nets and floats; (2) to salve all that it was possible to recover; (3) to maintain a bogus defence of buoys connected by hawsers in the hope of inducing submarines to come to the surface; (4) to reduce the plant and boom defence establishments at Folkestone and Boulogne.³

The value of the drift net barrage was beginning to be doubted by Admiral Bacon. In the early months of the year, when the chief menace was the damage that could be done by submarines carrying torpedoes and operating by day, the drift nets with their accompanying destroyer patrol formed a fairly efficient barrier across the channel, since the destroyers forced the submarines to dive into the nets. But now that the enemy was a submarine minelayer navigating at night on the surface, the conditions were changed. The older form of simple indicator net was now largely superseded by the net with mines. Drifters operating these were compelled to show a light at night in order that boats in company might keep clear; and a submarine would probably take the light as a guide to keep clear also. Moreover, it was not difficult to forecast the positions of the nets from the state of the tide, and a submarine commander could lay his plans accordingly. In the strong tides at the South Goodwin it had proved impossible to moor the nets, a proceeding which, if practicable, would have rendered the drifters' lights unnecessary. A further chance for the submarine was that there were unnetted ship channels along the British and

¹ Gayer, III, p. 20.

² Daily Return of Movements of German and French Ships in Home Waters.

³ C.S.D. Reports, 15 November 1915.

French coasts and a space west of the minefield where drifters could not operate for fear of fouling the mines. He did not think the British ships' channel was used by the enemy submarines, on account of the traffic, but felt sure they utilised the French coast route.

He considered that framed nets, kept vertical by sinkers, and suspended from anchored drifters without lights, might succeed near the Elbow Buoy, where the tides were not very severe; and these framed nets could be towed at 2 knots against the tide in other places. His suggestion for dealing with the problem of the submarine minelayer was to utilise the frame nets as above, to prevail on the French to extinguish all their lights and stop mercantile traffic at night,¹ to extinguish and screen various lights and to move, in particular, the Elbow Buoy 2 or 3 miles away from the War Channel as far as the edge of the minefield. Yet these were only secondary remedies. "The best method," he wrote, "of dealing with the whole question is to take Ostend and Zeebrugge, if the military authorities can be prevailed upon to co-operate."²

The alteration in position of the Elbow Buoy did not take place till the middle of January 1916, when it was moved 2 miles north-eastward to a position in 51° 23' 55" N, 1° 33' 54" E, a black conical buoy with ball top mark being established in its former position of 51° 22' 13" N, 1° 32' 12" E. This last was known as "No. 2 Elbow."³

20. The November Minefields.—The approach of winter conditions made little difference to the *U.C.* boats. During November they mined 13 separate localities. *U.C.1* twice mined the Elbow Buoy and also laid a complicated field of 12 mines off Margate; *U.C.3* twice mined the Galloper Light Vessel; *U.C.5* mined the Sunk Light Vessel, Dover, and Bassure de Baas off Boulogne; *U.C.6* mined Boulogne and Havre, and *U.C.7* laid three fields, one at the Kentish Knock, one at Longsand Head and the third on November 6 or 7 at Covehitheness. It was on this field that the *Matchless* had lost her stern.

On November 6, at 8.15 p.m., a submarine passed within 30 yards of one of a group of drifters operating explosive nets placed there for the purpose of intercepting boats passing at night by the Ruytingen Buoy down the French coast. The submarine missed the nets and as none of the drifters had a gun she went on her way south-westerly unmolested. Next morning what may have been the same boat was sighted twice near Ruytingen Bank, while another was fired on by a trawler 12 miles south-west of Folkestone Gate. All available Dover destroyers had gone out to hunt, and Admiral Bacon was obliged to stop the sailing of

¹ About 12 ships a night passed along the French coast.

² Admiral Bacon to Adty., 2.11.15, in Papers titled X. 8894/15, in which the argument and proposals above are set out at length.

³ Notice to Mariners 53; Papers titled X. 8894/15.

transports since he had not enough destroyers for escorts in addition to the hunting.¹ The submarine seen may have been *U.C.6* on her way to Havre where she laid her field on November 7.² No other *U.C.* boat was observed by our patrols; that is, the places and times of objects reported as submarines do not agree with the places and times at which minefields were laid.

Strangely enough, the fields at the Sunk, Longsand, and Havre, and the second Galloper field proved innocuous; the Sunk and Longsand fields were discovered by minesweepers, but the existence of the other two seems to have escaped notice during 1915. Boulogne was closed to shipping on November 10, again from November 12 to 14 and on the 29th. On the last date Lord Kitchener was due to return from a visit to France; he was to have travelled by the normal route from Boulogne to Folkestone, but on account of the mine danger sailed from Dunkirk instead.³

Owing to the presence of unswept mines from older fields and their shifting, either through the action of tides or by the operation of minesweepers, it becomes increasingly difficult to allocate the loss of any one ship to a minefield laid on any particular date. The losses included the collier *Lusitania* and the hospital ship *Anglia* returning from France with wounded, both sunk on the 17th nearly in Folkestone Gate; the *Dotterel* which had escaped the bombs and maxims of the aeroplanes only to be mined off Boulogne; two Greek and two Norwegian steamers in the Thames approaches.

Against this can be placed the loss to Germany of *U.C.8*. The boat left Heligoland Bight early in November to relieve *U.C.11* which had gone to Kiel to act as training ship. On passage she ran hard aground near Terschelling on November 4 and had to signal for assistance. Dutch vessels towed her in to Terschelling where she was interned and later sold to Holland.⁴

CHAPTER III.

EVENTS IN THE NORTH SEA, NOVEMBER 9 TO THE END OF 1915.

21. The question of employing Submarines with the Fleet in a Fleet Action.—For some months the Commander-in-Chief had been pressing the advantages of using submarines to co-operate with the fleet in a fleet action. Though he realised that the speed of even the latest boats in commission was not high enough to enable them to sail with the fleet, he proposed to despatch them to a suitable rendezvous which they could reach at the same time as or even

¹ M. 08756, 08808/15.

² Gayer.

³ H.S. 172, pp. 667, 736.

⁴ Gayer, III, 26.

earlier than the fleet, their subsequent orders being issued according to circumstances. He asked for three groups of three boats, each to have an attendant destroyer, and indicated the Tyne as a suitable base for them, since it would be nearer than Harwich for co-operating with the fleet and only slightly farther than Harwich for cruises to the Bight.¹

At the Admiralty there was considerable scepticism whether submarines could take part in a fleet action. Not only was the Grand Fleet faster but also in action it would have to proceed at its highest speed in an unforeseen direction, with the result that the submarines must be left behind. Only by the merest accident would they find themselves in a position to attack. Moreover, there were other eventualities than a fleet action to be provided for; the possibility of raids or invasions on the east coast, and the chance that heavy forces might come out either to support the German flank in Flanders, or to cover a landing in the allied rear in France. It was felt that submarines were our only protection against any vessels more powerful than light cruisers which might appear between the Forth and Dover; and now that so many *E.* boats were required for the Mediterranean,² none could be spared till more of those being built were completed. Although these arguments were not developed in the Admiralty reply,³ the Commander-in-Chief was told that it was not yet possible to comply with his request, though it would be reconsidered when more overseas boats were available.

Learning from the Chief of Staff of the Grand Fleet, who had visited the Admiralty for discussion of various matters towards the end of October, that 12 submarines were to be based at Blyth, the Commander-in-Chief assumed that they represented the fulfilment of his request. But this was not the case. The flotilla was to be under the direct orders of the Admiralty. As yet only "E" class boats had been completed, and as the Admiralty now pointed out, they had insufficient surface speed to accompany the fleet.⁴

It was no part of the Commander-in-Chief's intention that they should be with the fleet on its passage south; but their speed "would be sufficient," he wrote,⁵ "for them to meet the battlefleet at any probable rendezvous, and it is considered possible to make such arrangements as to ensure they being available for the fleet action." Their value in such circumstances was to him obvious. "It is quite certain," he continued, "that the German battlefleet will be accompanied by submarines, and we shall be at a great disadvantage if our own submarines are not in a position to take offensive action against the German battlefleet. I am aware that

¹ C.-in-C., H.F., Letter 1496/H.F. 0022 of July 24, in Papers titled X. 787/15.

² There were six "E" class in the Mediterranean on November 5.

³ M. 05765/15.

⁴ M. 08238, 08420/15.

⁵ His letter 2525/H.F. 0010 of November 8, in M. 08624/15.

should the High Sea Fleet leave their ports to accept action, or to carry out operations off our coast, it is the intention to endeavour to attack the enemy by submarines, whilst on passage back to their ports, but I would submit that an offensive against the battlefleet during an action is far preferable to an attack on them after the action, since the submarines might conceivably play a very important part in the fleet action itself, and our losses from this cause might conceivably be so heavy as to turn the balance of gun power in favour of the Germans." Even if it was not now possible to allocate 12 "E" class submarines to the Grand Fleet he asked that he should be given at least six.

22. Function of the Blyth Submarine Flotilla.—So far the proposed function of the new flotilla at Blyth had not been explicitly announced; but now, in reply to this request, the Commander-in-Chief was informed that the 11th Flotilla was to be an oversea flotilla carrying out similar duties to the 8th Flotilla at Harwich, but in a different area. It was also explained to him that it was always intended that the flotilla should co-operate with the Grand Fleet, although the vessels composing it were too slow to work in company with him. They were now placed under his orders; but they were not to be sent to the southward of a line from Flamborough Head to 56° N, 8° E, on the Danish coast just north of Horn Reefs. They were also to co-operate in defensive measures in case of raid or invasion north of Flamborough Head.¹

23. The Submarine-Towed-by-a-Trawler Scheme abandoned.—Three "C" class submarines had been working from Scapa in tow of a trawler to surprise enemy submarines and had had some successes. It was now known that the ruse was fully realised by the enemy, and on November 4 the Admiralty ordered the three boats to go back to Rosyth to take up their former defence duties. The Commander-in-Chief, observing that the Germans had abandoned their submarine attack on merchant shipping, wished to keep the three boats, since he expected that the German submarines would now be used to a greater extent than formerly in attacking men-of-war off his bases. He had intended to move these three "C" class boats to Cromarty, which seemed to him a more likely, or perhaps less protected, objective than Scapa for enemy submarine operations. Here again the necessity for defence against raids prevented the Admiralty from concurring and the submarines had to be sent to the Forth.²

24. Two British Submarines in Heligoland Bight, November 16 to 22.—For some time no British submarines had been sent at all deep into the German Bight, although on several occasions they had been placed outside the Borkum and Horn Reefs exits. On

¹ M. 08624/15 of 17 November 1915. In February 1916 the limit for their operations was moved to the southward round the Dogger Bank to Horn Reefs.

² A. 9; M. 010090/15.

November 14 orders went out for two submarines to go right into the Bight, one to cruise if possible inside Heligoland and the other to operate off the Ems Mouth.¹ In the thickly-mined state of the entrances to the Bight their fields of operations were clearly unusually dangerous, but both returned in safety.

E.4 and *E.6* left Harwich during the morning of November 15, *E.4* for the station inside Heligoland and *E.6* for Norderney and the Ems. *E.4*, entering by List, passed 2 miles west of Heligoland and thence to the south-east of the island, where she remained from November 18 to 21. She saw nothing but a patrol of trawlers, and noticed that no sweeping was in progress off the mouths of the Elbe or Jade. On the 21st she left the Bight by the swept channel to Norderney, more or less in company with four German steamers laden with wood.

E.6 cruised inside the 10-fathom line off Norderney Gat from the 17th to the 22nd. She fired two torpedoes, one at a large torpedo craft and the other at a merchant vessel carrying a gun; both torpedoes missed. Both submarines had seen Zeppelins apparently patrolling.²

25. A supposed Enemy Cruiser emerging from the Kattegat, November 18.—The watch on the Kattegat was continued by a cruise of *E.17* which proceeded from Aberdeen on November 12. Off the Skaw on the 14th she examined eight Swedish steamers and four Danish, finding nothing suspicious about any of them; none of them had wireless. In the evening of the 15th she set course for Aberdeen and was back in port early on the 17th.³

Reports had been received of German submarines and destroyers being seen in the Kattegat; and on the 18th Captain (S) was ordered to send three of our submarines to cruise there for seven days, working in definite areas clear of each other.⁴

We knew that the Germans had some destroyer operation in view, to take place probably in the Kattegat;⁵ and on the night of the 17th the Admiralty received a report that a German three-funnelled cruiser in company with two destroyer flotillas had been seen early on the 17th steaming northward through the Sound at such a high speed that the wash from their propellers broke ships from their moorings in Helsingfors Harbour.⁶ At noon on the 18th this was passed to the Commander-in-Chief with the remark that it was believed the cruiser might go north to interfere with the Archangel trade, and that the destroyers were to escort her clear of the Kattegat. This view seemed to be confirmed when

¹ A. 10.

² Comm. (S) War Records, H.S.A. 270, pp. 613 to 621.

³ H.S.A. 270, pp. 623, 624.

⁴ Tel. 277 to Capt. (S), 12.15 p.m., 18.11.15

⁵ Signal 1753/16 November, in I.D.H.S. Records and Capt. Hope's note thereon.

⁶ H.S. 170, p. 798, Marked: *Recd.* 9.10 p.m., 17.11.15; and H.S. 170, p. 819.

the destroyers were seen on the morning of the 18th steering south on their return journey.¹

In the Hooften the Harwich Force was on an exercise cruise on the Broad Fourteens. The intelligence did not seem to affect this, and the force returned to Harwich via the North Hinder Channel in the afternoon of the 18th.²

There were also several ships of the Grand Fleet at sea. The *Donegal*, of the 7th Cruiser Squadron, was on the way to Alexandrovsk to afford some protection to large consignments of munitions en route to Archangel from France. The remainder of the 7th Cruiser Squadron³ were in process of a sweep towards the Faeroes; and the 2nd Light Cruiser Squadron, then at Scapa, was about to change places with the 4th Light Cruiser Squadron, then at Rosyth, and resume its proper function of working with the 2nd Battle Cruiser Squadron.

Acting on the intelligence now received that a German cruiser might be on the way to harass the White Sea trade route, Admiral Jellicoe ordered the *Donegal* to rendezvous with the southernmost ship of the division of the 10th Cruiser Squadron, then on Norwegian patrol,⁴ and cruise on the parallel of 66° N between 5° 30' and 7° 30' E. The 7th Cruiser Squadron he directed to a rendezvous in 63° N, 4° E, where the 2nd Light Cruiser Squadron joined them in a sweep northward along the Norwegian coast. The 4th Light Cruiser Squadron also swept out from Rosyth and back during the night of November 18-19. On the 20th the 2nd Cruiser Squadron went out to cruise 150 miles to the southward of the 2nd Light Cruiser Squadron.⁵

There was the possibility to be considered that the enemy cruiser might be a minelayer intended to operate off the Grand Fleet bases. To guard against this, a strong destroyer patrol was sent out from Rosyth that night, two Scapa destroyers patrolled off Noss Head, and the usual eastern patrol was increased from two to four destroyers. In addition, one battle cruiser squadron was kept at one hour's notice, with the remainder at three hours, the necessary destroyer screens being ready, if required.⁶

The Commander-in-Chief felt some anxiety lest the enemy cruiser should prove to be a more powerful vessel than the *Donegal*, which might have to meet her alone, and he asked for further information as to the class of vessel that had been reported. It then transpired that though it was certain that 18 destroyers had been seen the passage of the cruiser had not been confirmed.⁷ In actual fact there had been no cruiser, and the dispositions

¹ Tels. 608, 609, to C.-in-C., H.F., sent 11.45 a.m., 12.20 p.m., 18.11.15.

² Comm. (T)'s Diary.

³ *Minotaur*, *Hampshire*, *Liverpool*, with an armed boarding steamer.

⁴ For details of this patrol see Monograph 19: *The 10th Cruiser Squadron* (C.B. 917E).

⁵ G.F.N.

⁶ G.F.N.

⁷ From Copenhagen, 9.23 p.m., 19.11.15, H.S. 171, p. 207.

made proved to be unnecessary. The *Donegal* proceeded on her mission to Alexandrovsk; the various squadrons returned to port, the exchange of the 2nd and 4th Light Cruiser Squadrons taking place later in the month.

The three submarines sent to the Kattegat were *D.3*, *D.4* and a boat, *H.5*, of a new class built in Canada from parts made in the Bethlem Steel Works, U.S.A., and completed in June 1915. They were to operate in three zones: *D.4* north of 57° N, *D.3* between 57° N and 56.30° N, *H.5* between 56.30° N and the Belts. *H.5* left Harwich at 5 p.m., November 18, *D.3* and 4 at 8 next morning. They cruised on their stations in the Kattegat till dark on the 27th. Near Horn Reefs on the 20th, about noon, *D.3* and *D.4* observed an airship and submerged to avoid being seen. This was the only enemy vessel sighted by any of the three boats, whose watch passed without special incidents.¹

While they were in the Kattegat, *E.17* cruised between Skudesnaes and Kors Fjord, leaving Aberdeen November 25 and returning there on December 2. Her cruise was entirely uneventful,² and none of the boats saw anything of the supposed cruiser returning.

26. German Sweep of the Kattegat, November 17.³—Though the enemy cruiser had been imaginary, the 18 destroyers had a real existence. They were carrying out an operation of a kind hitherto not attempted.

Towards the end of October, reports to the German authorities of the steady increase in the traffic between Scandinavia and Great Britain raised the wish to interfere with it. Moreover, forces sent out to attack it might also be able to intercept British submarines on passage to or from the Baltic. It further seemed likely that British men-of-war would be in the neighbourhood of the Skagerrak to protect their contraband carriers from Scandinavia, since for several months light forces had been sighted off the Danish and Norwegian coasts, and a night attack on these was within the bounds of possibility.

In the prevailing wintry weather airship reconnaissance of the Skagerrak was not to be relied upon, and forces sent out from North Sea ports would run a risk of being cut off. It was therefore decided that the sweep should for the first time begin at the Baltic end, the chance of offending Sweden and Denmark by running through the Sound being considered small and easily countered by diplomatic means. Only destroyers were to be employed in the sweep; and as the weather continued for a long time stormy the operation was frequently delayed. It seems that orders were given for it to start about November 7; but again bad weather intervened to stop it. A more serious

¹ H.S.A. 270, pp. 625 to 638.

² H.S.A. 270, p. 645.

³ *Nordsee* IV, pp. 352 to 359.

disturbance of the plan was the report of a sweep by five British armoured cruisers into the Skagerrak just at the time when the German destroyers should have been operating there. The Germans jumped to the conclusion that their plans had been betrayed. They did not know that the sweep thus grandiosely reported had been planned a week before as a matter almost of routine, and in entire ignorance of the German orders.¹ "The prompt answer to our plans by English counter-measures on a large scale," so runs the War Diary of the Fleet Command,² "gives renewed support to the suspicion that our plans are betrayed through carelessness or indiscretion or on purpose to some well-placed authority who receives them at first hand."

Thinking that his plan was known to the British, Admiral von Pohl felt it would be wrong for his destroyers to carry out the sweep westwards from the Skaw in daylight, lest they should be surprised. On a dark night, however, they might have a chance of action with the British forces in the Skagerrak, and in support two submarines, *U.67* and *U.28*, were added to the plan, to cruise as far as a line just west of the Skaw.

With the idea of concealing the fact that an operation was in contemplation, the destroyers were distributed among three Baltic ports. On account of the weather successive postponements took place, accompanied by much wireless signalling, till the favourable new moon period had passed. Finally, in the morning of November 16, the two submarines started from List; that evening the 18 destroyers also proceeded. They passed through the Sound between 2 and 6 a.m., November 17.

As soon as they had left, intelligence came in to the High Sea Fleet that three British battleships and two submarines were steering south off Stavanger. Receipt of this news determined the officer commanding the destroyers to sweep westward of the Skaw that night, but on reaching that cape he found the moon giving too much light for a destroyer attack, and there was further the danger that cruisers might get behind him and cut off his retreat into the Baltic. He, therefore, turned back when 18 miles west of the Skaw.

There remained the attack on vessels carrying contraband from Sweden for England. Very few ships of any sort were met, and of these only one had contraband on board, the Norwegian s.s. *Modesta*.

The cruises of two submarines were marked by no special incidents. *U.28* returned to List on November 24 after a run of 2,000 miles; *U.67* went to Heligoland. They missed our three submarines which passed through the Skagerrak on the 19th on the way to the Kattegat.

The sweep thus concluded does not now appear very dangerous or important, but in the High Sea Fleet it was felt that a great

¹ See Section 10.

² *Nordsee* IV, p. 353.

advance had been made. "For the first time since the outbreak of war," writes the German historian,¹ "the flag had been shown by a considerable number of German men-of-war in waters hitherto under the undisputed control of the English."

27. Three Submarines Reconnoitre the Orkneys, November 19 to 24.²—The destroyer sweeps of the Kattegat were not the only operations contemplated by Admiral von Pohl. He had another enterprise in mind for which he required detailed knowledge of the patrols round the Orkneys; and to obtain this he despatched three submarines: *U.19* to eastward of the Orkneys, *U.43* to the neighbourhood of Peterhead, and *U.20* to Cape Wrath and the Minches. They left on November 16 and 17 for their stations.

U.19 made a close examination of the approaches to Scapa Flow between the 19th and 23rd; on that date bad weather forced her to return. She watched vessels going in and out of Holm Sound and observed the routine of the patrols and mine-sweepers. In the thick weather prevailing she several times had to dive suddenly to avoid destroyers and trawlers; she was apparently not sighted by them, for none of them reported her presence.³

U.43 was off Peterhead from November 19 to 24. She also made observations of the system of patrol and, like *U.19*, was not seen.

U.20 reached her area of observation west of the Orkneys on the 20th, having found the patrols in Fair Island Channel and off Muckle Flugga as active as ever. Before she had had much time to notice more than that certain important lights were burning, a leak in her conning tower brought her to the surface, within sight of a steamer and a patrol vessel. Thinking she had been discovered she set out for home and entered the Ems on November 23. Lieutenant-Commander Schwiager, her captain, seems to have been too hasty. She had not been sighted, except perhaps when passing Muckle Flugga, where she was thought to be a boat on passage to the Mediterranean.⁴

28. Sweep to the Skagerrak, November 29.—Though on our side no particular enterprise was in hand, the policy of activity in the Skagerrak, so noticeable in October, was continued at intervals.

Another sweep to that district began on November 29, when Commodore Tyrwhitt left Harwich at 10 a.m. with six light cruisers and 13 destroyers. One of them, the leader *Nimrod*, had been supplied with the new E-type depth charge containing 120 lb. of amatol, fitted so as to explode 40 or 80 ft. below the

¹ *Nordsee* IV, p. 358.

² *Nordsee* IV, pp. 360 to 362.

³ The Daily Return of Movements of German and French Ships in Home Waters is blank for Scotland from November 19 to 30.

⁴ G.F.N.

surface when released.¹ She appears to be the first sea-going vessel to carry these depth charges.² Until this date the only charge carried by the Harwich Force was the Egerton depth charge, a sort of improved modified sweep, instructions as to the use of which were issued by the Commodore in July.³

Two submarines, *E.5* and *E.22*, went to Horn Reefs to cut off any German ships which might come out to intercept him on his return. They were to remain on their stations till December 5.⁴ The weather, bad when they started, became so much worse that *E.22* left for Harwich on December 1, *E.5* remaining three days longer. They saw nothing of importance, except a Zeppelin.⁵

Commodore Tyrwhitt had also been baffled by the weather. It seems that he intended to penetrate deep into the Kattegat;⁶ but by the time he was nearing the entrance to the Skagerrak the wind and sea were so unfavourable to the passage of destroyers that he doubted the possibility of continuing the operation. At 11.45 a.m., November 30, when he was still short of the Skagerrak, he received from the Admiralty a message that nothing German was moving on account of the weather, and he thereupon decided to turn back. During the turn a man was washed overboard from the *Lance* and was picked up by the *Loyal*, the next astern, without lowering a boat. The squadron was back at Harwich at 3.30 p.m., December 1.⁷

During his sweep the Battle Cruiser Fleet had been exercising and firing small guns in the middle of the North Sea. It re-entered Rosyth before dawn December 2.⁸ The Grand Fleet went out from December 1 to 4 to exercise westward of the Orkneys. In the course of these the *Warspite* and *Barham*, of the new 5th Battle Squadron, collided and sustained considerable damage.

As it happened, the Admiralty were aware, when the Harwich Force proceeded for the Skagerrak, that some German enterprise was impending. Satisfied with the result of the 2nd Flotilla's cruise in the Kattegat on November 17, Admiral von Pohl determined to repeat it as soon as dark nights set in. The moon entered its last quarter on November 29, and as the weather that night appeared to be favourable, 19 destroyers proceeded from Kiel for another cruise in the Kattegat. On this occasion the Little Belt was selected for the passage, since the destroyers had a better chance of passing unobserved through that little used channel instead of the much frequented Sound. Entering it at

¹ Comm. (T)'s Journal of Information, H.S.A. 295, p. 192.

² *The Technical History* (C.B. 1515/40) is not explicit on this point.

³ H.S.A. 395, p. 161.

⁴ H.S. 172, p. 714.

⁵ H.S.A. 270, p. 642.

⁶ Before leaving he enquired urgently whether Anholt Island Light was burning (H.S. 172, p. 612). No copy of orders issued to or by him for this sweep has been found.

⁷ Comm. (T)'s Diary; H.S. 203, p. 739.

⁸ G.F.N.

3 a.m., November 30, in misty weather, they thought they would get through unseen; but several ferry boats came out, as if on guard, and it was clear they had been observed. In the Kattegat itself the sea became so bad that steamers could not be examined, except under the lee of the land, and what was more unfavourable, the commanding officer felt he could not successfully get away if chased. When off Anholt, therefore, he reassembled his flotilla which had been spread, and speeded away south for home.¹ It was his report that he had turned back, made at 8.20 a.m., November 30,² that prompted the Admiralty to inform Commodore Tyrwhitt that nothing was moving.

Thus, both parties to what might have been an interesting little action turned their backs to each other simultaneously, the British cruisers because they were told there was no enemy to fight, and the German destroyers because there might conceivably be one.

29. German Sweep of the Skagerrak and Kattegat, December 16 to 18.³—These small excursions of German destroyers into the Kattegat were only preliminary to a large sweep of the whole area which had been planned for some time. The chief difficulty was uncertainty whether or not the Little Belt could be used by German forces without raising awkward diplomatic questions in Denmark; but, now, since no objection was raised by the Danes after the passage of destroyers on November 29 and 30, it was felt safe for a much larger force to use that convenient strait.

The plan was for the three oil-burning flotillas, totalling 22 destroyers, supported by six light cruisers of the 2nd Scouting Group, to come out from the German Bight, sweep up the coast of Denmark in the dark hours, appear on the line running east from the Skaw at dawn, make a thorough search of the trade routes round, and return via the Sound, Little Belt, and the Kiel Canal to Wilhelmshaven.

The operation commenced at 10 a.m., December 16, with the departure of the light cruisers and destroyers. In connection with it, *U.20* was stationed off Lindesnaes for a week commencing December 17.

The sweep happened to coincide with a cruise of our submarines *D.7* and *D.8* from Blyth in the Skagerrak and off the Danish coast. There was no intended connection between the two operations; the orders for our submarines were dated December 9 and had as their object the attack of enemy trade and contraband, and the destruction of any German submarines attracted out in consequence. *D.7* was to examine merchant shipping on the south coast of Norway, while *D.8*, lying in ambush off Hanstholm, was to deal with enemy submarines coming up to attack *D.7*.⁴

¹ *Nordsee* IV, p. 362.

² Signal 0920/30 November, in I.D.H.S. Records.

³ *Nordsee* IV, pp. 372 to 381.

⁴ Appendix K.

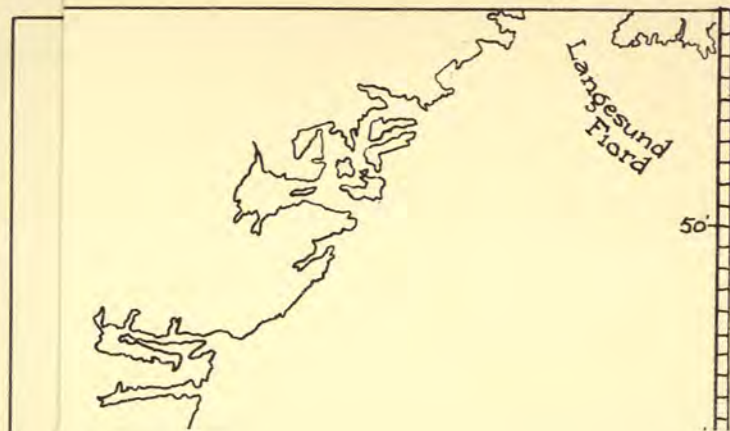
It was not suspected that a large force of German cruisers and destroyers was coming out. The German wireless signals connected with the operations were not explicit enough to give us preliminary warning of them, or rather at that time were not understood to mean any special movement; and no information or orders on the subject were sent by the Admiralty to any part of the fleet.

The German sweeping forces, after passing Horn Reefs about 6 p.m., December 16, steamed on a front 27 miles broad northward up the Danish coast. Arriving off the Skaw at daybreak, December 17, they spread in various directions to make a sudden descent on the contraband-carrying ships confidently expected to have just sailed from Swedish ports. Although they examined altogether 52 vessels, there was the disappointing result that only one of them, the Norwegian steamer *Groneland* with pit props for England, could be sent in as a contraband carrier. One vessel, a Dane, gave the information that she had been stopped in the forenoon by *D.7* to the westward. The presence of this British submarine in the Skagerrak was held to account for a torpedo seen to be coming for the *Wiesbaden*, one of the 2nd Scouting Group, at 1.20 a.m., December 18, close to the Skaw. This was just as the squadron was on the point of starting for home. They were off Anholt at daybreak. There they separated. The light cruisers and one flotilla passed through the Little Belt while the other two flotillas used the Sound.

Though it was true that *D.7* had stopped the Dane, it was, unfortunately, not also true that she had been in a position to torpedo one of the German cruisers. Throughout the 17th, while the scouting group and destroyers were examining their 52 merchant vessels on the Swedish and Danish coasts, *D.7* was employed on the same business close to the Norwegian shore. At 2 p.m., south of Ryvingen, she proceeded eastward, keeping 10 miles from the coast. A few hours later the whole German force then near the Skaw turned to sweep due west. At 9.30 p.m., on the meridian of 8.40 E, they altered course 16 points, *D.7* being then 10 to 15 miles to NNE of them and quite unaware that 30 German men-of-war were so close to her. This was the nearest point of approach. The Germans rounded the Skaw and went home, while *D.7* turned westward off Arendal.

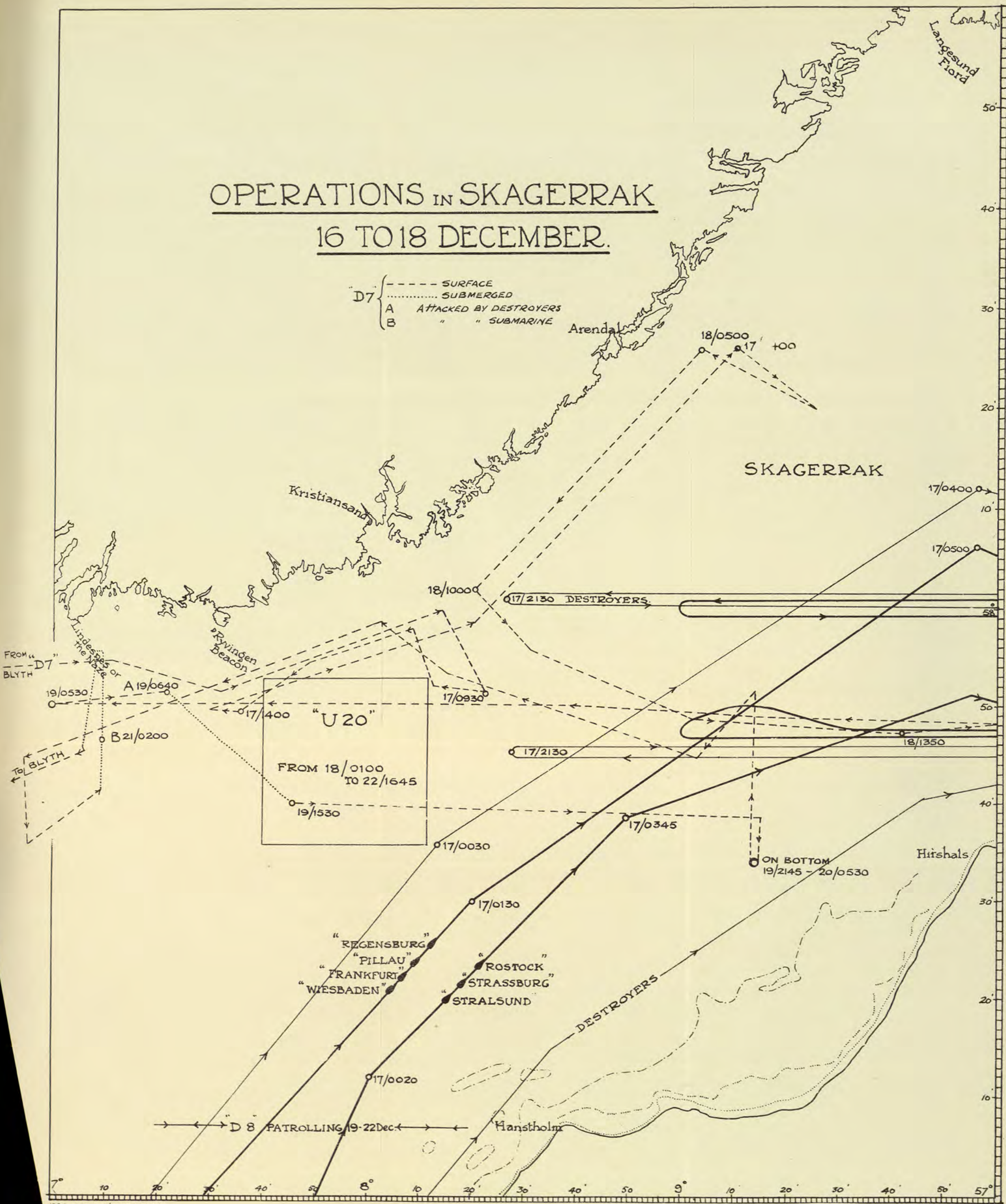
On the 19th, at 7 a.m., *D.7*, back once more at Ryvingen, sighted three destroyers which passed over her. The dim light prevented the possibility of her making an attack on them, which was fortunate since they were not German, and were probably Norwegian boats. Two days later, in the same neighbourhood, *D.7* saw a torpedo pass under her at 2 a.m. in the moonlight of a very clear night. Nothing was seen of the submarine which had fired it.¹

¹ *D.7's* report, G.F.S.P., Vol. XLIV, p. 16.



OPERATIONS IN SKAGERRAK 16 TO 18 DECEMBER.

D7 { --- SURFACE
 SUBMERGED
 A ATTACKED BY DESTROYERS
 B " " SUBMARINE



This torpedo, like that observed by the *Wiesbaden*, seems to have been imaginary. At any rate, it was not fired by *U.20*, although she certainly was cruising in that neighbourhood from 1 a.m., December 18, onwards. On the day in question she was much incommoded by stormy weather and by the thick ice with which she was coated; and finding conditions unsuitable for either attack or escape, especially as German intelligence agents had reported a considerable British cruiser force as operating off the Naze, she cut short her cruise and returned for home in the afternoon of the 22nd.

D.8, on the lookout for submarines near Hanstholm since early on December 19, was also incommoded by the weather. A strong wind, low visibility, and sleet storms forced her to dive throughout the 22nd; and, in fact, just as the commander of *U.20* decided he had better go home, the commander of *D.8* came to the same conclusion.¹

30. Sweeps to prevent Minelaying by Surface Vessels, December.—Now that the Germans had abandoned their submarine attack on merchant shipping it seemed probable that they would give increased attention to minelaying off the fleet's bases. Patrols to prevent this were already in force—armed boarding steamers working east of the Orkneys as far as $0^{\circ} 30' W$, destroyers guarding the Pentland Firth and going eastward at night to support the armed boarding steamers, and a force of whalers patrolling north-eastward from Peterhead.²

The moon was new on December 6, and the first half of the month was specially favourable for enemy enterprises. Between December 1 and 12, therefore, additional patrols were established with the object of preventing hostile minelayers approaching the fleet bases. In the area about 100 miles east of the entrance to Moray Firth the *Broke* and four destroyers patrolled from December 1 to 4 and 6 to 8, relieved on the 4th by sloops and on the 8th by light cruisers. Two Scapa destroyers went out on a 15-mile line 110° from Noss Head every night, relieving Cromarty destroyers, which formerly had that line, to patrol the channel into Moray Firth south of the minefield. From Rosyth a division of destroyers was to patrol continuously outside May Island, except during sweeps by the Rosyth light cruisers, such sweeps to be carried out as considered necessary by the Senior Officer Afloat at Rosyth.³

Three light cruiser sweeps were made from Rosyth. The first was carried out by the 2nd Light Cruiser Squadron from midnight, December 8-9, eastward from the Forth as far as $4^{\circ} E$ and back.⁴ The only thing noticed was the small amount of shipping visible. The second sweep, by the 3rd Light Cruiser Squadron,

¹ *D.8's* report, G.F.S.P., Vol. XLIV, p. 19.

² Memo. 0042/17: copy in G.F.S.P., Vol. LXXVI, H.S.A. 163, p. 51.

³ Appendix F.

⁴ Report in M. 09618/15.

extended as far as 2° E and took place between December 24 and 26. The third sweep made by the 1st Light Cruiser Squadron on December 30 to 31 as far as the meridian of 1° E, resulted in the sighting of 15 neutral steamers, none of them suspicious.¹

From December 9 to 17 a continuous series of sweeps by Scapa cruisers was arranged to cover the approaches to Scapa from the east and south-east.²

These sweeps also produced no special result. The weather was uniformly bad, and on one occasion the *Comus* and *Blonde* were unable to overtake a steamer whose lights they had seen 5 miles away. On this cruise the Egerton depth charges secured to the taffrail were washed away. Although the nights were dark and Fair Island was showing no lights, the island itself could be seen distinctly at 10 miles distance, owing to the snow with which it was covered,³ thus affording a good mark to a minelayer.

The force of cruisers with the Grand Fleet⁴ suffered a startling loss on December 30 when the *Natal* blew up in Cromarty Harbour and sank with a loss of all but 394 officers and men. It was afternoon when the disaster occurred. There was in progress a small party in the wardroom at which were seven ladies and three children witnessing a cinematograph display. None of these was found again. It is worth remark that among the survivors was a stoker who at the time of the explosion was actually inside a boiler. As is usual in these cases, very little evidence of value as to the cause of the disaster could be obtained; but it was clearly due to an internal and not an external explosion.

After December 17 there were no more special anti-minelayer patrols from Scapa in 1915, and they did not begin again till a few days before 5 January 1916, when the moon was again new.

31. The Harwich Force Sweeps across the German Bight, December 21.—While these sweeps were taking place in the North Sea the Harwich Force went out on December 13 for an exercise cruise across the Hoofden. A few hours after it started the weather became so unfavourable that the destroyers were ordered home and next morning the cruisers also returned.⁵

The Commodore now proposed to resume the cruise on December 20, sending back the destroyers at the conclusion of the exercises and carrying out a sweep with the light cruisers from Horn Reefs to the Norwegian coast. The Admiralty were not inclined to approve the latter part of the proposed sweep as a British submarine was near Horn Reefs and two German submarines were known to be in the western approach to the

¹ M. 0367/16.

² Memo. H.F. 0042/28 in M. 09852/15.

³ Reports and track charts in M. 09852/15.

⁴ For organisation of the Grand Fleet at the end of 1915 see Appendix L.

⁵ Comm. (T)'s Diary; H.S. 187, p. 1033.

Skagerrak. They agreed, however, to let him know at sea whether there were any enemy vessels open to attack.¹

He sailed early on December 20, and after exercises near the North Hinder Light Vessel proceeded with the whole force to 53° 40' N, 6° E, a few miles from Borkum Riff Light Vessel, arriving there at daylight, December 21. Nothing was in sight except later a Zeppelin which kept out of range. Sending back the destroyers he swept across the Bight towards Horn Reefs. He kept to the southward of the Reefs, on account of the British submarine; and while still short of them he turned at dark and shaped course for the North Hinder and Harwich. He had boarded a Swedish steamer² with iron ore and sent her in to Harwich in charge of a destroyer.

32. Four British Submarines in the Bight, December 19 to 23.—The Admiralty had refused to let the Commodore approach Horn Reefs on account of the British submarine there, but they had not told him there would be two British submarines near Borkum at the time of his approach, probably because he said nothing about Borkum in his proposed programme. On December 16 they had ordered four submarines across to the Bight—one for Horn Reefs, one off Ameland, one off Norderney and one inside Heligoland to remain five days.³ *H.10* was given the station off Ameland, *E.16* at Norderney, *E.29* Horn Reefs and *E.4* inside Heligoland. They were to gather information of sweeping operations and to take care not to be seen unless making an attack.

H.10 sighted the Commodore's force. The range luckily was such that the ships were beyond attack and, moreover, she recognised them as apparently British. Otherwise she had nothing to report. *E.16* observed Zeppelins and torpedo boats but all beyond range, till on December 22 she discovered a large vessel strongly escorted. Thinking this must be of some value, Lieutenant-Commander Duff-Dunbar, commanding *E.16*, decided to attack and fired a torpedo. It missed. *E.16* had been sighted by one of the screening vessels only 50 yards ahead of her. Although it turned to ram her, Lieutenant-Commander Duff-Dunbar fired a second torpedo at the large ship and had the satisfaction of seeing it hit before he dived to escape being rammed. In the course of the hunt for *E.16* which followed, the high speed of the hunting craft frustrated any chance of attack on them.

E.29, near Horn Reefs, saw nothing of importance except the usual Zeppelin patrolling. *E.4* went close to the mouth of the Elbe. She saw many torpedo craft and at night observed two large ships with lights; but they were all beyond her range. All four submarines proceeded for home on the 23rd.⁴

¹ Tels. 782 from and 637 to Comm. (T), 19.12.15, in H.S. 203, p. 744.

² *Porjus*.

³ Tel. 284 to Capt. (S), sent 5.10 p.m., 16.12.15.

⁴ Reports in H.S.A. 270, pp. 650 to 670.

Towards the end of December the Admiralty came to the conclusion that German submarines were likely to come out into the North Sea by Horn Reefs, and on December 25 they ordered one of our submarines to be sent there to intercept them, to be relieved after six days by another on the same service, weather permitting.¹

E.6, Lieutenant-Commander Foster, proceeded on this mission on December 26, but just outside Harwich, near the Sunk Light Vessel, she struck a mine and disappeared with all hands. No other submarine was sent in her place.

Her loss was all the more unfortunate in that an armed trawler, the *Resono*, had been blown up on the same field a short time before, and a torpedo boat on the spot signalled to *E.6* to keep clear. Although it appeared that the signal had been taken in, *E.6* continued her course, and was blown up before the eyes of the officer of the torpedo boat which had tried to warn her.² Her loss was perhaps the biggest naval disaster yet attributable to the *U.C.* minefields.

33. The "U.C." Minefields of December 1915.—During December the *U.C.* boats laid 17 fields, each of 12 mines. Two at the Kentish Knock were in the Nore area, several others were on the borders of the Nore and Lowestoft areas, while the Dover command received one at the South Goodwin, two at the Elbow Buoy, one in Folkestone Gate, and one each at Calais and Boulogne.³ As a consequence Boulogne was closed on the 13th for 24 hours after a ship had been sunk; and again on the 21st, when another mine was found, it was closed for another day.⁴ The Calais field had no victims, but a mine was discovered on the 29th and the port was closed for the day. On the last day of the year a vessel blew up off Dover itself, and when two other mines were found there all traffic past Dover was stopped.⁵

Admiral Bacon, who was convinced that the minelayers entered his area from the French coast and not by his own swept channels, had been conferring with the French as to the reorganisation of the French minesweeping and drifter services on the lines of those at Dover. Before the end of the year it was arranged that the British should patrol from Boulogne to the Ruytingen Buoy, and the French the banks from Ruytingen North to eastward of Dunkirk. The British would sweep the cross-channel routes to within 3 miles of Boulogne and from Dunkirk round the

¹ Tel. 287 to Capt. (S), 12.10 p.m., 25.12.15.

² Papers titled *C. 1278/15*.

³ See Appendix D.

⁴ The position of this Boulogne field is given in the German post-Armistice Statement (O.U. 6020B) as 50° 49' 54" N, 1° 33' 24" E. The *Pinegrove* was mined in 50.49, 1.23, and another mine was found near her. It is, therefore, not unreasonable to presume that the German statement has a clerical error of 1° 33' E for 1° 23' E.

⁵ M. 0117/16.

Dyck Light Vessel, while the French undertook the responsibility for sweeping east of Dunkirk up to the Whistle Buoy in the West Deep.¹

In the English Channel the *U.C.* boats went no further than Boulogne this month; but in the East Coast Swept Channel one boat, *U.C.6*,² succeeded in navigating as far as the Humber, the first time these boats managed to get so far as the command of Admiral Ballard. That officer, since November 6, had borne the title of Rear-Admiral Commanding, East Coast of England, the former office of Admiral of Patrols being then abolished; his command extended from Cromer to Berwick-on-Tweed, the patrol from the border to St. Abbs Head being transferred to the Scottish command.³

Although, according to the German post-Armistice Statement, *U.C.6* laid two groups of mines across the swept channel,⁴ presumably at some date between December 4 and 9,⁵ their presence remained unsuspected for nearly a month. It was the practice for the minesweepers to finish their sweeps in the direction of the shore and slip them in shallow water. On January 2 the sweeper *Mediator*, when heaving in the sweep wire about a mile from Spurn Lighthouse, blew up, luckily without loss of life. Four days later another minesweeper, the *Courtier*, suffered a similar experience with more terrible results. "There was just the explosion," writes an onlooker, "a cloud of steam and nothing left but bits of wreckage."

These accidents raised the whole question whether the methods of sweeping in use were the best. "Trawlers, owing to their low speed," wrote Admiral Fitzherbert, who had recently relieved Admiral Charlton, in command of the Minesweeping Service,⁶ "usually tow the mines in their sweeps without parting the moorings. To make the mines show themselves they are towed on to a selected dumping ground where the water is shallow and the sweep is there slipped." The disadvantages of this practice were that as the trawlers required 3 fathoms of water the mines did not always show themselves, and might remain to blow up the next sweeper which came to the same dumping spot. This was probably the cause of the loss of the *Courtier*, whereas the *Mediator* was more likely blown up by a mine entangled in her sweep wire. A new scheme was, therefore, put into effect to get rid of the mines in the sweeps. Two pairs of sweepers steamed past one another so that the sweeps crossed; and the mine ropes under the

¹ M. 09632/15.

² Gayer says it was *U.C.6* that mined the Humber.

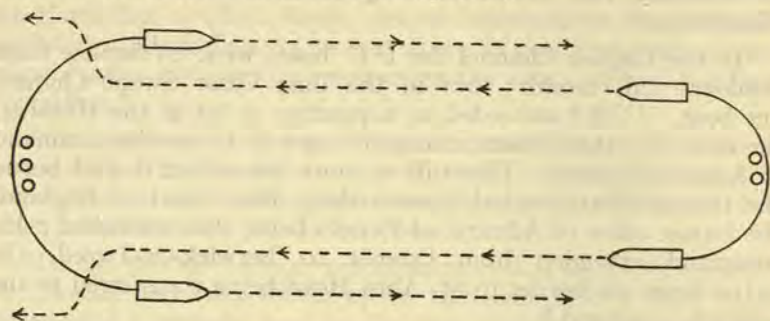
³ M. 08183, 09175/15.

⁴ Field 69a, 8 mines, 180° for 3,520 metres from 53° 30' 6" N, 0° 25' 42" E. Field 69b, 4 mines, 50° for 3,700 metres from 53° 27' 12" N, 0° 29' E.

⁵ See Appendix D.

⁶ Admiral Charlton was appointed to the command of the Cape of Good Hope Squadron (M. 08467/15). Admiral Fitzherbert took the title of "Admiral of the Minesweeping Service."

double pull must give. This principle was embodied in Confidential Interim Order No. 203 of 8 February 1916.¹



34. Minesweeping Routine in the Thames Estuary, November.²

—The determined attack made by the submarine minelayers on the Thames Estuary kept the whole of the Nore minesweepers continuously engaged. Admiral Callaghan had under his orders 6 paddle-sweepers and 24 trawlers fitted for sweeping, and from November 1 onwards the only routine that could be maintained was as follows:—

MINESWEPT CHANNELS IN THE THAMES ESTUARY.³

<i>Channels Swept.</i>	<i>How often Swept.</i>
Garrison Point to the Nore	Daily.
Nore to Edinburgh Light Vessel . .	Every other day.
War Channel from Edinburgh Light Vessel to the Tongue, thence to the Elbow Buoy, thence to the Kentish Knock, and thence to the Sunk.	Daily.
Black Deep (as far as a line joining the Sunk Light Vessel and Rough Buoy).	About once in seven days.
Knock Deep (as far as the Longsands Light Vessel).	
The area to the westward of the War Channel between the lines joining the Tongue, Elbow Buoy, and Longsands Light Vessel.	Whenever sweeps are available.
Other areas in Thames Estuary from the Sunk Light Vessel to the Elbow Buoy and as far east as the Galloper Light Vessel.	When mines are reported.
River Thames, from Nore Light Vessel to Lower Hope Point.	Only when ordered by Commander-in-Chief.

Even this routine of sweeping was clearly not sufficient for reasonable safety, for the patrol vessels and drifters of the Nore Defence Flotilla could not be confined to the War Channel. Moreover, it was noticed that the Mercantile Marine now avoided rather than used the War Channel.

¹ Papers titled *Admiralty*, 5 January 1916 and 12 January 1916.

² M. 09153/15.

³ Nore Local War Orders, 1 November 1915.

The patrols, too, had been reduced as a result of wear and tear and losses, till the routine carried out, day and night, was:—

“A” patrol off the Tongue Light Vessel 3 vessels.

“B” patrol off the Sunk Light Vessel 3 vessels.

“D” patrol by day near the Oaze, by night near the Warp 3 vessels.

One submarine at Tongue with destroyer or torpedo boat in attendance.

Indicator nets at the eastern entrance to Princes' Channel, and across Barrow Deep to westward of West Sunk.

The sweeping of the area round the Elbow Buoy had been shared between the Nore and Dover commands. Admiral Bacon now represented that as the buoy marked the northern entrance to the Downs and was close to the base of his minesweeping flotilla a better arrangement would be for him to be responsible for the sweeping there. In accordance with his suggestion the boundary between the two commands was altered on December 16 to a line from the North Foreland to a position 2 miles north of the Elbow Buoy and thence through the North and East Goodwin Light Vessels and east (true) to the Belgian coast.¹

After December 9 it was the practice in the Nore command to have lines of drifters with explosive nets operating at night without lights in various areas.²

35. Revival of “U.B.” Warfare.—The cessation of the Allied military attack on the Flanders flank removed from the mind of the German authorities the fear of an immediate landing on the Flanders coast and allowed the *U.B.* boats to exchange their rôle of outer guard for more extended cruises. They now patrolled off the Thames and in the Hoofden, though without much effect. One of them, *U.B.10*, under Lieutenant-Commander Steinbrinck, passed through the Dover Strait and reached Boulogne on December 20.³ There she saw a ship at anchor close to the light-ship; she was an easy mark and *U.B.10* torpedoed her. Another ship anchored close by received a second torpedo and both vessels sank.

Two supposed submarines had been seen off Boulogne that day and, in consequence, the port was closed to merchant ships. The two torpedoed steamers, *Huntly* and *Belford*, were on Government charter, waiting for the port to be opened. In view of this incident, Admiral Bacon suggested that chartered vessels should be instructed not to make French ports till daylight, and he also asked the French Admiral de Marliave, who now commanded on the French side of Dover Strait, to keep five of his torpedo boats at Calais and five at Boulogne so that two could always be at sea at each place.⁴

¹ M. 09153/15.

² Tel. 390 from C.-in-C., Nore, 9.12.15.

³ Gayer, III, 32.

⁴ M. 09845/15, 50734, 50915/15.

36. Operations of "U." Boats in December.—During December, as in November, there were very few reports of submarines sighted, and those seen can rarely be identified with actual boats. On December 26 a periscope was seen outside Harwich and four destroyers went out to hunt it. They failed to find anything and the submarine was doubtless imaginary.

Four days later occurred a strange incident in the same neighbourhood. The drifter *Adele*, patrolling off the Outer Gabbard, observed a large steamer at 2 p.m. steering in an erratic manner, and closed her with a view to investigation. The steamer made off, opening fire with a small gun, and was pursued by the drifter, which also opened fire, for about a mile, when the drifter suddenly perceived a large number of floating mines, with horns and painted red, apparently dropped by the vessel she was pursuing. The *Adele* thereupon stopped to sink the mines, accounting for seven of them, and then, having no wireless, proceeded to Aldborough Napes to get in touch with a yacht. Five hours thus elapsed before the news reached the Admiralty. They immediately informed Commodore Tyrwhitt; but thinking it would be useless after so long an interval to attempt pursuit he took no action.¹

Even at the time it was considered unlikely that a minelayer should approach Harwich in broad daylight and throw over mines intended to float. It now seems most probable that the steamer, an innocent one, mistook the drifter for an enemy submarine, and that the mines laid by *U.C.5* at the North Galloper the night before had come adrift through some technical failure.²

From December 20 to 25, *U.67* kept watch near Peterhead, observing the patrols but herself unobserved. Driven home by the gale of December 25 she reached the confines of the Bight with her compass and chronometer both wrecked. The navigation of the mine-strewn Bight was in the best conditions difficult and dangerous and without navigational instruments she would have been in some peril if it had not been for the new directional stations set up at Borkum and List, from which she was able to ascertain her accurate position.³

On December 20 a submarine was reported off Pentland Skerries. At the time the 4th Battle Squadron was practising full calibre firing in Cromarty Firth, and the Scapa destroyers were guarding the northern entrance to Moray Firth. At the conclusion of the firing they were sent north to hunt for the submarine. Meanwhile, a torpedo had been fired at the *Devonshire* and she saw it break surface fairly close to her.⁴

The torpedo and the submarine in this case were genuine. *U.44* had left the Bight on the 14th for a cruise to the Tyne and Pentland Firth. She was off the latter place on the 18th and

¹ M. 014/16; H.S. 190, pp. 807, 835, 854.

² T.S.D.D.

³ *Nordsee* IV.

⁴ G.F.N.

observed a squadron of battleships steering northward as if they had come from Aberdeen. These may have been the 2nd Battle Squadron returning from Cromarty to Scapa. *U.44* found herself among the patrols before she could approach the battleships and had to dive out of danger. Two days later she sighted an armed boarding steamer zigzagging too rapidly to permit attack. She, however, had a chance to fire two torpedoes at the *Devonshire*, though both of them failed to hit. These were the submarine's only chances, and on the 22nd she proceeded for home.

She had carried out one other operation, the first of a new kind. In the early part of December she had been fitted to discharge a recently invented type of mine which by a clockwork device would drift in one direction only, sinking to the bottom when the current was adverse. These mines were intended primarily to drift into Scapa Flow, but as they were still in an experimental stage the German command decided not to use them there at the moment for fear of prematurely disclosing the new weapon and setting on foot effective counter-measures before any results could be achieved. The Firth of Forth and the Tyne, where the channels were straighter, seemed to promise better results. *U.43*, which was also fitted to lay these new mines, was told off for the Forth, with which she was familiar; and *U.44* left on December 14 for the Tyne to release her mines after having adjusted them so that they should drift north and south along the coast channel past the port. On the night of December 17 she discharged her mines off the mouth of the Tyne, and at 3 next afternoon felt a heavy concussion which implied an early success. She then went on to Peterhead.¹

The explosion she thought she had felt was not that of a mine blowing up a ship. Although the usual stream of merchant ships continued to flow, and several men-of-war, including the *Tiger* on December 21, passed in or out of the Tyne, none of these struck any of these mines, whose presence was not even suspected. Not being moored mines, they were not given in the lists supplied by the German Government at the Armistice; and the fact of their being laid became known only on the publication of the German Official History.

37. One "U." Boat Operates in the South-west Approach, end of December.—For three months since the cessation of the submarine attack on shipping, the South-west Approach had been quiet. At intervals, passing vessels saw what they thought might be periscopes or submarines; but nothing more came of these apparitions, and we now know that they were not German *U.* boats. During those three months the area of attack on merchant ships was in the Mediterranean, where the defence was weak; and to strengthen it there 11 trawler units were taken from the home auxiliary patrol to be despatched to the scene of activity.²

¹ *Nordsee* IV, pp. 367, 368.

² Papers titled X. 9195/16: "Patrol Arrangements in the Mediterranean."

To this force Stornoway contributed 12 trawlers, the Orkneys 12, Falmouth 12, and Yarmouth, Milford, Kingstown, Holyhead and Lough Swilly 6 boats each.¹ The despatch of these from Falmouth, where they collected and fitted out, was completed on December 25.

On that same day it became evident that Germany had begun another submarine attack on merchant shipping in western waters. At 1.45 p.m. Fishguard W/T station took in a signal "*Van Stirum* chased by two submarines 20 miles south of Smalls, position critical, firing shots and gaining on us." Half an hour later a further signal came, "Done for, pick us up 5 miles south of Smalls."²

The position was in the best patrolled part of Milford area, which was supplied with four yachts and 36 trawlers, besides 135 drifters for the net across St. George's Channel.³ The weather was stormy and the drifters were sheltering from it;⁴ and as on a previous occasion the first vessel to reach the endangered ship was a Belgian trawler, the *Nadine*, working from Milford Haven and at the time fishing off the Smalls. She took on board all the crew, except two who had been killed.

The *Van Stirum* was a transport on Admiralty charter, returning empty from Rouen for Liverpool. She was following a mid-channel course and was 9 miles W by N (magnetic) of the Smalls, not 20 miles as erroneously signalled, when at 1.35 p.m. she sighted what she took to be two submarines at a distance of $\frac{1}{2}$ mile. One of them opened fire and the *Van Stirum* turned her stern and attempted to escape, sending out her distress call. The submarine did not reopen fire till 2.20 p.m., nearly an hour later; she was then much closer and hit the ship, bringing down her aerials. Seeing that escape was hopeless and that help was not coming the master of the *Van Stirum* stopped and abandoned ship. While this was in process the submarine fired a torpedo, its explosion killing two men. At 4.15, the *Van Stirum* being still afloat, the submarine fired five shells into her and then made off.⁵

Fishguard reported the attack on the *Van Stirum* to the Admiralty as well as to the Admirals on the spot. The Admiralty at once stopped the sailing of all transports from western ports, and of all British and Allied shipping at Liverpool, Glasgow and Cardiff, and those ships in French and Spanish ports bound for the threatened area. They also instructed Admiral Bayly, commanding at Queenstown, to escort in, if possible, two important oilers, the *El Zorro* and another, which were approaching.⁶ There seemed to be another submarine off the Isle of

¹ Tels. to S.N.O., Falmouth, 8.12.15 and 12.12.15.

² H.S. 189, pp. 934, 987.

³ Positions and Movements, Auxiliaries, 31 December 1915.

⁴ Milford A.P. Reports.

⁵ M. 09875/15.

⁶ H.S. 189, pp. 963, 971, 977, 990.

Wight; at least, one of the Portsmouth destroyers had bumped something and seen an object like a periscope.¹ This was a potential danger on the cross-channel transport route, where troops, horses and stores were passing to France at the rate of about 20 shiploads a day;² and the Admiralty ordered two divisions of Harwich destroyers into the Channel, to operate first off Portsmouth and later to go on to the South-west Approach.³

In the area where the attack on shipping had definitely recommenced, the officers in command set their patrols actively to work. Admiral Dare, commanding at Milford, sent vessels to search the neighbourhood; they found nothing but the derelict of the *Van Stirum*, which broke up and sank in the severe storm which followed. Admiral Bayly at Queenstown now had under his command the whole of the 1st Sloop Flotilla, 12 vessels; he sent three of them to work in the southward of St. George's Channel.

On December 26 the submarine (it was thought by this time that only one was operating) appeared off Lundy Island. She fired on and stopped the Belgian s.s. *Ministre Beernaert* at 3 p.m. and the British s.s. *Cottingham*. The Belgian she sank by torpedo, but for the little *Cottingham* gunfire was enough. It was this small vessel which had rammed and sunk the *U.C.2*, and thus enabled our divers to examine the hull and fittings of the mine-laying submarine.⁴ The crews of these two vessels were picked up four hours later by an armed trawler from Swansea Auxiliary Patrol area.⁵

A transport bringing troops from Canada was due shortly at Devonport. Admiral Bayly sent out a sloop to escort her in. The sloop met the transport and kept with her till dark, December 26, when she lost sight of her convoy about 60 miles to the south-westward of the Scillies, and the transport performed the rest of her journey unescorted.⁶

Meanwhile, the destroyers sent from Harwich⁷ had arrived at Portsmouth, and been sent on to Milford, since nothing more definite had been seen of the supposed submarine off the Isle of Wight. Permission was given to Admiral Bayly to use these destroyers temporarily should further intelligence of submarines be gained.⁸

The enemy was not seen again till 6.30 a.m., December 28,

¹ H.S. 189, pp. 938, 978, 982, 1016.

² About four of these went from Folkestone to Boulogne, the remainder from Southampton, Newhaven and Avonmouth.

³ A. 13.

⁴ See *Home Waters*, IV, Section 132.

⁵ Papers titled *Board of Trade*, 30 December 1915.

⁶ M. 041/16.

⁷ *Mentor*, *Moorsom*, *Manly*, *Melpomene*, *Mansfield*, *Myngs*, *Morris*, *Milne*, with *Nimrod* as leader.

⁸ Tel. 734 to Ad., Queenstown, December 26.

when the oiler *El Zorro* made a distress call, "Chased by submarine N 18 W, 3 miles from Kinsale Light."¹ The vessel had been shelled and torpedoed, and the submarine had left before a yacht and two torpedo boats sent out from Queenstown arrived on the scene. The oiler, though towed nearly into port, went aground in the gale and broke in two. The Admiralty had sent orders for all the oilers approaching our shores (there were three or four of them at the time) to be met and escorted. One of them that same morning saw the submarine, but was not attacked, possibly on account of the patrol vessels near. That afternoon another ship was torpedoed, the *Huronian*, in sight of the *Adventure*, which Admiral Bayly had sent out to assist in the hunt. The *Huronian* did not sink, and being only 8 miles from shore was able to be beached and saved. The Harwich destroyers were prevented by the bad weather from leaving Milford, except for a few hours on December 30.²

The submarine made no further attacks. By the end of the year she had proceeded for home. Intercepted messages showed that the boat was U.24, Lieutenant-Commander Schneider, which had left on December 16 and was back in the Bight on January 4.³ It was intended, when she started, that she should operate off Havre, and she had instructions that all ships clearly steering for that port might be sunk without warning, except neutral ships under neutral colours and with neutral markings; these might be sunk without warning if a considerable body of troops could be distinguished on board.* The very heavy weather of December 27 damaged the submarine and injured two of the crew, whereupon Lieutenant-Commander Schneider abandoned the proposed attack off Havre and proceeded for home. His voyage had been partly intended to alarm the west coast and to prevent the patrol forces there from being employed elsewhere.⁴

¹ H.S. 190, p. 374.

² M. 041/16.

³ Signals 0800/16 December, 1030/4 January, 1210/4 January, in I.D.H.S. Records.

⁴ *Nordsee* IV, p. 370.

CHAPTER IV.

THE WHITEN BANK MINEFIELD AND THE RESUMPTION OF U.B. AND ZEPPELIN ATTACKS IN JANUARY 1916.

38. Anti-minelayer Patrols, January 2 to 10.—The year 1916 opened in a period of moon darkness, the moon being new on January 4. Such times were specially favourable to surface minelaying, and on January 1 Admiral Jellicoe issued orders for the resumption of the extended eastern patrol intended to meet such minelayers before they reached the entrances to his bases. By these orders a pair of light cruisers or flotilla leaders would always be in the area between the lines joining 57.40 N, 0°; 57.25 N, 1.40 E; 59.0 N, 1.10 E; 59° N, 0°. Ships were to reach the south-eastern corner at 2 p.m., sweep north in the eastern half and south in the western half. This special patrol was to begin on January 2 and be continued till January 10, thus lasting from two days before the new moon to six days after it. The Commander-in-Chief further ordered a similar patrol between the same dates to be carried out from Rosyth when weather permitted.¹ The first two cruisers to perform this patrol from Scapa were the *Calliope* and *Comus*, which left Scapa early on January 4. No incident marked their cruise.²

Though no exercises of the Grand Fleet were at the moment in contemplation, and no signals suggesting a sortie of the High Sea Fleet had recently been intercepted, there was enough movement of important ships to give a minefield a good chance of inflicting serious losses. Refits were in progress: the *Conqueror* at Invergordon with the *Colossus* to relieve her in dock in a day or two, the *Africa* at Belfast where the *King Edward VII* was due shortly to take her place. The transfer of battle squadrons between Scapa and Cromarty had been resumed, and on January 1 the 4th Battle Squadron and the *Iron Duke* were at the latter base. The Battle Cruiser Fleet left Rosyth on the 5th for three days' exercises north of the parallel of 60° N.

The *St. Vincent* of the 1st Battle Squadron sailed from Scapa at 2 a.m. on January 2 for a refit at Liverpool. A submarine was seen in Stornoway area that afternoon, and all the patrols were extended to catch her. They failed to see any more of the enemy. The weather was very stormy, and in the course of the hunt the armed yacht *Hersilia* was wrecked on North Rona on January 6.³

¹ G.F.N.

² M. 0367/16.

³ Stornoway A.P. Reports.

The sailing orders of the *St. Vincent*¹ directed two destroyers to screen her out and wait in the Minch to meet and come back with the *Africa*; but when the *St. Vincent* left there was too much wind and sea, and the destroyers *Contest* and *Christopher* did not sail till the 3rd. Even then they had to run in to Stornoway for shelter on the 5th, and the *Africa* arrived at Scapa in the forenoon of the 6th without them. As she came in, the *King Edward VII* sailed from Scapa to take her place in the dock at Belfast. But she was not fortunate enough to reach it.

39. **Loss of the "King Edward VII," January 6.**—The *King Edward VII* left Scapa without a destroyer screen, since the weather was so bad that destroyers could not keep up without damage. She had proceeded as far only as 30 miles from the Pentland Firth when at 10.47 p.m., in 58.43 N, 4.12 W, a violent explosion occurred under her engine room. At first the explosion was attributed to the torpedo of a submarine. It was so reported by her captain,² and the *Kempenfeldt* and 12 destroyers and all available tugs were at once sent out from Scapa. Before they had gone far the Commander-in-Chief realised that the cause of the accident might be a mine, and he warned the destroyers to that effect.³

When they arrived they found the *King Edward VII* listed 8° to starboard and with both engine rooms flooded, the door between them having been open at the time of the explosion. A tug and the *Kempenfeldt* took her in tow, but half an hour later the tow parted and fouled the *Kempenfeldt's* propeller. The battleship was now listing considerably, and was low in the water. The wind and sea were rising, and there was every chance that she might sink in the night. Her Captain, therefore, decided to abandon her, and the whole crew were disembarked into four destroyers without loss of life, or serious damage to more than one of the destroyers. Three of them went into harbour, the fourth, in which the captain of the *King Edward VII* had embarked, remaining near the disabled battleship till she turned over and sank at 7.50 p.m.⁴

The area between Cape Wrath and longitude 3.40 W was at once proclaimed dangerous,⁵ and on January 8 a route avoiding it was laid down for colliers and store ships proceeding by the west of Scotland into Scapa, and for vessels sent on to Kirkwall with armed guards. Light draught vessels were instructed to hug the shore between Cape Wrath and the Orkneys.⁶

On January 8 the Norwegian steamer *Bonheur* struck a mine near Stack Skerry, which established the fact that the *King Edward VII* had been mined and not torpedoed. In reporting

¹ G.F.O. and M., Various, 28.12.15; H.S.A. 222, p. 589.

² H.S. 207, p. 927.

³ H.S. 207, p. 934.

⁴ H.S. 208, p. 336; G.F.N.

⁵ A. 15.

⁶ H.S. 208, pp. 168, 290, 322; H.S. 209, p. 142.

this the Commander-in-Chief urged that the loss of the *King Edward VII* should be concealed as long as possible in order not to encourage the enemy to further minelaying projects. "Enemy minelaying," he protested,¹ "is by far the most dangerous menace to Fleet or Mercantile Marine that we have to encounter."

The Admiralty, feeling that another unsuccessful attempt to maintain secrecy over the loss of a large vessel would create great suspicion, were unable to comply with his request, and on January 9 announced in the Press that the *King Edward VII* had struck a mine and sunk, though they gave no details of time or place.²

Further evidence tending to prove that a minefield existed was furnished by a German mine which drifted ashore in Thurso Bay on January 14; it had evidently come from the *King Edward's* field, since strong westerly winds had prevailed ever since her loss. A drifting mine had been seen on January 8; but though the Stornoway patrol searched for it for a week they did not find it again.³

In the gaps in almost continuous bad weather minesweepers worked on the area, at first ascertaining that the coast channel was free of mines. All available sloops and gunboats left Scapa on January 9 for sweeping operations, but had to take shelter till the 15th; it was not till the 28th that they found any mines.⁴ On March 8 the Commander-in-Chief issued the following memorandum concerning the new dangerous area, to which the name Whiten Head Bank Minefield was now given:—⁵

Secret.

H.F. 005/318.

Memorandum.

"Iron Duke,"

8 March 1916.

The Whiten Head Bank Minefield.

The following information is promulgated for information and guidance.

2. The area between the Sutherland coast and the parallel of 58° 39' N is considered clear of mines. The other limits of the minefield have not yet been defined.

3. Moored mines have been found to the north of latitude 58° 41' N, between longitude 4° 05' W and 4° 43' W. Up to date 39 mines have been discovered.

Further sweeping operations are being carried out to define the limits of the minefield and to extend the safe channel to the northward.

4. The safe channel for light cruisers, destroyers and smaller vessels proceeding between Cape Wrath and Pentland Firth is as follows:—

Round Cape Wrath clear of the Race, keep to the southward of latitude 58° 39' N between longitude 4° 45' W and 4° 00' W.

This channel is only to be used during daylight hours.

¹ A. 16.

² H.S. 208, pp. 305, 449.

³ H.S. 208, pp. 297, 312; H.S. 209, pp. 100, 153; Minesweeping Statement No. 87, dated 2 February 1916; Stornoway A.P. Reports.

⁴ G.F.N. Some reports of the sweeping are in G.F.S.P., Vol. VII, pp. 302 to 335.

⁵ G.F. Mines Memoranda, H.S. 292.

5. Until further orders heavy draught vessels are to keep to the westward of longitude 5° 00' W, between Cape Wrath and latitude 59° 20' N, then steer 90° till in longitude 3° 20' W, thence close to the west coast of the Orkneys or through the channel between Fair Island and North Ronaldshay. Noup Head Light is exhibited all night until further orders are issued.

(Signed) J. R. JELICOE,
Admiral,
Commander-in-Chief.

40. **The First Cruise of the "Moewe."**¹—Although the Whiten Head Bank Minefield had not revealed itself until January 6, it had been laid during the night of January 2. The good results of the two cruises of the *Meteor* led to the equipment of another vessel of the same character to act as minelayer and auxiliary cruiser; the ship chosen for the purpose was the steamer *Pungo*,² which, renamed *Moewe*, was armed with four 5.9-in. guns, one 4.1-in. gun, and two 19.7-in. above-water torpedo tubes. She carried also 500 mines. She left the Elbe on December 29 with orders to mine the western approach to the Pentland Firth. That accomplished, her commander, Count Zu Dohna-Schlodien, had discretion to lay the rest of his mines in the North Minch, off Lough Swilly, Bantry Bay, and the mouths of the Loire and Gironde. After expending his mines, he was to carry out ordinary commerce warfare in the Atlantic.

When the *Moewe* left, the weather was too bad to admit of the airship reconnaissance that had been intended; but *U.68* had gone on ahead to reconnoitre on the route she would follow and on December 28 made an attempt to attack an armed merchant cruiser 60 miles west of Lindesnaes. The *Moewe* passed two days later, and the submarine returned after cruising in the Skagerrak and Kattegat.

The minelayer rounded the Faeroes and at 6 p.m., January 2, was 9 miles south-west of Sule Skerry Light at the starting point for laying the first minefield. In a wind which freshened to a westerly gale she laid 11 separate lines, totalling 252 mines, and then had a hard battle against the storm to get away. It was 2 a.m. before she cleared Cape Wrath and could make out to sea well away from shore, which she learned next day from intercepted signals was on the alert on account of submarines reported.

After a wide detour to westward she closed the Gironde, and on January 8 laid there another field of 238 mines. Then, her mining operations concluded, she steered for the Atlantic to begin what proved a successful cruise as a commerce destroyer.

Some of the mines of the Gironde field broke adrift. Two were sighted at noon, January 10, and a couple more were found floating on the 11th. The chief losses on the field were both

¹ Based on *Nordsee V*, Chapter I.

² *Nordsee V*, p. 2, calls her British, but Lloyds Register gives her as German.

Spanish steamers, the *Bayo* and *Belgica*, mined on the 13th and 15th respectively.¹

41. **Premature Explosion of a Depth Charge, January 11.**—The extended eastern patrol from Scapa was continued between January 8 and 10 by the *Caroline*, which rescued the crew of a disabled Danish trawler. The *Caroline* had left in company with the *Faulknor*, but on the approach of threatening weather sent her back to Scapa on the 9th, returning herself on the 10th.² Next day, the *Blonde* and *Broke* took up the patrol. A few hours after they left, the Egerton depth charge on the upper deck of the *Blonde* exploded prematurely, seriously damaging the upper deck and killing two men. She returned to Scapa; and the Commander-in-Chief at once ordered all Egerton depth charges in light cruisers and destroyers in the Grand Fleet and at Harwich to be unshipped forthwith.

His action was endorsed by the Admiralty, who at 1.3 a.m. on the 12th issued a general order to all ships and bases that these depth charges³ were to be unfitted.

A new form of depth charge, known as type "D," had been evolved, and was shortly to be supplied to the fleet. The Commander-in-Chief did not think it advisable to wait for the new type before getting rid of the old, and he had them unfitted at once. It appears that none of the type "D" depth charges arrived at Scapa till March.⁴

42. **Scapa Boom Defences Wrecked.**—The specially heavy gales of the winter of 1915-16 were not only hampering the work of patrolling and minesweeping; by January 25 they had destroyed most of the anti-submarine obstructions guarding the entrances to Scapa. The heavy type booms at the inner ends of Holm and Hoxa Sounds were non-existent. Two others in Hoxa Sound had been carried away. Of the remainder, the only one efficient was that in Switha Sound. In fact, both Hoxa and Hoy entrances were open and Holm entrance was also clear except for the blocking ships.

The Commander-in-Chief explained the disappearance of the net booms as due to the employment of drifters to support them instead of trawlers. Trawlers could stand the weather, but the drifters could not, and had to slip their moorings; he had been using most of his trawlers for the outer patrols and had only a few left for the booms.⁵ Certain lighters of a special type for boom

¹ H.S. 208, pp. 968, 1110; H.S. 209, pp. 236, 343, 508.

² M. 0580/16.

³ A description of the Egerton depth charge is in G.F.S.P., Vol. XLIX, pp. 69-73.

⁴ H.S. 208, pp. 765, 795; G.F.S.P., Vol. XLIX, pp. 49 to 91.

⁵ Scapa had 30 trawlers on the northern patrol; 16 on western patrol; 22 on southern patrol; 15 trawlers minesweeping; while out of the 140 vessels employed in the boom defences 45 were trawlers (Auxiliary Patrol Service Return of date).

defence work were due but had not arrived; and the Admiralty had not yet had time to take action on a proposal made by him on January 23 for laying an E.C. minefield to guard Scapa. In the circumstances, Scapa Flow being open to submarine attack, he seriously considered the step of moving the fleet to Loch Ewe till Scapa could once more be rendered submarine-proof.¹

Trawlers to replace the drifters for boom defences were hard to find; in fact, there were now none available.² The Admiralty, however, by taking trawler minesweepers from other bases were able to send a dozen more to Scapa. Four of these came from Yarmouth, where they had been employed in combating the U.C. mining campaign in the east coast swept channel.³

The new minefield asked for by the Commander-in-Chief was one of the last proposals put forward by Admiral Colville, who on January 19 was relieved as Admiral, Orkneys and Shetlands, by Vice-Admiral Sir Frederick E. E. Brock. Admiral Colville's suggestion was a deep E.C. field in the main channel between Roan Head and Nevi Skerry. The minefield previously laid between Crootaing and the Grinds, by dint of frequent overhauling, had been kept efficient for over a year; it had not apparently suffered in the recent heavy weather, and therefore deep minefields seemed a desirable form of defence at Scapa.⁴

The Admiralty, in approving the minefield, pointed out various difficulties which would arise from its presence, and explained that owing to the grave shortage of torpedo ratings the watch and repair parties, numbering 23 such ratings, must be provided from the Grand Fleet. Material for laying the field was not available for some months, and it was not till the summer that work was begun. The field then laid was called the Cantick Minefield or, alternatively, the Roan Head Minefield.⁵

In February the weather improved sufficiently for the drifters holding the boom defences to be usually in place and, in consequence, the necessity for moving the fleet to Loch Ewe ceased to be so apparent.

43. Another German Minelayer expected, January 29.—From intercepted German messages the Admiralty learned that part of the High Sea Fleet came out into the Bight early on January 17. The object of the manœuvre did not reveal itself in the messages; and no special preparations were made to meet it. In fact, Admiral Jellicoe was not informed that the High Sea Fleet was in motion till it had been ascertained that it was returning to harbour.⁶

¹ A. 19.

² A. 20.

³ H.S. 211, p. 123.

⁴ Letter 200/H.F. 007, dated 23 January 1916, from C.-in-C., H.F., copy in G.F.S.P., Vol. XI, pp. 526 to 528.

⁵ G.F.S.P., Vol. XI, pp. 529 to 540.

⁶ A. 18.

The cruise was the first since Admiral Scheer had succeeded to the command of the High Sea Fleet. The intention was to exercise the fleet in preparation to resist an attack on the Bight expected from us and thought likely to take the form of a bombardment by heavy forces. It had recently been decided that as a matter of principle the whole force of the High Sea Fleet should be in open waters at daylight should intelligence of such an operation by the British be received in time. "This decision," remarks the German historian, "shows a considerable advance on previous lines of thought."¹

The day chosen for the excursion was the first that the weather was good enough for the anticipated operation. Some of our signals to the destroyers in connection with the mining of the *King Edward VII* had been taken in and were misread to mean that a destroyer sweep of the Bight had been broken off on account of the weather. Now that there was less wind the attempt might be begun. Air reconnaissance had not been possible since October, and the airships now went up to dry their envelopes, which had become saturated in their sheds, most of which were not warmed. No sign of the British could be seen and the fleet returned after its practices, the 3rd Battle Squadron with a suitable number of cruisers and destroyers going into the Baltic for urgently needed exercises. None of this was at the time apparent. All that we knew was that the High Sea Fleet had come out and gone home again.

On the 25th further messages revealed that a German fleet auxiliary was to sail from Kiel on the 26th for some special enterprise which would last a week. This seemed to the Admiralty to indicate a minelaying expedition, and they advised Admiral Jellicoe to arrange cruiser sweeps across to the Skagerrak to meet and deal with the minelayer before she could reach our shores.

The sweep then instituted employed the 1st Light Cruiser Squadron from Rosyth and the 4th Light Cruiser Squadron from Scapa. The orders for the Rosyth squadron were that it was to sail with six destroyers at 6 a.m., 26th, and proceed to the eastward at such speed as to arrive on the meridian of long. 7° E by 10 a.m., 27th, the northern ship to sight the Naze; from thence it was to sweep towards the Skaw as far as 10° E. If no enemy were sighted it was then to return to the westward and spread on a line running 210 deg. from 58.52 N, 3.45 E by 7 a.m., 28th. In support it was to have the 2nd Battle Cruiser Squadron, screened by destroyers, which was not to come east of long. 8° E.

To the northward of the force would be the 4th Light Cruiser Squadron, accompanied by three destroyers. This was to leave Scapa at 11 a.m., 27th, and proceed at such speed as would enable it to spread on the line joining Udsire to 58.52 N, 3.45 E by 7 a.m., 28th.

¹ *Nordsee V*, p. 8.

At daylight, 28th,¹ the combined force was to sweep to the south-eastward, parallel to the Norwegian coast as far into the Skagerrak as 7° E. If by that time nothing suspicious had been met the Rosyth forces were to return to their base, while the 4th Light Cruiser Squadron swept towards Fair Island, pass through Fair Island Channel about 9 a.m., 29th, and spread across the line joining Sule Skerry to Muckle Flugga. If nothing was sighted by dark, 29th, it was then to return to Scapa, passing east of the Orkneys.²

In view of the possible approach of a minelayer the night patrols east of Scapa were modified from the 27th. The northern limit of the east Pentland destroyer patrol was extended to the parallel of Burray Ness on Burray Island, and an additional patrol of one light cruiser with one destroyer operated to the northward of the Pentland patrol.³ Thus the general centre of gravity of the extended eastern patrol was moved considerably to the northward. For the same period, two light cruisers or a division of destroyers patrolled the approaches to the Forth.

The light cruiser sweep to the Skagerrak was carried out as ordered. A stream of traffic in small ships was observed on the Norwegian coast in territorial waters, but no suspicious vessels were seen either by them or the patrols.⁴

No sooner were the squadrons back in harbour than intercepted German messages implied a movement of two scouting groups and a battle squadron;⁵ the Grand Fleet was ordered to two hours' notice and the Harwich Force to one hour. The Commander-in-Chief proposed to send out the Battle Cruiser Fleet, but this was unnecessary since the enemy made no sortie. In the Admiralty's opinion their plans had been disturbed by the cruiser sweep into the Skagerrak and by an operation carried out the previous day near the Ems by the Harwich Force.⁶

44. British Submarines watching the Bight.—No signs of minelayers and, indeed, no incident of importance had marked the submarine watch on the Horn Reefs exit from the Bight, carried out by *E.22* from December 28 to January 5 and by *D.6* for the following five days, both with orders to pay special attention to intercepting submarines.

Occasionally our submarines were sent right into the Bight as far as the mouth of the Elbe. On January 5 *E.17*, Lieutenant-Commander J. R. G. Moncrieffe, left with orders to proceed into the Bight by the Norderney Channel and cruise inside Heligoland,

¹ G.F.N. says "27th," but this is assumed to be a typing error for "28th."

² A. 21, 22; G.F.N.

³ G.F.N.

⁴ Reports and Track Charts in M. 01412, 01699/16.

⁵ Tel. 278 to C.-in-C., H.F., sent 7.53 a.m., 30.1.16.

⁶ Tels. 959 from and 200 to C.-in-C., H.F.

observing the positions of all buoys and light vessels, the routes taken by ships and the latest of minesweeping operations.

For some unknown reason, *E.17* was set out of her course. She grounded heavily off the Texel and remained ashore for some seven hours, the heavy sea mauling her severely. When she was eventually got off Lieutenant-Commander Moncrieffe started for home with one engine in action, both propeller shafts bent, and an uncontrollable leak in the after compartment. Before he had proceeded more than 5 miles he sighted a cruiser and some destroyers, and judging them most probably to be German, especially when the cruiser trained her guns on him, he had no alternative but to dive. He was fully aware of the danger of this course, but he intended to come up again, if possible, and torpedo the cruiser. The pressure under water increased the leaks; water reached the port main motor, which burned out, and the after battery commenced giving off chloride. The boat was now not only out of control but uninhabitable, and he came again to the surface, to find that the supposed German was a Dutch cruiser. This vessel rescued the crew of *E.17* which was now in a sinking condition. The Dutch officers and crew treated our men with the utmost kindness and stood to attention when *E.17* went down. But the Dutch Government insisted upon interning the officers and crew of the submarine in spite of most earnest diplomatic representations.¹

From January 10 to 16 the Skagerrak and Kattegat were patrolled by the submarine *D.7* from Blyth, which left on the 9th to interfere with traffic to Germany. She carried prize crews intended to take possession of arrested ships. The weather here was as bad as elsewhere; and to westward of the Skaw she was in such difficulties that she found it impossible to deal with the merchant traffic. To eastward of the Skaw on the 12th she found better weather and searched all day for German warships which had been reported to be operating there. She found none. From the 13th to the 16th she spent most of her time repairing engine defects produced by the heavy seas and finally, on the 17th, arrived at Blyth with the prize crews complete and none the worse for their experience.

It appeared that her orders had not included that clause giving her commander discretion to come home in bad weather, which was always part of the instructions to the submarines operating from Harwich. The Admiralty now desired the Commander-in-Chief definitely to give the commanding officers full discretion to abandon operations in unsuitable weather, experience having shown that they were loath to do so unless definitely instructed in that sense.²

45. Harwich Force Operations, first half of January.—Information was received at the end of December that a suspicious

¹ Papers titled *Foreign Office*, 6 April 1916.

² H.S. 626, pp. 30 to 32 and 155.

iron ore vessel, the Swedish *Nordland*, was on passage for Rotterdam. The Admiralty wished to intercept her, and Commodore Tyrwhitt went out with his cruisers on January 2 to meet her off Terschelling. He boarded several ships, none of them proving to be the *Nordland*, and the weather becoming exceptionally severe he returned to Harwich on January 5 by the Flamborough Head Channel.¹

A week later German aeroplanes from Flanders appeared once more at the North Hinder and were sighted there by a Lowestoft patrol trawler. German destroyers had several times visited that district, and as it was thought they might come out again the Commodore was instructed to send a strong destroyer patrol to the locality. The weather prevented their departure till the 14th, when a leader and eight destroyers made a sweep east of the North Hinder. Meeting with no signs of the enemy they returned next evening.²

46. Air Attack on Hage Sheds frustrated by the Weather, January 18.³—For a long time an air attack on the Zeppelin sheds in the German Bight had been in contemplation. The chief deciding factor as to date was the readiness of the *Vindex*,⁴ a newly requisitioned aircraft carrier, to take the principal part in the operation. Experiments to test her capacity for flying seaplanes from her fore-castle and picking them up were successfully concluded by January 1, and Commodore Tyrwhitt then applied for permission to carry out two operations. The first, called "A.R.H.," was an attack on the Hage sheds near Norddeich on the western side of the Bight; in the other, called "H.R.A.," the sheds at Hoyer on the Schleswig coast was the objective. For this latter, as the picking up rendezvous would have to be in the neighbourhood of Horn Reefs, it was thought necessary that there should be battle cruiser support, the Admiralty, therefore, fixing the date; but for "A.R.H." at the Borkum end such support seemed unnecessary, and since the whole force used would come from Harwich the selection of the date was left to Commodore Tyrwhitt, who would take charge of the operation.

The detailed orders for both operations had been submitted by the Commodore and approved early in December. The *Vindex* being ready he was instructed on January 5 to carry out "A.R.H." whenever the weather was suitable. No promising opportunity presented itself till January 18, when there was a lull in the almost continuous gales. It was part of the plan of operations that there should be, as on former occasions, a force of submarines to deal with any emerging enemy forces. Accordingly, on the morning

¹ Comm. (T)'s Diary, H.S. 207, pp. 55, 124, 172, 186, 281, 516, 579, 611.

² A. 17; Comm. (T)'s Diary.

³ H.S. 381: *German Coast Bombing Raids*.

⁴ Formerly *Viking* of the Isle of Man Steam Packet Company, 23 knots, requisitioned 15 March 1915. (Papers titled *Pro. J. 223/15*.)

of January 18, the following submarines left Harwich and Yarmouth:—

E.23 for Norderney Gat.

D.3 for the western end of Juist Island.

H.6 for the Eastern Ems.

H.7 for the Western Ems.

H.8 for 53.35 N, 6.6 E.

H.10 for 53.37 N, 6.21 E.

After the conclusion of the operation *E.23* was to cruise for four days inside Heligoland, and *D.3* to cruise for the same period between the Ems and Norderney. Captain Waistell went out to support his submarines with the *Firedrake* and four Harwich destroyers.

Commodore Tyrwhitt sailed in the *Arethusa* in the afternoon of the 18th with the light cruisers and destroyers of the Harwich Force and the *Vindex*. The weather was all that could be desired, and the barometer was steady; but soon after passing the position where the force turned to approach the Bight he found himself in fog. The release of the seaplanes should take place at 7 a.m., but by 10 a.m. there was still fog near shore and, moreover, a wind was now blowing fresh from the south-west. At that moment a message reached the *Arethusa* to the effect that submarine *H.6* was aground off Ameland. This and the unfavourable condition of the weather decided the Commodore not to go on with the operation. He sent the *Vindex* back to Harwich in charge of two destroyers, and proceeded with the rest of his force to search for *H.6*. He failed to see anything of her, but she was found by Captain Waistell. She was in neutral territorial waters in Friesche Gat, and so firm aground that no attempt was made to get her off. Though there was no hope of salvaging the submarine Captain Waistell felt that the importance of recovering some of the officers and higher trained ratings justified the risk of waiting in such an advanced position, and he sent in a motor boat which brought off certain officers and men he had enumerated; but as the wind and sea were rising rapidly the Commodore ordered him to make no further trips with the motor boat and to join the Harwich Force, leaving sufficient men in the submarine to keep and maintain her, and possibly get her off at the next high tide. Captain Waistell thereupon instructed her commanding officer to endeavour to have the boat salvaged by the Dutch authorities and interned.

There had been considerable German wireless going on for some hours, and the Commodore thought it advisable to give up any further hopes of being able to assist *H.6*. The wind had risen to a south-westerly gale. He proceeded westward at 20 knots, which the sea compelled him to reduce ultimately to 8 knots.

The other submarines returned without mishap beyond slight damage from the gale. *E.23*, owing to the bad weather, returned

on the 19th; but *D.3* remained on her station till the 23rd. Another submarine, not in the plan but in the Bight at the time, was *E.4*, which left for Horn Reefs on the 16th and remained there till the 21st. None of these boats saw any special signs of enemy activity.¹

47. Second Attempt at the Air Attack abandoned, January 28.—Conditions did not appear favourable for the resumption of the air attack "A.R.H." till the 28th, when the Commodore proceeded once more in the *Arethusa* with the light cruisers and destroyers accompanying the *Vindex*. Arriving at the hoisting out position for the seaplanes, the Commodore ordered the *Vindex* to stop and commence the operation. Before she could obey the order a torpedo was seen to pass so close ahead of the *Arethusa* that it seemed actually to graze her stem. No submarine could be seen, but the *Arethusa* turned in the direction from which the bubbles came. In a few minutes the track of another torpedo passed ahead of her. The Commodore had already ordered the *Vindex* away at full speed; he now considered it useless to attempt to carry on with the operation, and accordingly cancelled it.²

In view of the explosion in the *Blonde*, the Egerton depth charges had been unfitted in the Harwich Force. This the Commodore regretted. "Had the *Arethusa* and eight destroyers in company been fitted with Egerton's depth charge," he wrote,³ "the submarine could hardly have escaped. The position from *Arethusa's* point of view was an ideal one, and I strongly urge that we may be permitted to rearm with the only offensive weapon for dealing with submarines that is at present available, as at present we have no means of retaliation." As a result of his representation the fleet was allowed to refit the Egerton charge on the understanding that all fittings were strictly in accordance with the authorised design.⁴

In this attempt at operation "A.R.H." four submarines participated—*E.22* at Norderney Gat with instructions to cruise inside Heligoland later, *E.23* off the Western Ems and later between Norderney and the Ems, *E.16* at Horn Reefs, and *E.26* north of Scheermonnikoog to return immediately after the operation.

E.22 fired a torpedo at, but missed, an armed trawler on February 2. *E.23*, that same day, sighted four cruisers and put up her periscope to attack. Before she could fire she was nearly rammed by a destroyer and, diving, lost sight of the cruisers in the mist. *E.16* sighted some destroyers but had no chance to attack; she returned home on February 2.⁵

¹ Comm. (S) War Records, H.S.A. 271.

² H.S. 381, pp. 63 to 67.

³ H.S. 381, p. 64.

⁴ G. 0126/16. Tel. to all ships and bases, 2.2.16.

⁵ Comm. (S) War Records, H.S.A. 271, pp. 69 to 83.

On this second occasion, as in the previous attempt of January 18, the Germans were completely unaware of the presence of the Commodore and the Harwich Force.

None of the German patrols by ships or aircraft had sighted him; and even the submarine seen by him had not observed the force. In fact, the German historian denies that any German submarine was in that position at the time. If, however, the operation had taken place 24 hours later, the Commodore would probably have found himself confronted by three destroyer flotillas, which cruised from Horn Reefs to Terschelling and thence to the Ems next night, and were met there at daylight by the battle and light cruisers of the 1st and 2nd Scouting Groups.¹

48. Resumption of "U.B." Boat Attacks on Fishing Smacks, January.—Throughout the early part of the winter the Lowestoft fishing fleet had been exempt from the attacks by *U.B.* boats which had been so prominent a feature of the summer campaign. But on January 17 the smack *Acacia* came into Lowestoft with the news that she had been fired on by a submarine, and had escaped. Her skipper, Mr. James Crooks, knew a submarine when he saw one. In August 1915 he had been skipper of one of the smacks destroyed by the *U.B.* boats, and he had made up his mind not to be taken again. The submarine opened fire on him at a range of about a mile. His trawl was down and he left it down till the enemy had stopped on his weather quarter. This was his chance. He chopped away the trawl rope and put his helm hard up. There was a good breeze and the smack sprang ahead, straight for the submarine, which had only just time to submerge before Mr. Crooks passed over it. Seeing that no further chance would present itself he sailed off for home and made his report, the shot holes in his sails and spars presenting a concrete proof of his story. The Admiralty expressed their appreciation of his conduct and awarded him £50 compensation for the damage his boat had suffered.²

The incident had occurred only 28 miles from Lowestoft. In the Lowestoft Auxiliary Patrol area it had long been the general policy to employ a greater part of the patrol vessels to protect shipping in the swept channel and act more upon the defensive, certain ships being held in readiness for any required operations further afield or for any special search. On the arrival at Lowestoft of the *Acacia* with her report, Captain Ellison, Senior Naval Officer there, sent out two motor launches to search for the submarine, despatching also two trawlers to make a four days' patrol of the area Jim Howe Bank, Brown Ridges, North Hinder. In addition, they were to order in the fishing fleet. These efforts did not prevent the submarine from destroying three smacks³

¹ Nordsee V, pp. 15, 16.

² M. 35984/15.

³ Evelyn, *Foam Crest, Sunshine*.

about noon next day some 30 miles to the south-eastward of Lowestoft.

The enemy's procedure was the same as in the attacks of the previous summer, except that the submarine commander had no colleague in the immediate neighbourhood. He brought the smack to by firing rifles, made the crew bring the ship's papers and then sank the smack by a bomb. The crews noticed a fish's head painted on the submarine's bow with projections which one man described as "gills" sticking out on each side.¹ She had no number and did not seem to carry a gun.²

The crews of the three destroyed smacks came in to Lowestoft on the 19th. Captain Ellison now sent out a yacht to order all the fishing smacks into harbour and ordered out one of his trawlers to search for the enemy. Nothing was seen of her by any of his vessels.³

The Germans had asked the fishermen whether any of the smacks out were armed. None of them were, for all the decoy smacks had been paid off. But now that attacks on the sailing craft had recommenced Captain Ellison took up four smacks—*Foam Crest*, *Energic*, *Telesia* and *Fame*, fitted them with 3-pdrs., and gave them suitable crews including four naval ratings. He also fitted out two drifter-trawlers with trawl gear and put a gun in each with a petty officer and gunlayer in addition to the usual crew. All these six vessels he sent out to fish with the smack fleet.⁴

Before they could get to work, another smack, the *Crystal*, was destroyed by a submarine on the 27th; and on the 31st four smacks, *Radium*, *Arthur William*, *Hilda* and the Belgian *Marguerite* were destroyed in the same fishing grounds.⁵ By that time one of the drifter-trawlers, the *Kentish Knock*, was on the scene. On February 1, in the evening, some object became foul of her trawl wire and a submarine came to the surface 15 yards away. Her petty officer at the gun got off three rounds; two of them failed to explode, but one of them burst on the base of the conning tower of the submarine which heeled over and disappeared in the darkness. The *Kentish Knock* was awarded £100.⁶

The skipper of the *Radium* had been skipper of the *Challenger* destroyed on August 4, and of the *Sunshine* sunk on January 18, and he noticed that the submarine which now destroyed the *Radium* was of quite a different and larger class than either of his former assailants. The skipper of the *Hilda*, who also had had his smack destroyed by a *U.B.* boat in the summer, saw that the

¹ Possibly these were a form of net cutter (T.S.D.D.).

² Depositions in H.S. 403, pp. 47 to 51.

³ Lowestoft A.P. Reports, H.S. 403.

⁴ M. 01019/16. There had been two smacks named *Foam Crest*.

⁵ Sunk by *U.B.* 12 according to Gayer.

⁶ M. 03795/16. Gayer does not mention this episode.

present submarine was a larger one than had operated on that occasion.¹

49. **Zeppelin Raid of January 31.**—The moon would be new on February 4 and the time of airship raids was approaching. There had been no premonitory signs of an air raid during the last new moon period, but German signals in the form which so far had always precluded an attack² were intercepted about noon, January 31, implying that at least six airships were out for a raid.

Captain Ellison at Lowestoft was at once warned to have his anti-aircraft trawlers on the lookout; Commodore Tyrwhitt was instructed to carry out a Zeppelin patrol with his light cruisers if the weather were clear; and Admiral Bacon at Dover was told to warn his monitors, which carried anti-aircraft guns, to be ready for an air attack that night.³

Two of the Lowestoft armed trawlers, the *Kingfisher* and the *Cantatrice*, carried seaplanes specially for the purpose of attacking Zeppelins, which it will be remembered generally flew low over the North Sea. The *Kingfisher* was ready and left at once, with another trawler as guard, to patrol from Jim Howe Bank down the meridian of 3° E as far as 52° 40' N. Bad weather kept the *Cantatrice* in port. On the night of January 31, when the Zeppelins were expected, a very heavy fog covered the area in which the *Kingfisher* operated and she saw nothing of the German airships.⁴

Owing to the fog Commodore Tyrwhitt did not send out any of his cruisers for patrol against Zeppelins. The German airships, however, succeeded in making the coast and at 4.40 p.m., only three hours after the warnings and orders had gone out from the Admiralty, several were reported in the neighbourhood of Cromer.⁵

Three and a half months had elapsed since the last Zeppelin raid,⁶ and in the interval something had been done towards rendering navigation over England somewhat more difficult, in that new lighting restrictions were in process of enforcement. Nevertheless the area attacked was still virtually defenceless. By 7 p.m. eight of the latest Zeppelins, *L.13* to *L.21*, crossed the coasts of Norfolk and Lincoln and made their way westward, their apparent object being the large industrial towns of the Midlands. *L.11*, which had started with them, failed to find the coast in the fog and turned back. At least two of the airships navigated as far as the Black Country near Birmingham; no important damage was done to factories, but two churches suffered severely, and a few railway buildings and some breweries at

¹ Papers titled X. 3745/16.

² "Have only H.V.B. on board." Signals 1220, 1221, 1240, 1257, 1305, January 31, in I.D.H.S. Records.

³ A. 23 to 25.

⁴ Lowestoft A.P. Reports.

⁵ A. 26.

⁶ See Section 6 of this volume.

Burton-on-Trent were partially wrecked. One soldier was killed and there were 182 other casualties in the whole raid. The mist was not favourable to anti-aircraft action ashore; only 35 ineffectual rounds were fired by high angle guns, and of the 16 aeroplanes which went up, 7 were damaged in landing.¹

Nothing was seen of the airships after they had crossed the coast on their homeward journey; but a Lowestoft armed trawler hunting a submarine which had shown itself off the Corton Light Vessel heard the sound of an airship's engine and had a bomb dropped near her.²

In the wireless reports made by the returning airships, *L.13* claimed to have bombed Manchester and the industrial areas round the Humber, *L.14* claimed Nottingham, *L.15* Liverpool, *L.16* docks and a gun factory, *L.17* the Humber works, *L.19* and *20* Sheffield, *L.21* Liverpool and Manchester.³ In actual fact, none of these places were approached by any of the Zeppelins except Nottingham; in this case *L.14* passed over Nottingham and dropped her bombs on Derby and Ashby-de-la-Zouch. The signals showed how far the raid was designed to extend. It is possible that the airship commanders exaggerated their achievements; but they may honestly have thought they had attained their objectives. If this was the case their reports indicate the difficulty experienced by Zeppelins in ascertaining their positions with any recognisable degree of accuracy.

50. Hunt for a Disabled Zeppelin.—One object in making these wireless signals was that the airships might enable the directional stations round the Bight to give them their positions. It was clear from these that *L.19* was seriously out of her reckoning; moreover, she reported three of her motors as out of action. By the morning of February 1 she had not appeared, and the High Sea Fleet command sent out aeroplanes and destroyers to look for her; the minesweepers also were ordered to search for her at dawn between Norderney and Heligoland. Her wireless had broken down; calls to her produced no response and it was not known exactly where she was.⁴

We also on our side of the North Sea were hunting for *L.19*. At dusk, February 1, a Zeppelin had been seen off Cromer apparently with engine trouble, and shortly after midnight Commodore Tyrwhitt received orders to send out some vessels to hunt for her in the vicinity of our coasts. At daybreak, February 2, therefore, the Harwich Force, light cruisers and destroyers, sailed. One division of destroyers searched west of Haisborough Light Vessel as far as lat. 53.15 N, the *Undaunted* and another division hunted the area enclosing C, D, F and G

¹ *Air Raids 1916*.

² Lowestoft A.P. Reports.

³ Signals between 2340/31 January and 0510/1 February, in I.D.H.S. Records.

⁴ Signals in I.D.H.S. Records.

Channels as far north as the Outer Dowsing, while the remaining cruisers and a division of the 10th Flotilla cruised to north and east of Jim Howe Buoy. The force remained out till, at 4.50 p.m., February 2, the Admiralty recalled it.¹

The German signals setting on foot the various searches for the damaged Zeppelin had been read by us and also others ordering the battle squadrons, scouting groups and destroyers to be ready for sea. Although this last step appeared to be only a precaution in case any small ships sent out to save the Zeppelin should be attacked by our forces, Admiral Jellicoe was warned to keep steam at two hours' notice till the enemy were quiet again. By noon, February 3, German signals informed us that, owing to bad weather, air reconnaissance and search for the Zeppelin had been abandoned, the High Sea Fleet returning to its normal condition.²

Nothing was known of the fate of the airship till a fishing trawler, the *King Stephen*, arrived at Grimsby with news of her. The *King Stephen* observed a large white object in the water at 7 a.m., February 2, about 120 miles east of Spurn Light Vessel, and on closing it found it to be *L.19* in a sinking condition. Twenty men were on the roof where they had constructed a sort of shelter; and knocking from within the body of the ship sounded to the fishermen as if the Germans were inside trying to caulk the leaks in the hull. The commander of the Zeppelin hailed the skipper and offered him money to take off the crew, increasing the amount as the skipper showed reluctance. But to every offer the skipper said "No. If I take you on board you will take charge," for it was obvious that the twenty Germans, even if unarmed, could easily overpower the trawler's few hands. The *King Stephen* steamed off to find a patrol boat, the shouts of the Germans to be saved dying away in the distance; but it was not till she reached the Humber in the morning of the 3rd that she found any vessel to receive her report.³ A wireless message from Nauen on the 4th, addressed to the German Embassy, Washington, announced that *L.19* had not returned from a "reconnoitring trip,"⁴ it did not state that any of her crew had been saved, and it was clear that she had sunk with all hands. A bottle containing the last report from her commander drifted ashore in Norway a month later.⁵

Thinking that the Germans would most probably make a point of attempting reprisals on the *King Stephen* for what they considered her reprehensible behaviour in not rescuing the crew

¹ A. 27; Comm. (T)'s Diary.

² A. 28, 29.

³ A.30. Even then her skipper gave the wrong position. He had been fishing in a prohibited area and did not wish to incriminate himself (Papers titled X. 2282/16). Fishing was allowed in the North Sea only between the parallels of Kinnaird Head and Cromer as far east as 2° 30' E (Chart X.43).

⁴ H.S. 212, p. 662.

⁵ *Nordsee* V, p. 25.

of the lost Zeppelin, the Admiralty assumed she would, from this circumstance, prove an exceptionally attractive decoy. She was requisitioned and commissioned on February 22.¹

It appeared that *L.19* had drifted over the Dutch coast and had been driven off by vigorous fire from the Dutch coastguards in defence of their country's neutrality. This led to some acrimonious correspondence between the German and Dutch Governments which concluded in August with an agreement on the part of the latter that in future airships and other aircraft in distress which gave signs of intending to land on Dutch territory were not to be fired on without warning.

A further result of the loss of *L.19* was a decision that airship raids on England were in future always to take place in conjunction with destroyer sweeps; the destroyers would derive help from the airships' observations and would be useful to them in case of accidents.²

51. Supposed Destruction of a Ship by a Zeppelin.—More or less connected with the air raid of January 31 was the loss of the Admiralty collier *Franz Fischer*. This vessel was anchored about 2 miles south of Kentish Knock Lightship, showing riding lights, when about 10.30 p.m. on February 1, men down below in her heard sounds of aircraft overhead. After passing the *Franz Fischer* the aircraft turned and approached the ship, the sound becoming very loud. Suddenly an explosion occurred, and in a minute the *Franz Fischer* had sunk. All on deck were lost, and of the men below there were only three survivors; they had seen nothing of the aircraft though all heard the noise of her engines.³

Although the Admiralty state that this vessel was sunk by a Zeppelin bomb,⁴ it is difficult to associate the incident with any of the nine Zeppelins which left Germany on January 31. None of them came so far south as the mouth of the Thames; and the last of them, *L.19*, crossed the coast at Winterton going east at 5.25 a.m., February 1, seventeen hours before this occurrence.⁵ No enemy aeroplane or seaplane from Belgium is known to have gone out that evening;⁶ and probably the aircraft heard was one of our own.

Another possibility is that the *Franz Fischer* was blown up by a mine. Many moored mines had either been laid by *U.C.* boats near the Kentish Knock or dragged there by sweepers, and many were drifting. The gales at the end of January sent 180 British mines to the coast of Sweden alone.⁷ There were also

¹ Papers titled X. 9616/16.

² *Nordsee* V, pp. 26, 29.

³ Papers titled C. 975/16, *Franz Fischer*.

⁴ Cd. 199, Merchant Shipping (Losses), 19 August 1919.

⁵ *Air Raids 1916*.

⁶ *Aeroplane and Seaplane Raids*.

⁷ *Rhenisch Westfälische Zeitung*, 31.1.16, quoted in Minesweeping Statement No. 88.

the clockwork guided mines laid by *U.44*. Any one of these varieties of mines would account for the loss of the *Franz Fischer*.

But the real agent of destruction seems to have been one of the *U.B.* boats. In fact, it is claimed that *U.B.17* sank a 700-ton patrol boat near the Kentish Knock on February 1;¹ and since no vessel was sunk in the Thames Estuary that night except the *Franz Fischer* of 970 tons, there can be little doubt that it was to a torpedo from *U.B.17* and not to a bomb from a Zeppelin that she fell a victim. The point is of interest since no Zeppelin had yet succeeded in hitting a ship, and the *Franz Fischer* has been listed as the first vessel destroyed by an airship.

CHAPTER V.

THE NORTH SEA AND HOOFDEN IN FEBRUARY 1916; LOSS OF THE *ARABIS* AND *ARETHUSA*.

52. Aeroplane Bombardments of Dover, Broadstairs and Lowestoft, January and February.²—The German forces at Zeebrugge included several flying machines, which for some time had been kept quiet by the supposed threat of a British landing. With the new year, however, they restarted raiding. One aircraft was seen above Dover on January 9. It was driven off by anti-aircraft gunfire, and disappeared after dropping a bomb into the sea, apparently aimed at a ship. On January 23 another appeared over Dover about 1 a.m., and dropped eight bombs. In the afternoon two more of these aircraft bombed the Royal Naval Air Service station near Dover, without doing any damage. Next afternoon a seaplane approached the airsheds, but turned away when two rounds had been fired from an anti-aircraft 6-pdr. gun. On this occasion a British aeroplane succeeded in getting within 300 yards of the raider, and attacked with a Lewis gun until this jammed. No bombs were seen to be dropped by the German seaplane, and it is not known whether or not it was damaged.

In February there were only two of these seaplane raids; but both were of more serious dimensions. In the afternoon of February 9 two seaplanes passed over the North Goodwin Lightship; there they separated, one proceeding for Broadstairs and the other for Ramsgate. Four high explosive shells fell into a girls' school at Broadstairs, doing no more damage than slight cuts on one little girl; two more bombs were dropped on outlying parts

¹ Gayer, III, 41

² *Aeroplane and Seaplane Raids*.

of the town. The other seaplane was attracted by a tramcar running on the Ramsgate-Broadstairs road, and made it a target. The bombs did not succeed in hitting the tram, which was fortunate, as it was full of women and children. The British machines which went up failed to get into touch with the enemy owing to bad visibility.

The seaplane raid on Lowestoft of February 20 took place simultaneously with one on the Kent coast, evidently part of the same operation. Each party consisted of two seaplanes. Those which operated in the south dropped six bombs on Walmer, killing one boy and breaking numerous windows. They had previously aimed bombs on shipping south of the Kentish Knock, without effect. Nineteen bombs were dropped on Lowestoft, and two fell into the sea near the port. Here even less damage was done, and the only casualties were cuts from broken glass.

Anti-aircraft guns on Lowestoft pier were brought into action within three minutes of the time of dropping of the first bomb. Captain Ellison considered that their fire kept the enemy from coming far over the town, and thereby reduced to insignificant proportions the amount of damage done.¹ This was the first time seaplanes had come so far north as Lowestoft, and Captain Ellison thought their presence there could be accounted for only if they had come from a seaplane carrier. Far more destructive than these air raids, which from their nature could hardly be expected to give much result, were the operations of the minelaying submarines, which, in spite of all the efforts of the anti-submarine organisation, continued to foul the swept channels on the east coast with undiminished regularity.

53. The "U.C." Minefields of January and February 1916.²—

In spite of the bad weather of January 1916, the little boats, *U.C.1*, 3, 5, 7 and 10, succeeded in laying thirteen minefields—the furthest west being off Boulogne, laid in the first week of January by *U.C.3*, and the furthest north placed off the mouth of the Humber by *U.C.7* at the end of the month. *U.C.3*, which was specially detailed to work within the Dover barrage, laid two fields off Boulogne and one at the South Goodwin; only two vessels struck these mines—the *Traquair*, which was blown up off Dover pier on the 12th, and the *Breslau*. This latter ship was on Admiralty service; she did not sink, but was got into Boulogne with the assistance of a minesweeper.³ On January 29 the destroyer *Viking*, of Dover Patrol, was mined near the Colbart. Though blown almost in half, she was salvaged, and eventually put into repair at Chatham.

The most destructive of the January fields were a pair, each

¹ His report of the raid, M. 01603/16, titled X. 2828/16.

² See Appendix D.

³ M. 38313/16.

of twelve mines, laid about the middle of the month near the South Knock Buoy, presumably by *U.C.1* and *U.C.5*.¹

In this neighbourhood six vessels struck mines between January 18 and 29. Only one was British, and she was salvaged. One French vessel, the *Leoville*, and one Dutch, the *Maasdijk*, were sunk; one Norwegian was salvaged, as were also two Dutch ships, of which one was the liner *Rijndam*, of 12,527 tons.

Still more destructive were the February fields. There were 15 of these, totalling 178 mines in all. So far as can be ascertained 22 vessels ran on these mines, an average of one ship to every eight mines. These figures convey some idea of the efficiency of the *U.C.* mine as a weapon.

The minelayers seemed to find little difficulty in passing through the defences in the Dover Strait. The hazardous work of operating on the British coast of the Dover command was now the special privilege of *U.C.6*, which mined Folkestone on February 10 and 20, and Dover on February 27. But other boats penetrated well into the Dover area; *U.C.3* mined Bassure de Baas on the 22nd, *U.C.5* Calais on the 27th, and *U.C.4* deposited twelve mines in the South Downs on the 27th. Not all these fields succeeded in causing losses, but to *U.C.6*'s field off Folkestone, laid on February 20–21, fell the largest mercantile vessel yet mined on the east coast. This was the P. and O. liner *Maloja*, of 12,431 tons, which blew up and sank 2 miles from Dover pier, with the loss of 122 lives. Another steamer, two minesweepers, and a patrol trawler, were lost on this field. Yet these repeated minings of Folkestone and Boulogne did not succeed in causing the loss of a single ammunition or troop transport, of which in January and February over 150 crossed from Newhaven and Folkestone to Boulogne.

The mine which caused the loss of the *Arethusa* on February 11 had been laid the previous night by *U.C.7*. She had dotted her mines in pairs across the passage due east out of Harwich between the Cutler and Lower Rough Shoals. Since no further losses occurred on her mines it is probable the minesweepers disposed of the remainder of them.

The defence forces certainly prevented the laying of one field. On February 20 *U.C.1*, just about to deposit yet one more minefield near the Elbow Buoy, found herself the object of a chase by at least forty vessels, including a destroyer. To be foiled by the defence was an unusual experience for the *U.C.* boats; but on this occasion *U.C.1* had to give up all idea of accomplishing her operation and retire.²

¹ No details of the operations of the Flanders boats in 1916 are yet given in any other authority than Gayer. He states (Vol. III, p. 35) that in January *U.C.1* mined the exits from the Thames four times and *U.C.5* three times.

² Gayer, III, 41. "Musste deshalb ausnahmsweise von seinem Vorhaben abstehen."

54. Efforts to Counteract the Minelaying Submarines, January.

—Admiral Bacon was not convinced that all the minefields laid in his command were the work of submarines. He thought that some had been deposited by special steamers passing through under neutral flags; such might easily be secretly fitted to carry and drop a few mines. To counteract their efforts he proposed that there should be one special trade route for neutral vessels, in order to keep them away from the stream of British traffic; but this the Admiralty refused, as it seemed to present too many difficulties in arrangement.¹

Thinking probably that the percentage of ships salvaged after explosion might be increased, Commodore Cayley, at Harwich, suggested that he might be empowered to order vessels passing through his area to come closer in than the War Channel, which, in the southern part of his area, was more than 15 miles from shore. This proposal also the Admiralty refused to accept, on the recommendation of the Admiral of Minesweepers,² part of whose duty it was to keep the War Channel swept.

A systematic sweeping of the area round the Galloper Light Vessel began on January 2, and, with interruptions by the weather, continued till January 11, when the area was declared clear. It is quite probable that a new field was laid there in the course of the operations, and another immediately after their conclusion;³ and on January 13 a Dutch vessel blew up in the area so thoroughly swept. Further sweeping was begun, and on January 25 it was again declared clear. It was re-mined on February 20 and 23, and four vessels were lost there before the end of that month.

The Elbow Buoy, which in 1915 had proved so great an attraction to the *U.C.* boats, was not actually mined in January or February. Operating there was now a flotilla of drifters with explosive nets, the mines in them becoming active when the electric circuit to them was connected up in the watching drifter. At 11 p.m., January 10, a submarine was sighted heading straight for one of these nets, and the drifter concerned hopefully completed the circuit. There was no explosion. On hauling in the net she found that two mines had gone, as well as part of the net. But, unfortunately, the circuit was cut; a steamer that evening had passed over the net, probably severing the connection and rendering the mines useless.⁴ Yet, though the submarine escaped the explosive net part of the defences, she came up against the other part of the auxiliary patrol with less success. Shortly after midnight, January 10–11, the armed yacht *James Fletcher*, of Dover area, patrolling near the South Goodwin, sighted a submarine only 10 yards off, so near that in the darkness two or three men were seen on deck, and their voices could be heard.

¹ M. 0186/16.

² H.S. 207, pp. 346, 415. The draft of the refusal was submitted and signed by Admiral Fitzherbert.

³ Fields 86 and 94 in Appendix D.

⁴ M. 0498/16.

The *James Fletcher* at once proceeded to ram the submarine, and struck her two distinct blows, one so hard as to stop all way on the yacht, which had been going nearly 12 knots. The submarine disappeared, and later two obstructions were found on the bottom near the scene of the ramming. A diver reported that a submarine was on the bottom, and the Admiralty granted a reward of £1,000.¹

The evidence seemed at the time to justify the award; but the submarine was not sunk. It must have been *U.C.6* on her way to lay mines at the South Goodwin Light Vessel; she was damaged by the collision, but was able to return to Zeebrugge for a long repair.² She was out again in less than a month.

On January 18 a genuine explosion occurred in one of the mine nets at the Elbow Buoy. There was no further evidence that a submarine had been destroyed, and the Admiralty gave no reward.³ No German source at present available gives a submarine as near the Elbow Buoy on that date.

The activity of the drifters certainly prevented the laying of a minefield at the Elbow Buoy on February 20, when *U.C.1* was deterred from approaching by what she took to be a fleet of 40 vessels with a destroyer.⁴ She seems to have gone back without laying her mines there or anywhere else on that trip. Our drifters did not sight *U.C.1*, and the incident, which had it been known would have served to encourage the whole drifter organisation, passed unnoticed and unrecorded.

Another curious incident occurred on January 24, when a pair of minesweepers off Dover found that their sweep wire was towing some obstacle through the water. After half an hour it took a sudden sheer and came 3 ft. out of the water, looking like 30 ft. or so of a submarine's bottom. It then became free of the wire and disappeared. The Admiralty awarded £100 to the two trawlers; but nothing more was found of the supposed enemy boat, and no German source corroborates the supposition that this was a submarine.

Minesweeping was always dangerous. Two Dover minesweepers, *Angelus* and *Weigelia*, were blown up on February 28 on the same field which had destroyed a patrol trawler and the *Maloja*.⁵ "The steadfast courage," wrote Admiral Bacon,⁶ "of the crews of the drifters and trawlers, who see not infrequently one of their fellow vessels suddenly destroyed without visible warning, is deserving of the highest praise. No occasion has occurred of any vessel being deterred from the performance of its duty by accidents to others or known danger to itself."

¹ M. 0390, 01473/16. After February 10 commissioned officers, R.N., were not allowed to share in the rewards for destruction of submarines.

² Gayer, III, 35.

³ M. 02083, 03795/16.

⁴ Gayer, III.

⁵ N.L. 5621, 5728/16.

⁶ Papers titled *Case 490*; his letter of 17.2.16.

55. Inauguration of Q Messages to Warn H.M. Ships of "U.C." Minefields, January 1916.—

Besides the measures such as minesweeping and patrolling designed to prevent *U.C.* boats from completing their operations, a more efficient method of warning was brought in whereby ships could readily be diverted from areas known to be mined. After the discovery of any minefield, or the laying of one of our own, it had been the practice throughout 1915 to issue from Cleethorpes station a general wireless message addressed to "All Ships," a cypher being employed which was in the possession only of officers of the Royal Navy. The messages were thus indistinguishable by their preamble from the other Cleethorpes messages to all ships and bases which dealt with matters of less urgency than the position of an enemy minefield in the swept channel or the approaches to a naval base. The Cleethorpes messages were rarely all taken in by any one ship, and as it was impossible to ask for a repetition, officers had to be content with what they received, hoping that the messages missed were of little importance to them personally.

By October 1915 this was felt by certain Grand Fleet officers to be unsatisfactory, and a suggestion was made that the Cleethorpes general signals should be confirmed in the printed Confidential Interim Orders, whereby officers would know whether they had correctly received all of importance to them. After discussion in the Admiralty it was decided to institute a new system of numbering; messages to "All Ships and Bases," which in most cases referred to immediate dangers such as mines, were to be given the letter Q after their number, thus—1Q, 2Q, etc., while messages to individual ships would be numbered serially without the Q. A Confidential Interim Order, issued weekly, should give the numbers of Q and non-Q messages sent during the week, and ships would then know whether or not they had received all the Cleethorpes general signals.¹

The first Q message was issued on 1 January 1916. It warned all H.M. Ships that moored mines were suspected in Hewitt Channel, at the entrance to Yarmouth Roads, and was cancelled by 3Q at midnight after Hewitt Channel had been swept and found clear.²

56. Work of the "U.B." Boats in February.—The *U.B.* flotilla at Zeebrugge received an important reinforcement on February 16 in the shape of *U.B.*18, the first boat of an improved and more powerful type. Whereas the earlier boats up to *U.B.*17 had only one engine of 60 horse-power, *U.B.*18 had two Diesel engines, each of 140 horse-power, giving her a speed of 9 knots on the surface. Further, she carried two bow torpedo tubes and four 50-centimetre (19·7-in.) torpedoes, against the two 45-centimetre torpedoes

¹ M. 08111/15, issued also as C.I.O. 1438/15, in papers titled X. 8920/15.

² A. 14.

which was the total armament of the *U.B.*1-17 type.¹ Lieutenant Steinbrinck, the most successful of the *U.B.* commanders, was appointed to her; and on February 24 she left to attack the transport line at Havre.

*U.B.*18 was at the mouth of the Seine on the 26th, and at 1 p.m. was sighted by a French minesweeper, *Au Revoir*, 6 miles from Cape de la Heve. The French authorities sent out a general warning, "Tous Navires attention sousmarin ennemi devant Havre," and the Admiralty stopped the departure from Manchester, Glasgow, and Liverpool for Havre of storeships which, not carrying troops or ammunition, would not have a destroyer escort. On the 27th, at 2.30 p.m., Lieutenant Steinbrinck torpedoed the *Au Revoir*, and our transport officer at Havre suggested that sailings for Havre, even of escorted transports, should be suspended. Acting on this advice the Admiralty cancelled all sailings by a general telegram at 6.45 p.m.²

Although Lieutenant Steinbrinck claimed to have torpedoed a second vessel³ there was no other victim and no later report; and at 1.8 a.m., February 29, the general telegram suspending sailings for Havre was cancelled. At daylight another submarine was sighted off Cape de la Hève; but this was probably a mistake.⁴

The closing of Havre for three days on this occasion, with its resulting stoppage of supplies and reinforcements to the Army in France, seemed unnecessary to the War Office. On February 29 they wrote "This is the most serious state of affairs, as regards the ports of Havre and Rouen, which has existed since the beginning of the war, and although the Council are fully aware of the difficulties and dangers which attend cross-channel navigation and of the fact that the provision of escort presents great difficulties, they would impress on the Lords Commissioners of the Admiralty that, at the present moment, it is of great importance to send reinforcements, ammunition, and supplies to France with the utmost possible despatch." They also suggested that as two destroyers escorted every large transport, and that they crossed at night, the presence of submarines was not sufficient cause to stop all sailings from Southampton to Havre.

The last suggestion the Admiralty refused to accept, the decision as to measures for safety of transports being their own responsibility; and as regards a complaint in an earlier paragraph of the same letter that transports had previously been held up for want of escort they pointed out that the problem of the provision of enough destroyers would be easier if the War Office could keep the variation of the number of transports sailing daily within reasonable limits.⁵ There the matter ended. Six transports

¹ Gayer.

² H.S. 216, pp. 281, 322, 392, 532, 556, 580.

³ Gayer. He may have fired a torpedo and thought he hit the *Au Revoir* on the 26th (T.S.D.D.).

⁴ H.S. 216, pp. 831, 914.

⁵ M. 01900/16, M. 02732/15.

with troops and heavy artillery and a large number of storeships were kept waiting three days as the result of *U.B.18*'s appearance.

One of the earlier boats, *U.B.2*, torpedoed without warning the steamer *Arbonne* on February 21.¹ There was no survivor from this ship and so little was known of the circumstances of her destruction that in the Admiralty Return of Merchant Shipping Losses, dated 19 August 1919² her loss is attributed tentatively to the action of a submarine in the North Sea, and the date is given as February 25, four days wrong.

On February 21 also three more Lowestoft fishing smacks were attacked, the *W. E. Brown*, *Oleander* and *Kestrel*. Here the submarine commander came up within hailing distance of each smack in turn, and after getting the crew out of her had a bomb fastened to her side. In the case of the *Kestrel*, the bomb failed to explode and the smack was later salvaged and brought in. Her skipper had been skipper of the *Alert*, destroyed on August 1; he noticed that the present submarine was longer than that which had been operating in August.³

On this occasion none of the armed decoy smacks was out with the fishing fleet; and as there had been no change in the method of employment of the auxiliary patrol forces of Lowestoft, the submarine suffered no hindrance in its operations. Captain Ellison had no craft of sufficient speed to give any hope of coming into contact with an enemy submarine reported 30 miles from his port except the motor launches, which could not be safely used except in the finest weather, and at any time should not be sent to any great distance from the coast. Pointing this out to the Admiralty he asked for four torpedo boats, which, in addition to having the necessary speed would be able to leave at all stages of the tide, which trawlers could not do.

The Lowestoft net drifters, 18 in number, he had organised into four groups, each drifter carrying six 60-ft. nets fitted with mines; the method he found most satisfactory was to have the drifter anchored with the nets towing. He now asked for 16 more drifters and suggested that if they were armed they could damage a submarine with their guns as well as their nets. The supply of drifters had already been exhausted, and it was possible to send more of them to Lowestoft only by taking them from some other base and Poole was called upon to contribute 12 to Lowestoft. The whole drifter fleet was in the process of being armed. No torpedo boats were given to Captain Ellison, but two of a new class of vessel known as patrol boats, or "P" boats, were allocated to him when they should be ready.⁴

¹ Gayer, III, p. 41, states that the *Arbonne* was sunk by *U.B.2*, Lieutenant Werner Furbringer, on February 21.

² Cd. 199.

³ Papers titled X. 1632/16: *Reports of smacks sunk*.

⁴ Papers titled X. 9400/16: *Organisation of Auxiliary Patrol at Great Yarmouth*.

57. Battle Cruiser Raid expected, February 10.—The cruiser sweeps either for minelayers or to check contraband were continued by the 1st Cruiser Squadron which, with four destroyers, left Scapa for Little Fisher Bank on February 1, sweeping thence in daylight up the Norwegian coast from Utvoer to Utsire.¹ On February 7 the 7th Cruiser Squadron patrolled 150 miles S.E. from Scapa; next day the 1st Cruiser Squadron performed this patrol. The moon had been new on February 4 and the moon-dark nights favoured the approach of minelayers.

Admiral Jellicoe intended to carry out fleet exercises north of the Shetlands, but had been unable to proceed on account of possible German movements connected with the hunt for the lost Zeppelin and later because the weather was unsuitable. Commodore Tyrwhitt went out on the 9th for a practice cruise intended to last 24 hours, but further north the weather was still too unsettled for the Grand Fleet exercises.²

No sooner had the Harwich Force got to sea for its practice cruise than the Admiralty realised from intercepted German signals that the High Sea Fleet was about to begin some operation. They ordered the Grand Fleet to one hour's notice for steam,³ and at 11 p.m., when the indications had become more definite, ordered Admiral Jellicoe to move the whole Fleet to the southward as the High Sea Fleet might leave next morning for some operation to the west and south. At the same time they recalled the destroyers of the Harwich Force to refuel, sending the light cruisers under Commodore (T) to patrol north-west from the Texel on the lookout for any approaching force. Three submarines were already under orders for the Bight and one of them had proceeded; all those available of the remainder and the attendant destroyers were ordered to be ready for sea at half an hour's notice from 6 a.m. onwards, and the minelayers at Sheerness were put at one hour's notice.⁴

By 4 a.m., February 10, when Admiral Jellicoe reported the Grand Fleet as on the point of sailing, the Admiralty had come to the conclusion that the High Sea Fleet was merely intending to exercise in the Bight. They ordered the Grand Fleet to remain in harbour at two hours' notice, cancelling the state of readiness of the submarines at Harwich and also the Texel patrol.⁵

In the course of February 10 intercepted German signals showed considerable movement in the Bight, and at 4.50 p.m. the Admiralty recalled the Harwich light cruisers to refuel.⁶ By that time it was known from the intercepts that the German battlefleet was in a state of instant readiness, and that three destroyer flotillas with the eight light cruisers of the 2nd

¹ H.S. 211, p. 941; G.F.N.

² H.S. 212, pp. 352, 431, 937; H.S. 213, pp. 110, 204, 229, 371.

³ Tel. 376 to C.-in-C., H.F., 4.45 p.m., February 9.

⁴ A. 33 to 37.

⁵ A. 38 to 42.

⁶ H.S. 213, p. 691.

Scouting Group were outside the rivers; the Grand Fleet accordingly kept steam at two hours' notice.

By 8 p.m., since it was clear that the destroyers and the scouting group had proceeded and then anchored on account of fog in the Eastern Ems, the conclusion reached by the Admiralty was that another coast raid was intended and that if the fog lifted in time it would take place. They issued orders for the battle cruiser fleet and the 1st Flotilla to sail and proceed southward to endeavour to cut off the enemy on his return towards the Ems. Commodore (T) was sent to sea with instructions to remain near the coast ready to act as necessary should attack be made near Harwich; in view of the possibility that the raiding destroyers might be covered by battle cruisers he was told that he was not expected to attack very superior forces unsupported; and he was given permission to take with him any of the "D," "E" and "H" class submarines he could use, the remainder being disposed on the alert outside Harwich. Dover, the Nore and the East Coast Senior Naval Officers were warned that enemy destroyers were at sea with some light cruisers, possibly to make a raid on our coast; and a similar warning was conveyed discreetly to the French Admiral Marliave, commanding the southern shores of the Dover area.¹

Knowing how valuable a source of information was to be found in intercepted signals, the Admiralty made no attempt to recall those vessels at sea which carried only the G.S. code, since it was thought to be compromised. Any unusual signals would undoubtedly let the enemy into the secret that we knew their intentions and would perhaps destroy our chance of learning these in the future. Consequently the Admiralty telegraphed to Admiral Ballard "Vessels at a distance from their ports must take their chance."

58. The 10th Sloop Flotilla encounter the Enemy, February 10.

—The principal vessels at all far from shore were those of the new 10th Sloop Flotilla which, as yet incomplete, was at sea mine-sweeping. This flotilla, consisting at this date of the *Buttercup*, Senior Officer, *Alyssum*, *Poppy* and *Arabis*, all newly-commissioned ships, was under the direct orders of the Admiral of Minesweeping, and at the moment was engaged in completing a sweep originally ordered for January 23 but delayed by bad weather. It was the first distant sweep they had attempted. Their orders were to search H Channel, which ran east from Flamborough Head out to E buoy in 54.6 N, 2.20 E, sweep thence to 54.30 N, 3.30 E; and from there in the direction N.43 W (magnetic) to 55.20 N, 1.1 E, which marked the end of a new channel known as L Channel running S.43 E (magnetic) from 56° N, 1° W.² The maintenance of this new channel had been in contemplation since November,

¹ A. 43 to 50.

² M. 01367/15: "Report of Loss of *Arabis*."

and though as yet it had not been swept or buoyed, it was thought by Admiral Beatty indispensable for him to use to ensure cutting off the enemy in the event of a raid on the east coast.¹ The sweep now in progress was the first serious attempt to ensure that the channel was free from mines. The flotilla had started on February 6, but in the unfavourable weather remained sweeping near the War Channel till February 8, when they anchored in Bridlington Bay. They sailed again next morning to begin the sweep of L Channel.

The four sloops were accompanied by two trawlers whose duty it was to mark the centre line of that part of L Channel being swept; the sloops in pairs then zigzagged to 5 miles each side of the centre line. At dusk, February 10, the sweeps were slipped. Lieutenant-Commander Ronald C. Mayne, Senior Officer of the Flotilla, ordered a lighted dan buoy to be dropped to mark the point reached (54.33 N, 3.21 E) and directed the *Arabis* to remain under way in sight of the buoy, while the three other sloops steamed south-east and north-west during the night.

At 10.50 p.m., when steaming towards the buoy and about a mile from it, the officer of the watch in the *Buttercup* observed flashes ahead and what appeared to be the flashes of torpedoes being fired from deck tubes. He at once put on full speed and turned away, followed by the *Poppy* and *Alyssum* and, as Lieutenant-Commander Mayne thought, the *Arabis* also. He saw the tracks of two torpedoes pass close to his ship; and he stood away, zigzagging, thinking he had been attacked by submarines. Shortly afterwards he saw on his port beam a vessel making the secret recognition signal for the day, and assuming it to be one of our own torpedo craft attracted by the firing, replied and made the "Demand." The reply was unintelligible and, his suspicions roused, he hauled off, observing two flashes in the craft as of deck torpedoes being fired. He headed for E buoy and returned by H Channel.

At 11.30 he called up Scarborough wireless station, and in spite of jamming by some telefunken station quite close, probably the enemy boats, succeeded in getting through a report that six torpedo boats were in 54.26 N, 3.10 E. This reached the Admiralty at 12.22 a.m., February 11. The *Poppy* had managed to get her report through half an hour earlier via Felixstowe to the effect "10th Sloop Flotilla attacked by enemy torpedo craft 54.30 N, 3.30 E."²

59. **British Movements.**—Lieutenant-Commander Mayne also signalled his news direct to Commodore Tyrwhitt and the Admiral at Rosyth. The battle cruiser fleet and the 1st Destroyer Flotilla left Rosyth at once, sailing soon after 1 a.m. Commodore Tyrwhitt got away from Harwich before 2 a.m. with four light cruisers, the

¹ G.F.S.P., Vol. VII, pp. 17 to 20.

² H.S. 213, pp. 783, 790; Extracts from Signal Logs in M. 01367/15.

Lightfoot and 18 destroyers to take station at the eastern end of K Channel.

Admiral Bacon recalled all his auxiliary patrol vessels ; and the Nore Defence Flotilla went out to its stations for repelling a raid.¹ The seven ready submarines at Harwich put to sea at dawn with their attendant destroyers.

By 1 a.m., February 11, it was known that the 1st Scouting Group, battle cruisers, was to have left at midnight, at which time one of the light cruisers of the other scouting group was in 54.27 N, 4.5 E. This information was sent to Admiral Beatty and to Admiral Jellicoe with orders for the Grand Fleet to sail southward, concentrating as necessary.²

The fleet left Scapa between 4 and 7 a.m., proceeding down the meridian of 0.30 E. The 3rd Battle Squadron left Rosyth at 8 a.m. and proceeded down the meridian of Greenwich ahead of the Grand Fleet. The battle cruiser fleet was to pass west and south of Mined Area No. 4,³ and make the rendezvous in 54° N, 4° E.⁴

Further intercepts informed us that two German submarines had proceeded from the Ems for the position in which the sloop's encounter with the enemy had taken place. This spot was on L Channel, which the battle cruiser fleet was presumably using, and at 7.5 a.m. Admiral Beatty was warned of the presence of the two submarines on his route.⁵

An hour later it became apparent that the German forces were returning to harbour. The Grand Fleet was ordered to remain at sea, coming no farther south ; the East Coast Senior Officers were told to resume normal conditions ; and the Harwich Force was recalled. The Grand Fleet and battle cruisers were not ordered to their bases till 7.50 p.m., by which time the enemy forces had all returned except the submarines, and affairs seem to have settled down to normal.⁶ It was thought by the Admiralty possible that the action with the sloop had prematurely revealed and thus frustrated the intended raid, and that the movement would be renewed at the first convenient opportunity. Four submarines were, therefore, ordered across to keep watch for four days between Ameland and the parallel of 54° N.⁷

The Grand Fleet and Battle Cruiser Fleet regained their ports in safety that night ; but the Harwich Force, whose route lay in the mine infested waters off the east coast, suffered a serious loss. At the North Cutler Buoy, just outside the northern entrance to Harwich the *Arctusa* struck a mine, the explosion killing some

¹ H.S. 213, pp. 809, 818.

² A. 53, 54.

³ Between 54.30 and 55.20 N, 1.10 and 2.0 E (G.F. Mines Memoranda, H.S. 292).

⁴ H.S. 213, pp. 776, 814.

⁵ H.S. 213, p. 832.

⁶ A. 60.

⁷ A. 55, 59.

six men. She was grounded on Cutler Shoal, but soon broke in two and became a total loss. On learning of the end of this ship, which from the moment of commissioning had been so actively employed, the Admiralty telegraphed to Commodore Tyrwhitt :—¹

The loss of your flagship which has so well upheld her historical reputation under her present officers and men is much regretted, but we are relieved to hear that the loss of life is not greater. A new ship to replace *Arctusa* is not available at the present moment.

60. The "Arctis" in Action with German Destroyers, February 10.—The *Arctusa* was not the only vessel lost in the course of these operations. When the sloop turned away on sighting flashes at 10.50 p.m., February 10, Lieutenant-Commander Mayne was under the impression that the *Arctis* was following him. Nearly two hours passed before he realised that she was out of touch. He called her up and soon after 1 a.m. made "Are you all right? Proceed to Flamborough Head at full speed." There was no reply and repeated calls elicited no response.²

What had happened was this : The *Arctis*, whose last instructions were that she was to keep the lighted buoy in sight, noticed some craft approaching and in the light of the moon observed the track of a torpedo crossing her bows. She made the challenge and receiving no reply opened fire on the approaching craft which she now recognised as three destroyers. The enemy replied to the fire, disabling the wireless and steering gear of the *Arctis*, and leaving her helm jammed hard-a-port. The enemy destroyers, apparently damaged by the fire of the *Arctis*, disappeared, leaving the sloop unmolested. Lieutenant-Commander Hallowell-Carew, captain of the *Arctis*, then proceeded to put his hand steering gear into action and was thus able to proceed in any direction. The damage to his wireless had prevented his reporting what had happened, and as his last instructions were to keep the lighted buoy in sight he remained in its vicinity, "firstly," as he reported later,³ "in accordance with the last order I had received from the Senior Officer and, secondly, no ships hostile or otherwise were now visible."

Three-quarters of an hour later his wireless, which had been partially repaired, took in a call from the *Buttercup*. He answered by buzzer, long-distance signalling being still impossible ; but before any message from the *Buttercup* came through, a line of six German destroyers came up and opened fire. The *Arctis* replied from her after 4.7-in. gun, but it jammed after the second round.

Even if this breakdown had not occurred, it is doubtful whether the *Arctis* would have had much chance in a gunnery action with

¹ Tel. 730 to Comm. (T), sent 11 p.m., 11 February 1916.

² Extract from Signal Log in Papers titled *Admiralty*, 13 February 1916.

³ M. 05981/18 : "H.M.S. *Arctis* lost in Action."

newly-built German destroyers. The fact was that the great increase in the number of small armed craft had outstripped our resources in guns to such an extent that for the sloops there was nothing left except pieces of ancient pattern. The four 4.7-in. guns with which the *Arabis* and *Buttercup* were armed had been manufactured between 1889 and 1893. Three of them had been allocated, before the war broke out, for arming merchant vessels should an emergency arise, and the fourth was landed from one of the paid-off cruisers. The mountings for these guns were of the old 4.7-in. P.IV design, and had been afloat in two cruisers during the Boer War.¹

Though the after gun of the *Arabis* broke down directly it was fired, the foremost 4.7-in. got off nine rounds before she was hit by two torpedoes and began to sink. The German destroyers rescued all they could of the crew of the *Arabis* and treated them well. Her doctor, who died on board the ship which had picked him up out of the water, was buried with naval honours in the new garrison cemetery of Wilhelmshaven. The remainder became prisoners of war in Germany. In 1919 Lieutenant-Commander Hallowell-Carew on return to the navy was awarded the D.S.O. for his services on this occasion.²

Although the Senior Officer of the flotilla knew nothing of what had happened to the *Arabis* almost within sight of him, the Admiralty were fully aware of it. From intercepted signals they knew, at 11.50 p.m., that German destroyers had sighted and fired torpedoes without effect at four vessels in 54.33 N, 3.40 E; at 2 a.m. that one of these had been destroyed; at 2.50 a.m. that efforts were being made to save the crew; and at 3.46 a.m. that the captain, 1 officer, 1 warrant officer and 11 men of the *Arabis* had been saved.³

61. **German Movements, February 9 to 11.**⁴—The German operation in the course of which the *Arabis* had been sunk was the first large movement of the High Sea Fleet, now under Admiral Scheer, who had been appointed in place of Admiral von Pohl.

Admiral Scheer obtained permission for a more active policy, though his main request for a reopening of the submarine war on commerce was refused. After the loss of *L.19* early in February, it was decided that airships raiding Great Britain should always be supported by destroyers, with the rest of the fleet ready to come out should powerful British forces be met.

The first of the combined airship and destroyer operations was planned for February 6, but had to be broken off on account of a heavy sea which would render the destroyers unable to fight

¹ D.N.O.'s Records.

² Papers titled *Admiralty*, 19 June 1918.

³ Signals Nos. 14530, 14543, 14552, 14568, in Vol. 876, Current Log, in I.D.H.S. Records. The times given are those at which the translation was finished by the decoding staff.

⁴ *Nordsee V*, Chapter III.

with any chance of success. By February 10, when the weather was more favourable, the moon was too old to be suitable for an airship raid; but the destroyers which participated with them on a short reconnaissance were to go on to the area between the Dogger and Swarte Banks to attack any forces which might be there. The battle cruisers and a scouting group were to meet them outside the Bight on their return, and the battle squadrons raised steam. It was the interception of the signals connected with these arrangements which had set our fleet in motion.

The German destroyers, 24 boats, advanced in groups of three, spread on a scouting line 25 miles wide. At 10.15 p.m., February 10,¹ the northernmost group, under Commander Boest, came upon three darkened vessels which he took to be the group which should be next south of him, but which he considered to have got out of station in the darkness of the night. A quarter of an hour later he observed a lighted buoy and a vessel near it. By that time he had come to the conclusion that the three vessels, still in sight, were not German, but cruisers of the *Arethusa* class; and he fired seven torpedoes at them without effect. Two more torpedoes were fired at 10.53; but just at that moment the British vessels turned 8 points and these torpedoes also missed. He followed these vessels for 20 minutes; and then suddenly remembered that he had not yet announced to his colleagues that the British were about. Even then the signal he made at 11.12 gave a position at least 5 miles wrong and mentioned no course. But, leaving any further dealings with the supposed cruisers to the destroyers south of him, he turned back towards the lighted buoy. Close to it he saw a ship which, from its silhouette, he took to be different from the one he had seen there before. He fired two torpedoes at her and when she switched on her search-lights, turned on his also, engaging in a gun action. In the middle of this, some salvos, apparently from the opposite direction to the vessel he was engaging, fell round his boats; and assuming that the British cruisers had come up he ran off to eastward.

The group next south of him, under Commander Schuur, had gone on; but taking in Commander Boest's 11.12 signal it turned in time to pass the three British sloops on their way westward. When the British recognition signal was made, Commander Schuur replied with the same letters and then fired two torpedoes before the sloops disappeared. When he came up to the position given he at first took Commander Boest's three destroyers for the three British vessels reported, and was about to attack them when they gave the correct German reply. Going on, he came upon the light buoy and the *Arabis* at 12.48; and after several torpedo attacks finally sank her. Altogether, the Germans had expended 19 torpedoes during the night with the poor result of only two hits on the *Arabis*.

¹ The times in this section are those of the German account, less one hour subtracted to bring them to G.M.T.

The receipt of Commander Boest's signal that he was in touch with British units set the High Sea Fleet in motion. Soon after midnight the battle cruisers left, followed later by battleships; but they went no further than the meridian of Norderney, since there was no further news of important British forces. The submarines *U.32* and *U.70*, after delay from fog, left at 9.30 a.m. to lie in wait for 48 hours at the position where the *Arabis* had sunk, in order to catch any vessels sent to that spot; and three airships received orders to reconnoitre the same area carefully. This last reconnaissance was prevented by a strong southerly wind.

62. British Submarines in the German Bight, February 6 to 15.¹

—During the movements which resulted in the loss of the *Arabis* and the mining of the *Arethusa*, our submarines had been present at one end or other of the German Bight, though they had failed to find any opportunity of firing. *D.1* was off Horn Reefs and Amrum Bank from February 6 to 10 keeping a watch which proved uneventful, except that she was nearly caught by a pair of trawler sweepers on the morning of the 10th. On February 9, before the German movements became known, *D.3* and *E.26* went across, the former to cruise inside Heligoland, the latter between the Ems and Norderney.

E.26 arrived on her station at 6 a.m., February 11. She saw a large submarine with two masts and two periscopes steering west at 2 p.m. that day, and on the 12th was nearly rammed by a patrol vessel. These were the only events of her cruise which terminated in the afternoon by a motor breakdown necessitating her return.

D.3 arrived at midnight, February 10-11. At daylight, February 11, she came to the surface north of Borkum to find that four light cruisers and four destroyers had just passed over her, going eastward. They were then beyond attacking range. These were probably the 2nd Scouting Group returning. Inside Heligoland she saw nothing except some patrolling torpedo boats out of range and on the 15th she returned, diving through the Norderney swept channel.

From 8 a.m., February 11, till the dark on the 14th, *H.9* watched the Horn Reefs exit, but saw nothing but trawlers and some floating mines.

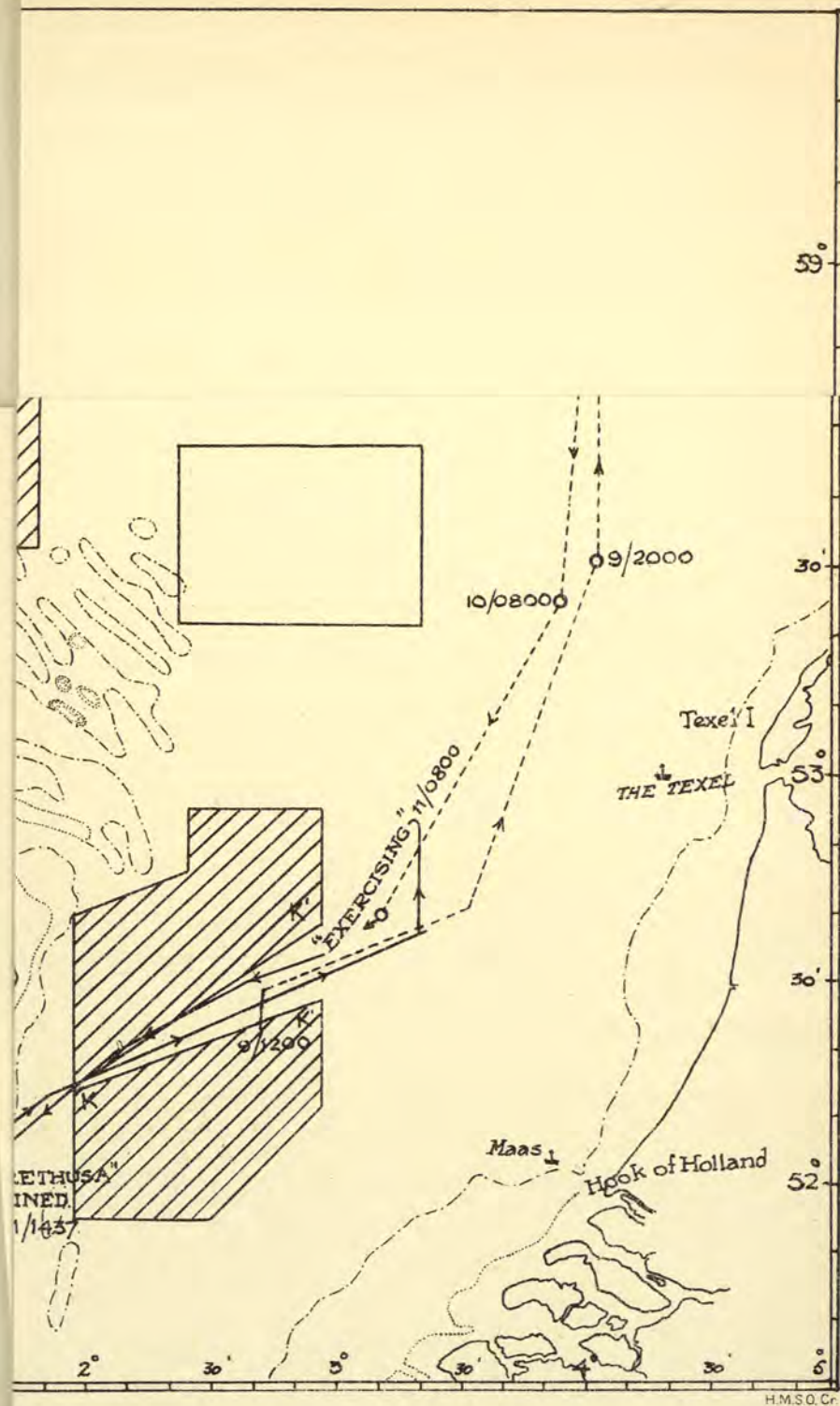
The four submarines sent in accordance with Admiralty Orders of February 11² went to the following stations:—

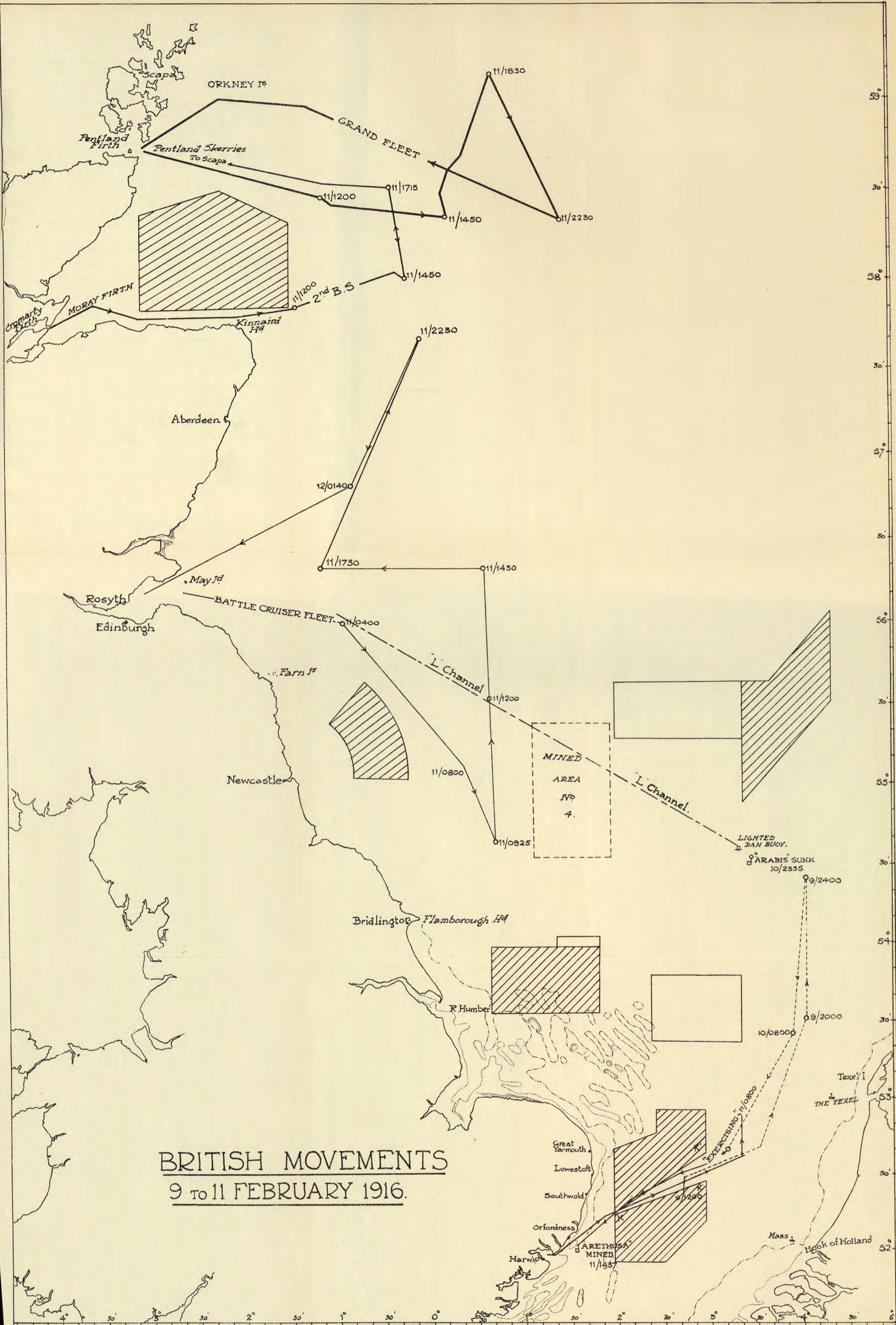
- E.29*, 5 miles north of Ameland.
- E.22*, lat. 53.40 N.
- E.16*, lat. 53.48 N.
- E.23*, lat. 53.56 N.

They arrived on their stations before daylight, February 12,

¹ Comm. (S) War Records, H.S.A. 271, pp. 84 to 122.

² A. 55.





BRITISH MOVEMENTS
9 TO 11 FEBRUARY 1916.

except *E.23*, whose starboard intermediate shaft broke five hours after she left, necessitating her return to Harwich. *H.5* took her place, leaving at 10 a.m., February 12.

The watch passed without incident for all except *E.29*, Lieutenant-Commander Herbert W. Shove, who at 9.20 a.m. on the 14th fired both his bow torpedoes at a destroyer 350 yards away. As *E.29* dived there was a very heavy explosion, and when she came again to the surface nothing was visible of that destroyer, though another came up and forced the submarine under again. Captain Waistell, in reporting this incident four days later, remarked¹ that "in view of the violence of the explosion, it is probable that her magazine blew up, which would account for her rapid disappearance." The Admiralty informed Lieutenant-Commander Shove that he and his crew deserved great credit for the attack, which was well carried out, adding² "We have been as yet unable to ascertain whether destroyer was sunk either through neutrals or agents, and her loss must be regarded as doubtful until confirmed." It was more than doubtful. She had not been hit; and the explosion heard was the detonation of the torpedo on hitting the ground.³

63. **Further Sweeping of L Channel, February 19-21.**—There being no light cruiser to replace the *Arethusa*, the *Tipperary*, leader of the 2nd Flotilla, was brought from Devonport back to Harwich. There were now 11 boats of the 2nd Flotilla at Devonport engaged in running escorts, and in order to make the arrangements it had been found best for the Captain (D) to remain at anchor in the *Tipperary*. It was now arranged that he should move to one of the old and useless vessels in harbour, the *Eclipse*; the nature of his work being such that he could better discharge it in a stationary ship—an unexpected position for the captain of a destroyer flotilla. Four of the "L" class destroyers were still retained at Devonport to escort the later Dreadnoughts during their trials, the remainder going back to Harwich.⁴

The recent expectation of a raid and the belief that the enemy would repeat their attempt before long, emphasised the necessity for a safe channel out of the Forth to the fleet concentration rendezvous, and the 10th Sloop Flotilla, which had been joined by the *Rosemary*, of the same class as the *Buttercup*, was ordered out again, the Admiral of Minesweeping going out himself in the *Sagitta* to superintend the operations.

Between February 19 and 21 they swept from a position (A) in 55.29 N, 0.45 E, to a position (B) in 54.44 N, 2.56 E; also a line parallel to and 2 miles north of the line A.B.; and another

¹ His memo. 0140, H.S.A. 271, p. 120.

² Tel. 310 to Capt. (S), 21.2.16.

³ Signals 1049, 1430, of February 14, in I.D.H.S. Records.

⁴ Papers titled X. 7794/16 and Tel. 288 to C.-in-C., Devonport, 13.2.16.

line through the positions 55.5½ N, 1.42 E, through 55° N, 1.58 E; 54.52 N, 2.2½ E; 54.23 N, 3.24 E; 54.29 N, 3.30 E; and back to (A).¹

As protection to the sloops which would be operating part of the time where the *Arabis* had been attacked, and where it was known two submarines had just concluded a 24-hour watch, the Harwich Force was ordered to cruise in the neighbourhood; destroyers being sent before the sloops arrived to examine for submarines round 54.30 N, 3.30 E, where the attack had taken place. The light cruisers were not to go to this position in case it had been mined.²

The *Lightfoot* and eight of the 9th Flotilla ("L" class) sailed in the afternoon of the 20th; but before they had got clear of the War Channel, the *Lark* and *Llewellyn* collided and had to be sent back with the *Loyal*, the *Lightfoot* proceeding with the five other destroyers. Early next morning the remainder of the Harwich Force sailed, and with them also an accident occurred. The *Tipperary* grounded just outside Harwich and sustained sufficient damage to necessitate repairs at Chatham.

The Commodore, with his broad pendant now in the *Cleopatra*, went on with the rest of his force—the light cruisers *Conquest*, *Aurora*, *Undaunted*, and the remaining Harwich destroyers. During the afternoon of the 21st they exercised in the neighbourhood of 54° N, 4° E, acting as cover for the minesweeping sloops, and early on the 22nd returned with the *Lightfoot's* division to Harwich by the Hinder Channel. There had been still another collision at sea between the *Murray* and *Milne* in the course of the exercises. The damage to the *Murray* was more than the resources of Harwich could cope with and she also had to be sent to Chatham.³

No signs of the enemy were seen during the cruise. No mines were found by the sloops; and on the 23rd, therefore, Admirals Beatty and Jellicoe were informed that L Channel was considered clear of mines.⁴

64. Attempt to exercise the Harwich Force with the Grand Fleet, February 26.—The Commander-in-Chief had made arrangements for exercises which, for the first time of the war, should employ the Harwich Force with the rest of the fleet. The idea was that Commodore Tyrwhitt, with the Harwich Force, should meet two light cruiser squadrons from Rosyth at the end of L Channel, the two then sweeping in combination south of Mined Area No. 1 as far as the Borkum end of the German Bight. There they would turn north and rendezvous with the battle

¹ Minesweeping Statement No. 89.

² A. 61.

³ H.S. 215, pp. 352, 422, 558, 718, 755; *Harwich Force Packs*, Vol. XIV, pp. 38 to 114.

⁴ H.S. 215, p. 809.

cruisers near Little Fisher Bank, with the battle squadrons some 40 miles to north-west of them. The whole fleet would exercise and practice deployments to the north of Area No. 1, returning to their bases at the conclusion of the exercises.¹

The movement was planned to begin during the night of February 26–27; and well in time on the previous day the Admiralty ordered five submarines to various stations at each end of the Bight, and also inside Heligoland, doubtless to be ready should the approach of our squadrons lead to the emergence of any German forces. Unfortunately, on the 26th, when Commodore Tyrwhitt should sail, the weather was unfavourable for destroyers and, moreover, the exits from Harwich were at the moment blocked with mines, which could not be swept till the weather should moderate.²

In the north the conditions were not so bad, and the Commander-in-Chief did not give up his intention to exercise the fleet. At the last moment he changed the plan into one for a combined battle and battle cruiser fleet exercise to the eastward of the Shetlands; it was no longer necessary to come south since the hope of manœuvring with the Harwich Force had to be abandoned.

All the Grand Fleet ships available sailed on the morning of February 26, the Battle Cruiser Fleet leaving Rosyth after noon to join them. The 1st, 4th, 11th and 12th Destroyer Flotillas accompanied the fleet. The squadrons returned on the 27th, having carried out various deployments and other exercises.³ The Harwich Force remained all the time in harbour.

65. British Submarines in the Bight, last half of February.⁴—

In spite of the weather the submarines went to their stations in the Bight. Since the return of the submarines despatched at the time of the German destroyer attack on the minesweeping sloops an attempt was made to supply their place immediately with others in case the anticipated raid should start again. Three were to have left on the 16th; but the weather then was too bad for them to start. Four submarines proceeded on the 18th for the following stations:—

E.5 inside Heligoland.

*V.1*⁵ between the Ems and Norderney.

E.24 between the Dutch coast and 53.40 N.

H.7 between 53.40 N and 54.0 N, north of Borkum.

They kept watch till dark on the 23rd, no special signs of enemy activity being observed. *E.5* entered by Amrum Bank,

¹ Tel. 136 from C.-in-C., H.F., 21.2.16.

² G.F.N.

³ Details summarised in G.F.N., H.S. 429, pp. 202–205.

⁴ Comm. (S) War Records, H.S.A. 271, pp. 123 to 163.

⁵ *V.1*, of an older and weaker type than the "C" class, had been ordered in 1913, and was completed in May 1915. This was her first trip to the Bight.

and after three days' watch off the mouth of the Weser came out by Norderney. She saw a Zeppelin patrolling, one destroyer and some patrol trawlers. *V.1* and *H.7* also noticed Zeppelins on patrol. *E.24*, which arriving at 6.30 a.m. on the 19th was the first to reach her station, was bombed that afternoon by an aeroplane without effect. Next day, at noon, she saw a small auxiliary steamer working with some trawlers; she fired a torpedo at it and missed. This proved to be the only event of this cruise.

On the 25th the Admiralty ordered another batch of submarines to go over and remain till March 1. They were intended to watch the Bight during the sweep across it proposed by the Commander-in-Chief for the 26th and 27th, and were warned that Commodore Tyrwhitt would be coming.

They proceeded for the following stations:—

E.22 inside Heligoland.

E.29 between the Ems and Norderney.

D.4 between Horn Reefs and Sylt.

E.16 between the Dutch coast and 53.40 N.

H.5 north of *E.16*.

E.29 did not get far before she had to return owing to a leak from defective rivets. *E.16* also came back on the 26th with a defect in her steering gear. Neither *D.4* nor *H.5* saw anything of interest.

To *E.22*, Lieutenant-Commander Godfrey Herbert, late of the *Baralong*, there came one of the rare chances of sinking an important ship. He found on the 27th and 28th a large number of trawlers closely patrolling a definite area, a proceeding which Lieutenant-Commander Herbert assumed to imply the passage before long of a squadron. At 11.40 a.m., February 28, he found his assumption verified, and he saw approaching from the southwest a squadron of four large ships screened by eight destroyers. They were steaming fast, and as he had insufficient time to turn outside the screen he shaped course to pass between the destroyers and the large ships, which he now saw to be battle cruisers. By the time the first and second battle cruisers had passed beyond range the torpedo tube was reported ready, and he gave the order to fire at the third ship at a range of 400 yards. But something went wrong. The torpedo failed to fire and a destroyer less than 100 yards away sighted *E.22*'s periscope and turned to ram her. Lieutenant-Commander Herbert was able to dive only just in time and the destroyer passed over him.

On the 29th he sighted a number of trawlers escorting something which proved to be a destroyer badly damaged apparently in action. Only one funnel remained, and almost the whole of her bridge had gone. She was under her own steam, and was out of range before attack was possible. In the afternoon of March 1, *E.22* left the Bight by the Norderney Channel.

66. The Skagerrak Patrol, first half of February.—While the submarines on watch in the German Bight were intended to check the movements of warships, minelayers and decoy ships from German North Sea ports, the patrol of the mouth of Skagerrak had as part of its work the interruption of the passage of contraband. From February 1 to 3 the 1st Cruiser Squadron and four destroyers swept across the mouth of the Skagerrak from Little Fisher Bank to Utvoer near the Naze.

On the 5th *D.8* from Blyth commenced six days' patrol of the Skagerrak itself with the special mission of intercepting vessels bound for the Kattegat. Her orders were the same as those given to *D.7* in January, and she carried a complete armed guard for putting on board any vessel which she considered ought to be sent in to Kirkwall for further examination. She found that shipping kept close to shore in neutral waters; but on the 10th she stopped and released altogether three Norwegian vessels. A Norwegian cruiser and a destroyer came up at high speed while she was preparing to board the last vessel. She thereupon dived, observing as she did so that the destroyer was attempting to ram her. The general result of her observations showed that vessels entering the Kattegat gave the Skaw a wide berth and kept well over to the Swedish coast.

Objections were raised by the Norwegian Government that our submarines had been performing belligerent acts in the territorial waters of Norway, and, further, they notified us that they regarded it as the duty of submarines to be on the surface and to show their national colours when in Norwegian territorial waters. Accordingly the Commander-in-Chief was instructed that submarines should not interfere with shipping in neutral territorial waters, and the wish of the Norwegian Government was also conveyed to him.¹ Apologies were conveyed to the Norwegian Government for the infraction of their territorial rights, with the assurance that it was hoped and believed the offence would not be repeated.²

D.8 returned to Blyth date of February 11. Before long it became apparent that an additional danger threatened the departure of vessels from the coast in the form of a new type of mine.

67. Discovery of a Leon Mine, February 12.—From the early days of the war it had been expected that the Germans might make use of the Leon mine, which had the peculiarity of not requiring a mooring to keep its depth, this being maintained by a special type of hydrostatic valve. It could not, therefore, be found by minesweepers. No evidence that these mines were in use transpired till the night of February 12–13, when a trawler picked up a Leon mine 5 miles ESE of Coquet Island outside

¹ A. 65.

² H.S. 626, pp. 33, 34 and 156 to 171.

Blyth. It was 19½ in. in diameter, had an oscillating pistol and was fitted apparently for discharging from a torpedo tube. It seemed to have been in the water some time. A few days later another of these mines was washed up on Coquet Island.¹

For more than a year we had been experimenting with this type of mine and also with another, known as the Parsons Tide Oscillating Mine, which had a total life of from 14 to 21 days, during which period it remained oscillating near the appointed depth throughout the whole of one tide, sinking to the bottom when the tide turned, and rising again when it resumed its former direction. This type of mine would thus proceed in the direction for which it was set and be active for half of each day. Carried by the tide it would be able to make its way deep into estuaries and harbours.²

The Commander-in-Chief did not recommend the use of these Leon or Parsons mines in a fleet action. The Leon mines could be used effectively and safely in such circumstances only by retiring the whole fleet and subsequently moving to a flank to clear the mined area; and he did not wish to hamper his movements to that extent or cramp his power to take offensive action. The tide mines, he thought, could be usefully employed off the enemy's harbours or in his swept channels; and the slower cruisers should carry four Leon mines of very short life, to be discharged astern in the event of their having to retire before a superior hostile force.³

So far, neither the Leon nor the tide mine had been employed by us; and the two mines discovered near Coquet Island were the first to come to light as having been used by either of the belligerents. They had been deposited by *U.44* which on January 19 had come out to reconnoitre the Tees and the Tyne, and mine the district a second time. In that district she expected to find a base for British submarines and destroyers, intercepted British signals having given the Germans reason to suppose our boats to be operating from there. She again carried a number of what were called in Germany "P" mines, of the Parsons Tide type; and on January 27 she laid these off Coquet Island, the clockwork gear being arranged so that they should drift only southward, sinking to the bottom when the tide flowed to the north. By this measure she hoped they would find their way into the Tyne.⁴

She had been watching off the Tyne since January 22, and on the 24th fired a torpedo at and missed the *Talisman*, an ex-Turkish destroyer attendant on the Blyth submarine flotilla. The *Talisman's* report started a vigorous hunt by the patrol destroyers of the Tyne area.⁵ At the same time the *Botha* and ten destroyers

¹ G.F.N., H.S. 429, p. 188.

² Letters M./G. 0980/14, G. 02714, 03024, 04606, 05316/15.

³ C-in-C., H.F., to Adty., 2739/H.F. 005, dated 5.12.15. Copy in G.F.S.P., Vol. II, pp. 127-129.

⁴ *Nordsee* V, pp. 13, 14; *Nordsee* IV, p. 367.

⁵ Papers titled X. 7866/16.

were sent out from Rosyth; and finding conditions too dangerous to remain, *U.44* moved off to reconnoitre the neighbourhood of Aberdeen and, after the hunt had died down, the approaches to the Forth. Her observations led her to the conclusion that on her next cruise she could follow a merchant ship sufficiently deep into the Forth to enable her mines to reach the battle cruisers' anchorage; but as her orders were to lay them off the Tyne she did not attempt to carry her conclusions into effect. Returning to the Tyne district and finding the patrol still too active for safety beyond Coquet Island, she released her "P" mines there on January 27. Just as she concluded her task a destroyer came in sight; and observing that the boat was towing an explosive sweep, *U.44*, not anxious to get foul of this, turned to the opposite course, passed the destroyer unseen,¹ and dived away to eastward and home.

It would seem that in some cases the clockwork mechanism of the mines either did not function as intended or else that it had run down, since the mines found a fortnight later were still close to Coquet Island where they had been laid. On March 19, however, the armed trawler *Valpa* was struck off the Humber by what was considered to be a Leon mine exactly in the fairway.²

The discovery of these Leon mines outside Blyth made no difference to the departure of submarines from there, and the Skagerrak patrol was continued as circumstances permitted.

68. The Skagerrak Patrol, last half of February.—On February 17 the 3rd Cruiser Squadron left Scapa with two armed boarding steamers in company to sweep from Udsire southward to Utvoer, a cruise originally proposed for the 11th but repeatedly delayed by the weather. Off the entrance into Bergen the inshore ship of the sweep observed what she took for two submarines to the shoreward of her. The Rear-Admiral in command thereupon sheered out to sea and obtained permission to break off the cruise and return to Rosyth.³

It was thought in the Grand Fleet that these submarines were there for the purpose of escorting in iron ore ships from Narvik, and on the 20th the Commander-in-Chief issued orders for submarines *D.7* and *E.30* from Blyth to go over to attack them and intercept the ore ships. *D.7* and *E.30* were to sail early on the 22nd and keep watch from the 23rd to the 26th off the Danish coast to catch the ore ships, being very cautious when boarding in case a German submarine might be acting as escort. *D.7* and *E.30* each carried an armed guard to put on board any ore ship met. After the 26th they were to cruise across the mouth of Skagerrak and up the Norwegian coast as far as 60° N, returning to Blyth by March 1 or earlier should bad weather render it desirable.

¹ Possibly the *Mary Rose*, H.S. 211, p. 93.

² Minesweeping Statement No. 91.

³ G.F.N.; Papers titled X. 6056/16.

The cruise passed without incident. Off the Danish coast nothing was seen on the course probably followed by the ore ships; in fact, *E.30* saw no vessels at all. Hail and blizzards of snow were met off Norway, and at noon, February 27, *D.7* shaped course for Blyth. *E.30* followed her at 7 p.m., February 28.¹

Meanwhile, the Admiralty, through the Foreign Office, informed the Norwegian Government of the presence of the two non-British supposed submarines in the territorial waters of Norway, receiving in reply a definite statement that no such boats were in the position reported, where they would certainly have been seen from a lighthouse.²

69. A German Raider Sunk North-east of the Shetlands, February 29.—That some submarine operation on the coast of Norway was intended by the enemy, with the 10th Cruiser Squadron as objective, seemed to be indicated by intercepted German signals, and on the 24th the Commander-in-Chief was warned of them. The most threatened part of the 10th Cruiser Squadron patrol appeared to be that known as "G," off the Norwegian coast,³ and the Commander-in-Chief directed the Rear-Admiral of the squadron that, on receipt of information confirming the reported submarine attack, he was to withdraw "G" patrol and establish one instead between Rockall and Iceland.⁴

But when the attack took place, it was not made by a submarine. On February 28 the intercepts gave information that a German mercantile auxiliary which had been working in the Baltic as a decoy ship in conjunction with a submarine was off the Skaw at 7 that morning steaming westward at about 10 knots. This was at once passed to the Commander-in-Chief,⁵ who sent out three light cruisers from Scapa and two light cruisers with four destroyers from Rosyth to patrol likely lines of approach to Scapa and the Forth, in the hope of intercepting her should she be intending to lay mines off the fleet bases.

Early on February the Admiralty had sent Admiral Jellicoe a description,⁶ so far as they knew, of the raider which at the end of 1915 had made her way into the Atlantic as the *Moewe* and had captured several ships on the South American trade routes. She was known to be heavily armed, though disguised on much the same system as our own decoy ships. Since her success on the trade routes was likely to lead to the despatch from Germany of other vessels of same type, the Commander-in-Chief thought it desirable to take special precautions. A disguised

¹ G.F.S.P., Vol. XLIV, pp. 41 to 46.

² Papers titled X. 6056/16. The reply was not received till March 10.

³ For details see Monograph 19: *The 10th Cruiser Squadron*, Section 42.

⁴ G.F.N.

⁵ A. 67.

⁶ M. 01013/16.

vessel intending to operate in the Atlantic would probably first come into contact with the British Navy in the shape of one of the armed merchant cruisers of the 10th Cruiser Squadron for which, with the advantage she would have in her disguise, she would prove a formidable match. He, therefore, arranged that "G" patrol of that squadron should, in future, be maintained by ships in pairs for mutual support, and, further, that when definite information was received leading to the expectation of a disguised vessel having been out from Germany the whole 10th Cruiser Squadron should spread across from Muckle Flugga to Utvoer, with cruiser squadrons to the southward of them.¹

On February 28, when the Admiralty telegraphed that a decoy was coming out of the Skagerrak, "G" patrol on the Norwegian coast was being kept by the armed merchant cruisers *Alcantara* and *Andes*. It was not till the following morning, however, that arrangements were made for spreading the whole 10th Cruiser Squadron across from Muckle Flugga to Utvoer, and even so they would not be in place till daybreak, March 1.

By that time it was too late to take action against the raider. A German signal made by some ship at 8.20 p.m., February 28, enabled our wireless directional stations at Murcar and Lerwick to place the sending ship a few miles north-westward of the Naze; this information was sent to the Commander-in-Chief at midnight and enabled him to station the Scapa cruisers on the circumference of the circle which she would reach in the morning. Two more armed merchant cruisers were ordered to patrol north-eastward from the Shetlands, and the *Alcantara* and *Andes* were warned at 8 a.m., February 29, that an armed disguised enemy merchant vessel from the southward might pass through the line of "G" patrol that day.

Further German signals taken in on the 29th implied that the raider was returning, and at 11.35 a.m. the Commander-in-Chief received from the Admiralty, "Steamer is going back to the Sound." The message crossed with one he had made to the Admiralty giving a very different report.

The *Alcantara*, about 70 miles north-east of the Shetlands at 9 a.m., February 29, sighted a steamer which, though apparently a well-known and innocent vessel, had certain suspicious circumstances about her. The armed merchant cruiser stopped this ship and was lowering a boat to board her when she abandoned her disguise and opened fire. As a result of the engagement which followed, both the *Alcantara* and the stranger were sunk. From the German survivors it was learned that their vessel was named *Greif* and that she had left Cuxhaven on February 27 for a cruise on the Atlantic trade routes.²

¹ A. 31.

² Further details of the *Alcantara-Greif* action are in Monograph 19: *The 10th Cruiser Squadron*, Chapter IX; and in G.F.S.P., Vol. LXIV, pp. 194 to 371. For telegrams see A. 66 to 83.

70. **The Dover Barrage forced, February 29.**—It was during the condition of tension due to the knowledge that a German disguised raider was about that an incident occurred which might mean that she had broken into the English Channel where she would meet nothing stronger than destroyers.

The Dover net barrage was intended chiefly to deter submarines from attempting to make the passage of the Strait; there was nothing to prevent surface vessels from passing, and it was no unusual occurrence for merchant ships to cross over the nets in spite of all the prohibitions and the attempts to enforce them. Such occurrences were generally explainable as the result of blundering or ignorance on the part of the skippers of the ships concerned. But on February 29 there was a definite alarm that the Straits had been forced.

At 6 p.m. that day a ship painted navy grey and fitted with wireless passed westward through Folkestone Gate at a great speed. Suspicion was aroused, which was deepened when it was reported that no such vessel had passed through the Downs. A few hours later another steamer went rapidly through in the darkness, refusing to stop even though five rounds were fired by the armed boarding steamer on guard.

After their experience of the havoc which could be wrought by disguised vessels of the *Meteor* and *Moewe* type, the Admiralty were naturally anxious for the safety of the transports in the Channel. They at once stopped all transport sailings and held up all Allied merchant shipping in Channel ports, ordering the Commanders-in-Chief at Portsmouth¹ and Plymouth to dispose all available destroyers on suitable lines to intercept the steamers at daylight. The French authorities at Cherbourg and Brest were to be informed of these dispositions.

Transports which had left Southampton were therefore recalled to St. Helens, the available Portsmouth destroyers then patrolling between 50.11 N, and a rendezvous 10 miles south of Anvil Point, a French destroyer and a submarine continuing the line to the southward.² From Plymouth three destroyers patrolled due south at 20 knots from the Eddystone at 3, 4 and 5 a.m., altering course 16 points at 7 a.m. and every two hours subsequently.³ Admiral Bayly at Queenstown, though not directly informed by the Admiralty, learned of the passage of the suspicious vessels through Folkestone Gate and warned his sloop patrol of them.⁴

In spite of all these patrols and activity nothing more seems to have been seen of these blockade runners, if such they were. The alarm, however, soon subsided. At 9 next morning transport

¹ Admiral Colville relieved Admiral Meux in February.

² H.S. 217, pp. 21, 53.

³ H.S. 217, p. 28.

⁴ H.S. 217, p. 14

and ordinary traffic east of the Portsmouth-Cherbourg line was resumed, and by 5 p.m. all restrictions on cross-channel transport sailings were removed.¹ Finally, at 9.38 p.m., the transport officers at Avonmouth, Cardiff and Rouen were told "All now clear in English Channel," and all customs officers in the United Kingdom received instructions to resume the sailings of British and Allied merchant vessels for Havre and Rouen. These, it should be noted, had been held up on account of the mine danger at Havre. Vessels were now to apply to the Shipping Intelligence Officer at the ports where they were lying, or to call at the Downs or Spithead, for confidential instructions as to the route into Havre. So important did it seem to keep the knowledge of the Havre swept channel from the enemy that information on the subject was withheld from neutral shipping.²

71. **Measures to meet the possibility of a Hostile Landing behind the French Lines.**—The Dover Patrol, apart from its customary routine work, was at the time preparing to make an extensive air raid on Zeebrugge and Ostend, where it seemed that some operation was afoot. Air reconnaissance by the Dunkirk machines had for some time been a regular routine, and by them the two ports were kept under constant surveillance. On February 20 our observers noticed ten vessels about the size of destroyers in the Leopold basin at Ostend; the reconnaissance next day showed eleven vessels there, each about 280 ft. long.

The Admiralty thereupon ordered an air raid on Ostend and Zeebrugge to be carried out under the orders of Admiral Bacon. The seaplane carrier *Riviera* was already at Dover. She was to go to Sheerness to embark additional seaplanes from the Nore command; and the *Vindex* from Harwich also was to participate. The latter was to be escorted to Dunkirk by Harwich destroyers, and Commodore (T) was to provide a destroyer division to co-operate with the Dover force on the day of the raid, which was to be fixed by Admiral Bacon.³

On February 22 the French authorities reported that a German monitor, or at least a vessel of monitor type, had been seen that morning going into Ostend under the escort of a destroyer and that a second monitor was already there apparently under steam.⁴

To increase the force which would deal immediately with a German movement four destroyers from the escort flotilla at Devonport were ordered to Dover, less important transports for the Mediterranean being allowed to sail without escort; and C.26 and C.27 were transferred from the 7th Submarine Flotilla at Rosyth to the 4th at Dover, the establishment of a submarine

¹ A. 84 to 87.

² H.S. 217, pp. 235, 274.

³ A. 62.

⁴ H.S. 215, pp. 629, 657.

flotilla at Blyth rendering a strong force of submarines at Rosyth less necessary than before.¹

The collection of the enemy vessels at Ostend seemed to the Admiralty Staff to indicate the possibility of an attempt at the often expected landing on the Belgian coast in the Allied rear, and the Chief of Staff drafted orders to deal with this emergency. They were sent to Admiral Bacon, Commodore (T), Captain (S) and the Commander-in-Chief, The Nore, on February 23 and ran as follows :—²

There has lately been considerable activity in the port of Ostend. Aircraft have observed 11 long narrow vessels with two funnels in the port, and the French have reported monitors to have been seen entering, but so far our aircraft have not seen them.

It would be possible for the Germans to land troops between Westende and Dunkirk. This coast is not as yet in a state of defence, but steps have been taken to put in a state of defence without delay.

Should the enemy intend a landing, it is to be expected that destroyers, light cruisers and, possibly, large vessels, will be sent from Germany to take part in the operations.

Should the Admiralty obtain early information of a movement of vessels from Germany towards the Belgian coast, the whole force of light cruisers, destroyers and submarines from Harwich will be ordered to sea with a view to intercepting them before they reach Belgian waters.

Should there be no early information of the coming of vessels from Germany and the first intimation be received by operations commencing on the Belgian coast, the Harwich Force will be ordered to proceed to the vicinity of the North Hinder Light Vessel. In this event the force should go to a suitable position between the North Hinder Light Vessel and the East Schelde and send destroyer lookouts to watch between Bligh Bank, Thornton Ridge and the Schooneveldte.

Two efficient submarines should be left at Harwich and also two at Yarmouth in case of raids on those ports being carried out as a diversion; the remainder of the 8th Flotilla of Submarines should act under the orders of Commodore (T) with their attendant destroyers.

Four of the Nore submarines, with a destroyer to keep them in signal touch, should be kept ready for service, and should proceed to the vicinity of the Tongue Light Vessel as soon as the Admiralty order this, and should then await further orders.

A landing behind the Allied lines on the Belgian coast seemed the more probable object of an excursion from Ostend than any invasionary operation against England or France, for one important reason. "An invasion of England or of Calais," wrote Admiral Bacon to the Admiralty,³ "would of necessity be of the nature of a raid, because no land communication would exist between the disembarked troops and their main bases, and sea transport would be impossible. Command of the sea does not and cannot mean superiority at all points on all occasions, but it must make continued, organised sea transport impossible. Raids can, therefore, take place, but the raiders should be isolated and

¹ A. 64.

² M. 00113/16.

³ His letter 579/012M of 24 February 1916 in M. 01802/16.

supplies denied them. The same sea principle holds good for a raid on the coast of Belgium to the west of Nieuport; but in this raid one great difference exists, viz. :—that if the Germans can attack the French lines simultaneously from both east and west, and break through, then sea transport is no longer required, since land communication is established."

Even with the reinforcement of four destroyers from Devonport, Admiral Bacon could muster only ten large destroyers and six torpedo boats. Whether or not his monitors would prove of value was largely a matter of conjecture. With this sea force he would do what was possible to harass and delay a raid; but the best measure of combating such an attempt was, in his opinion, to defend the dunes west of Nieuport with an armament comparable to that erected by the Germans between Nieuport and Ostend. The value of blocking Ostend by sinking ships in the approaches to the port seemed to him slight, since in a fortnight that portion of the blocking vessels above low water could be removed by the Germans, after which, since the tides rose 14 ft., there would be space for the passage of the motor barges in which, presumably, the landing force would be embarked.¹

Admiral Bacon's suggestions as to the defence of the coast were discussed with the War Office, with the result that the French military authorities took in hand the defences of the dunes west of Nieuport, while the War Office considered the question of mounting more heavy guns.²

While the collection of the defence force was in progress air reconnaissances continued, though with little result in the gaining of information; indeed, on February 24 the reconnoitring aircraft saw no war vessels of any sort at Ostend; even the narrow vessels previously reported were not there.³ Further reconnaissance was hindered by the weather, which also caused the postponement of the intended air raid on the docks of Ostend. Extra seaplanes and pilots were sent from the Nore to Dunkirk for this operation; but finally, on February 29, it was decided to put it off till the next suitable moon period in the middle of March.⁴ By the end of February the reported monitors at Ostend were thought to be river gunboats for local defence, and the feeling that a hostile landing might be in contemplation died down.⁵

¹ M. 01802/16.

² H.S. 216, p. 364.

³ H.S. 215, p. 1080.

⁴ H.S. 216, p. 905.

⁵ M. 02493/16.

CHAPTER VI.

THE SECOND SUBMARINE CAMPAIGN ; IN THE SOUTH-WEST APPROACH, MARCH TO MAY 1926.

72. **The New German Submarine Policy.**—After September 1915, when the first campaign against commerce by submarines came to an end, the South-west Approach remained untroubled by visits of these craft for several months, except at the end of 1915, when *U.24* sank a few ships there. Even so, the presence of that submarine in that area was rather accidental than intentional, for her orders designated the troop transports approaching Havre as her proper target ; and it was only the heavy weather and consequent damage to the boat that decided her commander to abandon his cruise into the Channel and operate for a short time in the South-west Approach.

Throughout January and February Admiral Bayly's command was left alone by the enemy ; and the arduous work of the patrols and of the escorts continued without more interruption than resulted at rare intervals from reports of submarines, apparently credible but ultimately discovered to be unfounded.

But that this state of affairs would continue seemed improbable in face of an announcement made officially by the Berlin Government and handed as a memorandum to the representatives of neutral powers in the middle of February. It began by referring to the British claim that merchant vessels which carried guns only for defence maintained their peaceful character and, therefore, their right to be treated by the enemy as ordinary commercial vessels. It went on to give a list of 19 occasions on which vessels so armed were alleged to have used their guns for attack, that is, had fired on German submarines before they themselves had been attacked ; and appended to the memorandum was a version of the Admiralty instructions to defensively armed merchantmen which, it claimed, proved that this class of vessel had an official order treacherously to attack German submarines whenever they met them. That this allegation was untrue was proved when the Admiralty a few days later published the actual instructions ;¹ but it made no difference to the German argument, which concluded :—

“ In view of the aforesaid circumstances, enemy merchantmen carrying guns are not entitled to be regarded as peaceful merchantmen. The German naval forces, therefore, after a short interval in the interest of neutrals, will receive an order to treat such vessels as belligerents.”²

¹ These instructions are given in Hurd : *The Merchant Navy*, II, pp. 235-237.

² *The Times*, 11 February 1916.

Further communications made it clear that the new policy, which meant that defensively armed merchantmen were liable to be torpedoed without warning, would come into force on March 1.

The defensive arming of important merchant vessels had been continued throughout the war till many of the largest vessels, other than those calling at United States ports, now carried one or two guns mounted astern. No attempt at concealment had been made ; and, in fact, lists of the vessels so armed had been published and were easily accessible to the enemy.¹

73. **“U.32” Raids the South-west Approach, March 4 to 8.**—On the eve of March 1, when the new policy was to come into force, there were, so far as we knew, only two long-distance submarines out for commerce warfare, *U.22* which left the Bight on February 29 and *U.32* which had proceeded from List for the north two days earlier. *U.22* sank no ships. On March 12 she reported herself midway between the Orkneys and Norway and stated that, though she had been 24 hours in her field of operations and was not hindered by the patrols, she had seen very little traffic ; she was returning without success on account of injury to the port dynamo and forward diving rudder.² It was probably *U.22* which was sighted west of the Flannan Islands on March 4 and again off the Butt of Lewis on March 11.

U.32 was not sighted till March 4, when she inaugurated the new attack on commerce by firing on and stopping the British steamer *Teutonian*, unarmed, with 6,000 tons of oil for Avonmouth. Without waiting to assure himself that the ship had been completely abandoned, the commander of *U.32* torpedoed her and fired 36 shell into her, which set her on fire. The position, about 40 miles south of the Fastnet, was outside the limit of the trawler patrols, and it was not till five hours later that the sloop *Begonia* came up to rescue the crew.³

Meanwhile *U.32* had gone on towards the mouth of the English Channel, where next morning she gave chase to the British steamer *Arracan*. Before she could stop this ship two armed trawlers appeared and fired upon her, whereupon she made off south-eastward after another vessel, the British steamer *Rothsay*. Having forced the crew to abandon the *Rothsay* she torpedoed her, leaving her crew to be picked up nearly three hours later by one of the trawlers.⁴

The wireless reports from the trawlers and an S.O.S. call from the *Arracan* warned the Commander-in-Chief, Devonport, that a submarine was on the transports' track. Three transports had left Devonport for the Mediterranean the previous day ;

¹ Hurd : *The Merchant Navy*, II, cap. X, gives a certain amount of detail concerning the defensive arming of merchant vessels.

² Signal, March 12, 1400, in I.D.H.S. Records.

³ M. 38974/16 and Papers titled L. 275/16.

⁴ H.S. 217, pp. 885, 895, 910, 918, 962. Papers titled B. 227/16.

they were beyond recall and possibly beyond danger; but he stopped all further sailings and the Admiralty suspended departures from the Irish Sea to Channel ports and detained in the Downs British and Allied vessels of importance bound for the Atlantic.¹ Normal sailings for transports were resumed on the 7th.²

Perhaps by these orders British vessels were saved from further attack, since the remainder of *U.32*'s victims on this cruise were foreign. That afternoon, March 5, she stopped and released a Norwegian sailing vessel; and proceeding south-westerly appeared next morning south of Ushant. There she sank the French sailing vessel *Trois Frères*.

Her next attack, at 10.30 a.m., March 6, was on a steamer, the *Elpis*. This was a Greek and had three Greek flags painted on either side. *U.32* submerged when she saw it approaching, and without any warning fired a torpedo which luckily exploded 2 fathoms from the ship's stern without doing any damage. *U.32* then came to the surface and fired three rounds, all of which missed. The Greek captain stopped his ship, got his boats ready and hoisted his national flag, whereupon the submarine disappeared.³

This appeared to be the turning point of her cruise. About 60 miles west of Ushant she destroyed another French sailing vessel, the *Ville du Havre*, on the 7th; and next day, about midway between Ushant and the Fastnet, fired on but failed to destroy the Norwegian sailing vessel *Braemar*. She next revealed herself on the 16th by making a wireless signal to the effect that she was approaching List, and that she had sunk four vessels although she had been damaged by stormy weather. She appears to have passed 45 miles WNW of Muckle Flugga since she reported having found a patrol there.⁴

It is difficult to see in what respects the proceedings of *U.32* on this cruise differ from those adopted by the submarines before the German declaration that commerce warfare would be carried on by the method of visit and search enjoined by the German Prize Law. She torpedoed the *Teutonian* without having exchanged a word with any of that vessel's crew, and while the master was still on board. The attack on the *Elpis* resembles the worst efforts of Lieutenant-Commander Schwieger, if indeed it does not outdistance them in attempted ferocity.

74. New Route for Incoming Transports.—The principle which, throughout the campaign of 1915, had ruled in deciding the routes for transports bringing troops to England and for the

¹ Appendix B. 4 to B. 14.

² B.16 to B. 27.

³ Deposition by Captain Constantino Nicolakis of the *Elpis* to the Customs Officer, Glasgow. A copy of it is in I.D.H.S., Vol. 742, entry A. 17/2.

⁴ Record of *U.32* in I.D.H.S., Vol. 3112.

vessels carrying munitions from America had been to keep them in mid-channel in the South-west Approach, as far from the shore as possible. But at the end of September 1915, this principle was abandoned. Vessels from America valuable enough to be given secret orders were instructed, if for Liverpool, to make the Fastnet and hug the shore for the rest of their voyage; if for Devonport or Avonmouth, they were to make the Lizard or Hartland Point, and thence proceed inshore to their destination.¹ Now that a fresh submarine campaign had begun, a new rendezvous called "K" was fixed in 51.15 N, 12° W, about 70 miles to westward of the Fastnet. From there, the transports and munition ships were to proceed close to the south coast of Ireland at a distance dictated by considerations of safe navigation according to the weather conditions at the time. In the Irish Sea, the mid-channel principle was maintained; they were to pass midway between the Tuskar and the Smalls and keep in mid-channel until they approached Liverpool. The intention was that from "K" they should always be escorted by two destroyers.²

75. Submarine Attack on the "Crescent," March 15.—From intercepted German signals we learned that three submarines—*U.28*, *U.43* and *U.70*—proceeded from the Bight, apparently for distant operations, on March 9 and 10.

U.28 left the Ems on March 10 but had proceeded not much beyond Horn Reefs when she found she had to return through defects in her flooding chambers. *U.68* was told off to take her place in the scheme, but would not be ready till the 15th.³

It was *U.70*'s first long voyage. She proceeded on March 10, and steaming up the Norwegian coast passed via Muckle Flugga to the South-west Approach. *U.43* left Germany the previous day, not apparently for the South-west Approach but for the north of Ireland, though there was nothing to tell us of her destination in the signal announcing her departure; it spoke merely of proceeding out "to the north."⁴

The first intimation of the activity of either *U.70* or *U.43*, apart from their position signals as they passed up the North Sea, occurred at dusk on March 15 when H.M.S. *Crescent*, passing Skerryvore en route from the Clyde to Rosyth, where she was to be employed on harbour service, was missed by a torpedo which crossed her wake about 30 yards astern of her. The ship was zigzagging at the time, a manœuvre which, in the opinion of her captain, saved her from being hit. Nothing was seen of the submarine either then or during the evening, and no further attack on the *Crescent* took place.⁵ Her signal reporting the

¹ Adty. Tel. to Consul Gen., New York and Naval, Ottawa, sent 3.20 p.m., 27.9.15.

² Papers titled *Admiralty*, 14 March 1916.

³ Signals in I.D.H.S. Records.

⁴ Signal, March 9, 0730, in I.D.H.S. Records.

⁵ Papers titled *X. 7865/16*.

incident was taken in at Stornoway, whereupon all available patrol vessels in the vicinity were despatched to the position she reported; they found no trace of the submarine.¹

As a result of the reports of the presence of this submarine at the northern exit of the North Channel, the Admiralty at 10.45 p.m. ordered the Senior Naval Officer, Larne, to send into harbour all vessels bound north through the North Channel; they also ordered Malin Head wireless station to signal every hour that an enemy submarine was off Skerryvore. That night the North Channel was closed for ships from Liverpool, Glasgow and Cardiff.²

76. The North Channel Patrol in March 1916.—A change had recently occurred in the command at Larne. When Admiral de Chair left the 10th Cruiser Squadron to join the Ministry of Blockade,³ Admiral Tupper from Stornoway was appointed as his successor in the 10th Cruiser Squadron, and on March 6 Admiral Boyle left Larne to take over the command at Stornoway. Admiral Sir Alfred Paget, retired but now on active service as Captain, Royal Naval Reserve, was appointed as Senior Naval Officer, Larne, but had not yet arrived.⁴

The principal business of the Senior Naval Officer, Larne, was the maintenance of the North Channel barrage of indicator nets, and of the patrol at each end of the netted area intended to catch any submarine exhausted by her passage below the nets.⁵ To maintain this barrage he had 120 net drifters, 2 armed yachts, 18 armed trawlers and 5 motor boats for minor services. He further had the two old destroyers *Garry* and *Thorn*.

There were frequent calls on his armed craft for escort of important vessels ordered by the Admiralty, and in actual practice it was found rarely possible to dispose more than one yacht or destroyer and one trawler at the west end of the netted area and nothing more than one trawler at the eastern end of it. The impunity with which the German auxiliary *Meteor* had penetrated into Moray Firth raised doubts whether such a vessel could not enter even more easily less defended estuaries. The North Channel gave access to the Clyde and the Mersey and was used by fleet colliers and supply ships from Cardiff and the English Channel and was, therefore, not unlikely to be chosen by the enemy for a mining exploit. None of the vessels at Larne could keep the sea in bad weather, nor were they adequate for examining ships even when it was fine; further, they would have no chance of inflicting serious damage on an armed raider. Such a vessel could without difficulty pass the North Channel, attack our merchant vessels in the Clyde or Mersey, lay minefields, and pass out of the North

¹ M. 02624/16.

² B. 32 to 35.

³ See Monograph 19: *The 10th Cruiser Squadron*.

⁴ M. 02409, 03661/16

⁵ See Instructions for Admiral, Larne, in *Home Waters*, IV, Section 44.

Channel again without the defence being able to bring her to action with any hope of success. The only vessel which could attack her was the *Adventure*, based on Queenstown, which, in any case, could hardly be on the spot in time, and at the present moment was undergoing a refit.¹

This state of affairs was represented to the Admiralty by Admiral Boyle before he left; "I submit," he wrote,² "that it may be realised that at present, on the North Channel Patrol, there is no vessel able to keep the sea, fight, or examine and control traffic, except in moderate weather, which is not often prevalent here, except in summer."

The Admiralty felt they could do nothing to strengthen the North Channel Patrol. "It is not considered desirable," they answered, "to disperse further the limited number of cruisers now acting in Home Waters by permanently stationing them in the various vulnerable areas near our coasts." Nor did they increase the number of trawlers or reduce the amount of escort work, the result being that not only raiders of the armed disguised merchant ship type but also submarines would have little more than the nets and a trawler or two to keep them from passing through the North Channel.

77. The North Channel and South-west Approach forbidden to Shipping, March 15 to 19.—Though the submarine sighted by the *Crescent* was off Skerryvore, it was west of Ireland and not in the North Channel that she began to operate against merchant ships. At 5 p.m., March 16, she fired on and destroyed the British sailing vessel *Willie*, about 20 miles west of the coast of Kerry. The crew of this vessel were picked up by H.M.S. *Safeguard*, a gunboat on a special intelligence patrol, at 11 the next morning, her report coming in after it was known that the submarine had attacked another vessel.³

At 8.30 p.m., March 16, the British s.s. *Berwindvale*, unarmed, bringing wheat from the United States for Avonmouth and then about 39 miles WSW of the Fastnet, found shots falling near her; in the failing light she saw no assailant, but she turned to run away, sending out an S.O.S. call. In a few moments she was torpedoed. She stopped and her crew abandoned her, the submarine then beginning to shell the ship. While this was still in process the sloop *Primrose* appeared and the submarine dived and made off. The *Primrose* had not taken in the S.O.S. call; but while patrolling had seen the flashes of gunfire and these had attracted her to the spot. She happened to be free for patrol duty. Other sloops were engaged in escort work; the *Snowdrop* with a vessel under her charge passed the situation of this encounter two hours before it occurred, and the *Bluebell* escorting a transport some three hours

¹ M. 01358/16.

² Papers titled L. 823/16.

³ M. 40093/16; B. 41, 44.

later. In spite of the rough handling she had received the *Berwindvale* was able to make Berehaven under her own steam and her own crew.¹

As before, the Admiralty met this danger by stopping all movement of unarmed merchant vessels towards the threatened area. Those on voyages which would take them out of the channel into the South-west Approach were ordered into Spithead; but defensively armed ships were permitted to proceed under instructions to zigzag during the day and extinguish all lights at night. There was no suggestion that they should keep in the zones where the patrols were strongest; as before, they were explicitly instructed to steer a mid-channel course.²

No further reports of this Fastnet submarine came in, and on the 19th normal sailings out to the South-west Approach were resumed.³ But in the meantime an auxiliary patrol vessel had sighted a submarine 10 miles north of the entrance to Lough Swilly⁴ and the Admiralty ordered all outward-bound traffic, of every description, through the North Channel to be stopped.⁵

As the result of these two measures westbound traffic on either side of Ireland ceased entirely. In spite of the wording of the signal closing the North Channel to vessels of every description, it was not the intention of the Admiralty to keep H.M. Ships in harbour; nevertheless, two Grand Fleet destroyers ready to leave the Clyde after refitting were delayed until the Commander-in-Chief obtained their release, and even by the 19th he was not aware that the prohibition was meant only for merchant vessels.⁶

By that time, since no further reports of submarines, either in the North Channel or South-west Approach, had been received, sailings westward from England were resumed.⁷ The North Channel had been closed for 86 hours and the South-west Approach for 45 hours.

78. The Q-ship "Farnborough" encounters a Submarine, March 22.—As soon as shipping began to move again submarines were reported. On the 20th, at 5.35 p.m., a trawler of Galway patrol sighted and chased a large submarine which disappeared at high speed westward.⁸ This was in the middle of the west coast of Ireland, and it was impossible to judge whether the Northern or Southern Approach was the more threatened; no steps were taken to hold up shipping.

Next afternoon, however, the armed merchant cruiser *Motagua* sighted a submarine about 70 miles west of Tory Island, her report

¹ *Berwindvale* papers titled L. 177/16.

² B. 42 to 48.

³ B. 57 to 59.

⁴ B. 49.

⁵ B. 50.

⁶ B. 53 to 55.

⁷ B. 56 to 59.

⁸ H.S. 220, pp. 492, 507, 531, 643, 727.

coming in at the same time as another to the effect that a steamer had been sunk close to Eagle Island.¹

Once more vessels from Glasgow, Liverpool and Cardiff bound for the Atlantic or Mediterranean were held up.² But before the order could become effective a submarine was reported off Hartland Point at the entrance to Bristol Channel,³ showing that three submarines were off the west coast.

One of these next attacked without warning or coming to the surface a vessel looking like a collier which was on a northerly course off the coast of Kerry. She fired a torpedo at it but misjudged its speed and the torpedo passed ahead. As the collier apparently failed to notice the torpedo, the submarine came to the surface and fired a shot across its bows. This had the effect of causing it to stop and its crew could be seen abandoning ship. As soon as all had left, the submarine closed to 800 yards and began leisurely firing shells into the ship to sink her. Suddenly the collier woke into life. The white ensign went up and a hail of shot of all kinds hit the submarine. The apparently defenceless collier was really a Q-ship, the *Farnborough*, under Lieutenant-Commander Gordon Campbell, R.N. She carried five 12-pdrs., two 6-pdrs., a Maxim gun and some rifles.

The surprised submarine dived, but not before the *Farnborough's* gunners had scored what they thought certain hits. But even when the submarine was out of sight she was not out of danger, for the *Farnborough* carried depth charges. Lieutenant-Commander Campbell steamed over the swirl where the submarine had dived and dropped a depth charge. It brought up the enemy; the submarine shot perpendicularly out of the water only 10 yards from the ship, showing a large rent in the bow. Five more rounds at nearly point blank range were put into the base of the submarine's conning tower before she sank again. Once more the *Farnborough* steamed over the spot, dropping this time two depth charges, which brought to the surface a very great quantity of oil mingled with fragments of wood. Nothing more was ever seen of the submarine or any of her crew.

The Admiralty awarded £1,000 to those on board the *Farnborough*; but not all participated in it. By a recent decision, officers of the Royal Navy were not allowed to share in monetary awards for the destruction of submarines, and Lieutenant-Commander Campbell, the only R.N. officer of the *Farnborough*, received none of the money—it all went to the ratings and the seven R.N.R. officers on board. He had his reward in being promoted to Commander, R.N., and granted the D.S.O. Two other officers received the D.S.C. and three men the D.S.M.⁴

¹ 1 p.m. Steamship reported sunk off Benwee Head; 1.21 p.m. *Motagua* sighted submarine 55.20 N, 10.7 W, 1.30 a.m. to-day (H.S. 220, pp. 666, 677); B. 62.

² B. 63.

³ B. 64.

⁴ *Farnborough* papers: M. 02710/16.

The *Farnborough*, late *Loderer*, commissioned on 21 October 1915, and had been cruising in the South-west Approach throughout the winter. In that area she had had no chance of an encounter the whole of that time, since, except for the brief visit of *U.24* at the end of December, no submarine operated there till the spring; "but the *Farnborough* has faced the gales," wrote Admiral Bayly, "and has stuck to it, and never for a moment has Lieutenant-Commander Campbell wavered in the faith that he would get a chance."

After six months' perseverance the chance had come. The submarine he had destroyed was *U.68*,¹ which left Emden on March 16 to take the place of *U.28* in the South-west Approach and last reported herself at the eastern end of the Dogger Bank early on the 17th.

It was probably this submarine which was sighted by the *Motagua*. Nothing more is known of her proceedings.

79. The beginning of the Control of the Movements of Merchant Vessels, March 1916.—The Admiralty had already in existence an organisation for the guidance and warning of shipping about to leave port. At the commencement of hostilities there had been established, as part of the mobilisation, Shipping Intelligence Officers at Devonport and Queenstown; and on the outbreak of the first submarine campaign in February 1915, Shipping Intelligence Officers were appointed at Liverpool and Newcastle also. The duties of these officers were to interview masters of ships sailing from their ports and advise them as to the routes considered least liable to attack from submarines. Such advice was then of a general nature, although based on the submarine situation at the moment.

In the autumn of 1915, Cardiff, Buncrana and Glasgow were given Shipping Intelligence Officers; at the same time the function of Shipping Intelligence Officers and the geographical limits of their authority were definitely laid down. Their duties were in connection with the diversion of shipping in their own districts; they were put under the direction of the Trade Division of the Admiralty Staff; and orders affecting the Mercantile Marine given by them, either direct or through the customs authorities, were to be taken as given with Admiralty authority.² On the eve of the submarine campaign in 1916, on February 28 to be precise, the port of London was given a Shipping Intelligence Office.³

At this time there were in force certain instructions for the guidance of merchant vessels called "Notice on Navigation in the North Sea and British Home Waters." These had been issued on 15 May 1915, and made no particular reference to the approaches

¹ Gayer, III, 45.

² Admiralty Monthly Order 590/15.

³ *Technical History*, T.H. 30; Section 8 of this gives a brief outline of the growth of the Shipping Intelligence Organisation.

north and south of Ireland.¹ The notice on navigation was only of a general character. To deal with particular emergencies such as the discovery of a minefield or the known presence of a submarine in a definite district, telegrams were sent to divert traffic from that particular area for a certain time, these messages forming part of the usual series of numbered telegrams, with the result sometimes of unnecessary confusion and delay. It was now decided to give the special name of "Traffic Instructions" to messages referring to the diversion of shipping on account of local emergencies, and a systematised scheme was brought into force in March 1916. These traffic instructions, which comprised interim amendments to routes and warnings of a temporary nature, were issued through the customs officers to the masters of ships about to leave port, and were also sent to local Senior Naval Officers for communication to merchant vessels by the patrols, when necessary. To limit the number received by any particular customs officer they were in four series—W dealing with the North Sea and East Coast, X with the Thames Estuary, Y with the Channel and Western Approaches, Z comprising all other instructions, mostly of a general nature.² The new system of "Traffic Instructions" was brought into force on March 15.³ The first of them, issued on that date, gave directions as to details in the routes for the East Coast and Thames Estuary in the W and X series, and in the Y series referred to the danger of approaching Havre, then recently mined and infested by *U.B.* boats.

The Admiralty's method of meeting the submarine danger in the South-west Approach had been not through Traffic Instructions, which merely varied small parts of the routes of vessels on passage, but by totally stopping the movement of shipping from home ports into the area threatened.

For vessels on passage inwards from abroad there was the system of wireless warnings which had been instituted in May 1915. These warnings were signals made from the stations at Valencia for the information of vessels bound for the Irish Sea or Bristol Channel, and from the station at St. Just in the Plymouth command for ships making for the English Channel. In both cases the signals were addressed to A.B.M.V.; and British merchant ships had general instructions to be on the lookout for them at certain fixed hours.⁴ At first these signals were made in a code possessed by British merchant vessels, but when it was realised that the frequent repetitions might lead to compromising the code to some extent they were made in parts—the first, *en clair*, being a general statement of the position in

¹ This Notice on Navigation is printed in T.H. 31, Appendix XVI. It remained in force till May 1916.

² The Confidential Interim Order 331 of March 1916, explaining the system, is printed in full in T.H. 30, pp. 94, 95. The original papers are titled X. 9150/16.

³ Appendix B. 30.

⁴ Details of the system in papers titled X. 9264/15.

which submarines had been seen, and the later portions in some code giving directions as to the best course to be followed by incoming ships.¹

By these two means—preventing the departure of merchant ships while the danger of attack was likely and diverting incoming vessels to routes through areas presumed free from the enemy—the Admiralty endeavoured to minimise the risk of loss from submarine action.

80. "U.43" and "U.70" operating North and South of Ireland, middle of March.—There were still two submarines off the coast of Ireland. One of these was *U.70*, as was made known by the reports of the crew of the Norwegian sailing vessel *Lindfield* destroyed by her on the 17th, 70 miles south-west of the Fastnet. The submarine treated the crew of the *Lindfield* with some consideration; she towed their boats for a couple of hours and then took them on board herself. Presumably her commander intended to disembark them into another neutral vessel; but he seemed to have difficulty in finding one and they remained on board the submarine some days. They thus learned she was *U.70*, under Lieutenant-Commander Wünsche, and observed that she had two guns. On the 21st, at 9 a.m., she stopped another Norwegian sailing vessel close to the St. George's Channel net and put the *Lindfield's* crew aboard. From her they landed next evening in Waterford Harbour with their story of four days' cruise in *U.70*.²

The submarine seems to have made no attempt to pass through the St. George's Channel barrage; at this period it consisted, in suitable weather, of 44 miles of nets studded with E.C. mines, slowly towed by drifters between the Tuskar, the Smalls and the South Bishops.³

That another submarine besides *U.70* was on the west coast was proved by the fact that just at the time when *U.70* was disembarking the *Lindfield's* crew at the entrance to St. George's Channel another submarine was sinking a vessel off Eagle Island at the north-west corner of Ireland. This ship, the *Aranmore*, of 440 tons register, was proceeding from Limerick to Glasgow till at 10 a.m., March 21, when 24 miles from Eagle Island, she was fired on by a submarine. The master of the little tramp made an attempt to escape by zigzagging at such speed as he could muster; but the enemy closed to 400 yards, firing steadily, and he had no option other than to abandon his vessel. No sooner was his crew well away in their boats than they saw two armed trawlers coming up. One of them fired and the submarine submerged; and the master of the *Aranmore*, thinking the enemy had made off, went alongside to return on board his ship. Just as he was

¹ For specimens of A.B.M.V. messages see Appendix B. 33, 38, 162.

² H.S. 220, pp. 1024, 1029, 1096, 1237; B. 69.

³ Milford A.P. Reports.

about to climb up, a torpedo exploded on the ship, blowing away her stern and sinking the boat alongside. The men were picked out of the water by one of the armed trawlers, and were found to have suffered only slight injuries.¹

The firing had been seen from shore and was immediately reported to the Admiralty, who knew by 1 p.m. that a steamer had been sunk there.² As has been said before, they held up all shipping from Glasgow, Liverpool and Cardiff for the Atlantic and Mediterranean at 5.30 p.m., giving the shipping officers at Queenstown, Devonport and Buncrana discretion as to detaining ships in their ports if their proposed courses would lead them into danger. Next morning, following on the news that the *Farnborough* had destroyed a submarine, British and Allied merchant vessels bound for North American ports were allowed to proceed via the North Channel.³

On the 23rd, in the morning, arrived the crew of the French barque *Bougainville*, sunk the previous day 60 miles south of Coningbeg Light Vessel. Once more shipping was detained. All British and Allied merchant vessels at Cardiff and Devonport were kept in harbour, and only those bound for Irish Channel ports were allowed to leave Liverpool and Glasgow; the same instructions applied to transports and auxiliaries, and to H.M. Ships except those on patrol service. That afternoon the Norwegian barque *Chacma* reported that she had been stopped, presumably by the same submarine, in the evening of the 22nd, and the prohibition was extended to vessels in French Channel ports bound out of the Channel.⁴

The two submarines appeared to be working, one on the north of Ireland and the other in the South-west Approach. The former, shortly after noon on March 24, opened fire on the steamer *Englishman* which, bound from Avonmouth for Portland, Maine, had been given instructions to pass through the Irish Channel and round the north of Ireland. The prescribed route may possibly have saved her from *U.70* in the South-west Approach, but it brought her directly into the clutches of the other submarine, which after 10 minutes' chase damaged the *Englishman* enough to cause the master to abandon her. He was only 10 miles from Oversay. Though he had made a wireless call for help he had omitted to give the bearing of Oversay and several hours passed before any naval vessel was on the spot, by which time the *Englishman* had sunk. Even if he had given full details of his position it would have helped little, for the nearest patrol boat had only one wireless operator who, by the regulations in force, was not on duty between noon and 1.30 p.m.⁵

¹ M. 02742/16: *Aranmore*.

² H.S. 220, pp. 614, and B. 62.

³ B. 63 to 68.

⁴ B. 71 to 76.

⁵ *Englishman* papers titled L. 313/16. From later information it is known that this submarine was *U.43*.

81. Westbound Traffic Stopped.—As soon as he heard of the submarine's presence near Oversay, the Senior Naval Officer, Larne,¹ stopped all northbound traffic through the North Channel, and ordered Malin Head wireless station to signal every half-hour that a submarine was off Islay at 2 p.m. That evening the Admiralty gave orders that no vessel of any kind was to pass through the North Channel, except destroyers and auxiliary patrol vessels, though sailings by other routes could be resumed.²

Next day, March 25, therefore, two transports waiting at Devonport sailed for the Mediterranean, each escorted by destroyers out of the Channel. A few hours after they left Devonport, an S.O.S. call came in from the *Duendes* being fired upon by a submarine about 60 miles west of the Scillies. The vessel was on passage from Canada to England on Admiralty charter with an important cargo and should have been met at sea and escorted in by Devonport destroyers, but no destroyers were then available and she was coming in alone. From 5.40 p.m. to 8 p.m., with short intermissions, the *Duendes* was under fire; but her captain, Mr. Alban Chittenden, so skilfully manœuvred his unarmed and slow vessel that the enemy at last desisted and he was able to bring his damaged vessel into port, though at 7 p.m. the situation seemed so desperate that he threw his codes and confidential papers overboard. He had sent out his first S.O.S. call at 5.40 p.m.,³ and continued reporting his positions till about 7.30, when a burst of shrapnel put the wireless apparatus out of order. Yet nothing came to his assistance till, two hours after he had shaken off the enemy, the sloop *Primrose* arrived, having taken in his signals.⁴

On receipt of the *Duendes*' call for help the Admiralty stopped all sailings of merchant vessels from Cardiff and all departures from Liverpool and Glasgow except for Irish Channel ports. They did not definitely stop sailings from Queenstown and Devonport but gave the Shipping Intelligence Officers at those ports discretion as to holding up ships. Vessels westbound from the Downs were ordered into Spithead again, except for defensively armed merchant ships which, as before, were to keep in mid-channel. Transports, fleet auxiliaries and men-of-war other than destroyers and patrol vessels were not permitted to sail for ports west of the Ushant-Lizard line,⁵ the general effect of all these orders being to stop all westbound traffic from west coast ports.

They could not stop vessels on passage eastward. The crew of one of these, the *Fenay Bridge*, bringing wheat from Philadelphia, arrived that night at Swansea with news that their ship had been stopped and eventually torpedoed not far from the scene of the

¹ Admiral Boyle had left, and until Admiral Paget arrived Captain F. C. A. Crooke carried on as Senior Naval Officer.

² B. 83, 84, 86 to 88.

³ B. 90.

⁴ *Duendes* papers titled B. 369/16.

⁵ B. 91, 94 to 97.

escape of the *Duendes*, the evening before that courageous episode took place.¹

82. The North Channel Reopened, March 26.—After sinking the *Englishman* on March 24 the submarine operating on the north of Ireland made no further appearance, and in the afternoon of March 26 the North Channel was reopened to Atlantic traffic from Liverpool to Glasgow.² It had been closed for 48 hours.

The submarine which had so seriously disorganised traffic with America through the North Channel was *U.43*. She seems to have remained some days more, and it was not till 2 a.m. on the 30th that she reported herself in the neighbourhood of Bergen. She claimed to have sunk two steamers, total 10,000 tons, doubtless the *Aranmore* and *Englishman*.³ She had sighted two cruisers off Dubh Artach Lighthouse, while operating at the north end of the North Channel.⁴

U.70's cruise in the South-west Approach was also coming to an end, but further incidents in it came gradually to light. On the morning of the day in which she failed to stop the *Duendes* she had arrested a Norwegian sailing vessel and forced its crew to throw overboard the deck cargo. After the failure of her chase of the *Duendes*, which had resulted in the stoppage of all traffic from England in the South-west Approach, she found no further prey till the 28th when there appeared the steamer *Eagle Point* coming from Canada with fodder for the army in France and now 100 miles west of Bishop Rock. She carried one 2½-pdr. Hotchkiss gun; but the submarine's armament outranged this, and as the *Eagle Point* was hit three times from a range of 4 miles, the master abandoned his ship. *U.70* sank it by a torpedo. Seven hours later a sloop picked up the crew; she as well as a destroyer and another sloop had taken in the *Eagle Point*'s S.O.S. call.⁵ This appears to have been *U.70*'s last effort in the South-west Approach. On April 3 she was passing south off Stavanger and here she destroyed the Norwegian steamer *Arena*. She was back in the Bight on April 4, after a 25 days' cruise. Her commander's proceedings showed little resemblance to those enjoined in the Prize Law; indeed, he sank a steamer, probably the *Fenay Bridge*, without taking the trouble, either then or later, to ascertain even her name.⁶

83. The Attack in the South-west Approach, end of March.—The submarines which left Germany on March 9 and 10 for the west coast of the British Isles were to be relieved on their station,

¹ *Fenay Bridge* papers, M. 02890, titled *Board of Trade*, 29.3.16.

² B. 98, 99.

³ *Aranmore*, 1,134 tons gross; *Englishman*, 5,257 tons gross. Gayer gives these two to *U.43*.

⁴ Signals 0300/30 March and 0230/31 March, in I.D.H.S. Records.

⁵ *Eagle Point* papers titled *Board of Trade* 6 April 1916.

⁶ Gayer, III, 45.

apparently by *U.44*, *U.45*, and *U.69*, sailing on March 18, according to an intercepted signal. Later signals showed that of these three only *U.44* proceeded on the appointed day; *U.45* did not leave, and though *U.69* sailed on the 25th "for the north" she returned next evening. By March 18 *U.28* had completed her repairs and sailed once more for the west coast. She and *U.44* were, therefore, to be expected off Ireland a few days later.

Fishing craft saw one of these two on a southerly course three times off Eagle Island between 10 a.m. and noon on the 24th,¹ at much the same time as *U.43* was sinking the *Englishman* near Oversay and *U.70* was cruising off the Scillies. For two days no further sign of the presence of either *U.44* or *U.28* was known; but at 9.14 p.m., March 26, the steamer *Musician*, a few miles north of the St. George's Channel net, signalled that she had a submarine in sight. The steamer, by manœuvring and by her speed shook off pursuit in the darkness. On receipt of her signal reporting the submarine, the Admiralty suspended all sailings from Bristol Channel ports; and instructions were sent for the patrols to intercept and order in to port any vessels which had left Cardiff that evening. Admiral Bayly suspended the packet services in Southern Ireland.²

The submarine, having failed with the *Musician*, in her next attack dispensed with the formality of warning and torpedoed the *Manchester Engineer* at 6.30 a.m., March 27. The vessel was homeward bound for Manchester, and was then about 20 miles from the coast of Waterford. Auxiliary patrol vessels and sloops were soon on the spot; they attempted to salve the steamer but she sank in the afternoon before she had been towed far.³

In the afternoon of the 27th the steamer *Inkonka* with Government stores from Alexandria for Barry came in with the report that a torpedo had missed her by passing astern when she was in 48.52 N, 10.9 W. Though this had occurred at 6 a.m., March 25, she had been unable to report it, having no wireless apparatus; she had a gun but saw nothing to fire at.⁴ This submarine cannot have been *U.43*, which was then engaged in throwing overboard the deck cargo of the Norwegian sailing vessel, 60 or 70 miles to the north-eastward.

84. A Defensively Armed Merchant Vessel claims a Submarine, March 24.—The *Inkonka's* assailant may have attempted to torpedo her without warning on account of a trying experience the previous day, reported by the defensively armed steamer *Phrygia* on arrival in the North Channel; in fact, the *Phrygia* claimed that her gunfire had sunk the submarine in 50.31 N, 12.6 W, 100 miles or so SSW of the Fastnet. The *Phrygia* carried no wireless apparatus and could not signal; but she had a 6-pdr.

¹ B. 81, 82.

² B. 100 to 103, 105.

³ *Manchester Engineer* papers titled L. 468/16 and Queenstown A.P. Reports, H.S. 453, p. 222.

⁴ *Inkonka* papers titled *Board of Trade*, 4 April 1916.

Hotchkiss gun with which, after being chased and fired at for 20 minutes, she replied to the enemy. At the eighth round from the Hotchkiss the submarine shot out a large volume of black smoke and dived so steeply that her screw was visible for about a minute. Although the *Phrygia's* master claimed that he had destroyed the submarine and visited the Admiralty on April 11 to give details of the encounter, it was clear by that time that she had not been appreciably damaged, since a submarine answering to her description had sunk at least five ships after the *Phrygia* encounter.

Both the *Phrygia* and *Inkonka* encounters were a long way out to sea and were not known to the Admiralty till several days after they had taken place.¹ There was another submarine closer in to the south coast of Ireland, where in the evening of the 28th she was engaged, without success, by the sloop *Zinnia*.² Next morning there arrived at Baltimore a fishing vessel from which disembarked a party of Russians who, strangely enough, had been on board the submarine during her encounter with the *Zinnia*. They were the master and crew of the Russian barquentine *Ottomar*, who had left British Guiana on February 6, little knowing they would complete their journey in a German submarine. She had come upon them at 5 p.m. on March 25, when the *Ottomar* was some 45 miles SSE of the Fastnet. In the course of the parleys which followed, the *Ottomar's* boat capsized and her crew swam to the submarine, where they were taken aboard and sent down below. For three days and nights they remained like so many Jonahs in this mechanical whale, knowing as little as that prophet of their host's movements. The submarine commander allowed them on deck occasionally and told them a few things—for instance, that a red light flashing at intervals was from a lighthouse on the Scillies and that he had been to the French coast and to the Tuskar; also that he had no special enmity against Russian seamen, only against British seamen because they had left a Zeppelin's crew to drown.³ Two and a half hours after submerging on account of the *Zinnia* the submarine came up close to a fishing vessel and transferred the Russians to her. They had gathered from various signs that she was *U.44* and had noted certain details of her structure and equipment which they reported to the officer who interviewed them.⁴

By noon on March 29, when the first information of these incidents came in, there were 29 vessels at Spithead, where they had been collecting in obedience to the Admiralty orders of the evening of March 27, and were now waiting for permission to continue their voyages westward. *U.44* was obviously close to Ireland; the mouth of the English Channel seemed to be free of enemy submarines and the Admiralty allowed vessels for the

¹ B. 109.

² B. 107 and H.S. 453, p. 222.

³ See Section 50.

⁴ *Ottomar* papers titled L. 342/16.

Mediterranean to proceed provided they passed close to Ushant with lights darkened and were not less than 40 miles from Ushant in daylight, since the neighbourhood of Ushant was thought the most dangerous area they would have to cross.¹

It soon appeared that *U.44* had not yet reached Ushant, if it was her intention to go there. Her next attack, made at 1.48 p.m. on March 29, was on the sloop *Begonia*, then patrolling midway between Queenstown and Land's End. The sloop first became aware of the presence of the submarine by being hit with a torpedo. She did not sink and was able to fire on the submarine when it came to the surface, whereupon it discharged another torpedo, which luckily passed under the *Begonia*. A shell from the latter now seemed to hit the submarine's periscope and the enemy went away. The *Begonia*, though not in a sinking condition, was unable to steam and, moreover, her wireless had been out of order for two days and was still useless. At 8 p.m. help arrived in the shape of an American steamer which passed her wireless messages for help and waited till another sloop came up in response to her colleague's call. The *Begonia* was then towed in to Queenstown.²

Apparently the position given by the *Begonia* in her calls for help were misunderstood at Whitehall, and consequently the North Channel was thought to be threatened again. By Admiralty orders all sailings through the North Channel were stopped, these orders being cancelled an hour later, the mistake having presumably by that time been rectified. It was the South-west Approach and not the North Channel that was now occupied by the enemy; and all sailings from South Irish ports were stopped for 24 hours, though transports and fleet auxiliaries in Bristol Channel ports bound for the west coast of France, the Mediterranean or the South Atlantic were allowed to sail, being given instructions to pass between Scilly and Land's End and to keep close to Ushant. Vessels at Pembroke and Milford were still held up.³

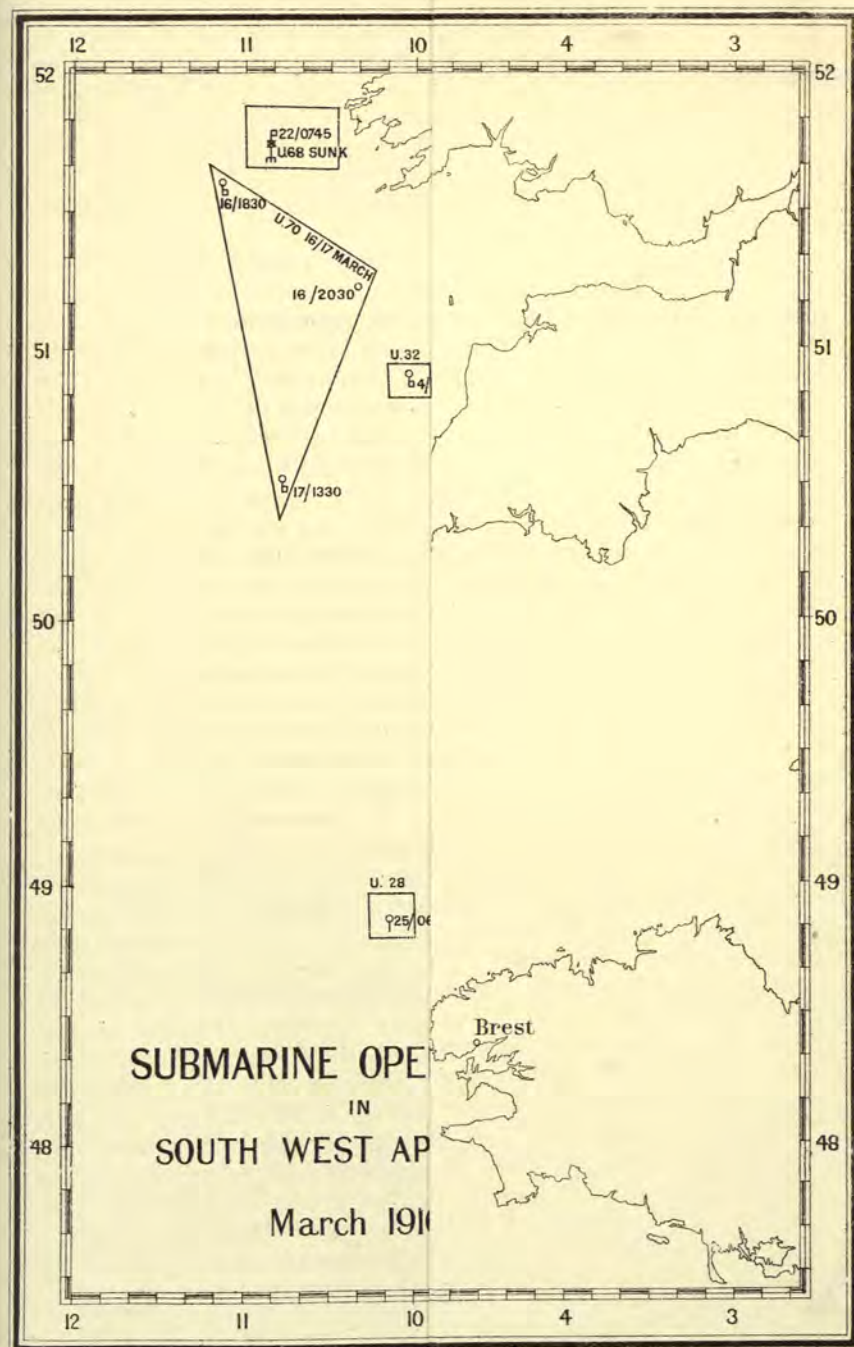
To judge by the next submarine report, *U.44* was working southward, though still not near Ushant. At 1.55 p.m., March 31, the homeward-bound oiler *Goldmouth* signalled that she was being chased about 80 miles west of Ushant. She carried one 3-pdr. dated 1905 and 60 rounds of ammunition, and it was not till all this was expended and the oiler had been under a continuous fire for an hour and a half that her master consented to surrender his battered ship, although he had taken in a signal that there was no help nearer than 90 miles away. He was taken as a prisoner by the submarine, which then fired torpedoes and a number of rounds into the *Goldmouth*.⁴

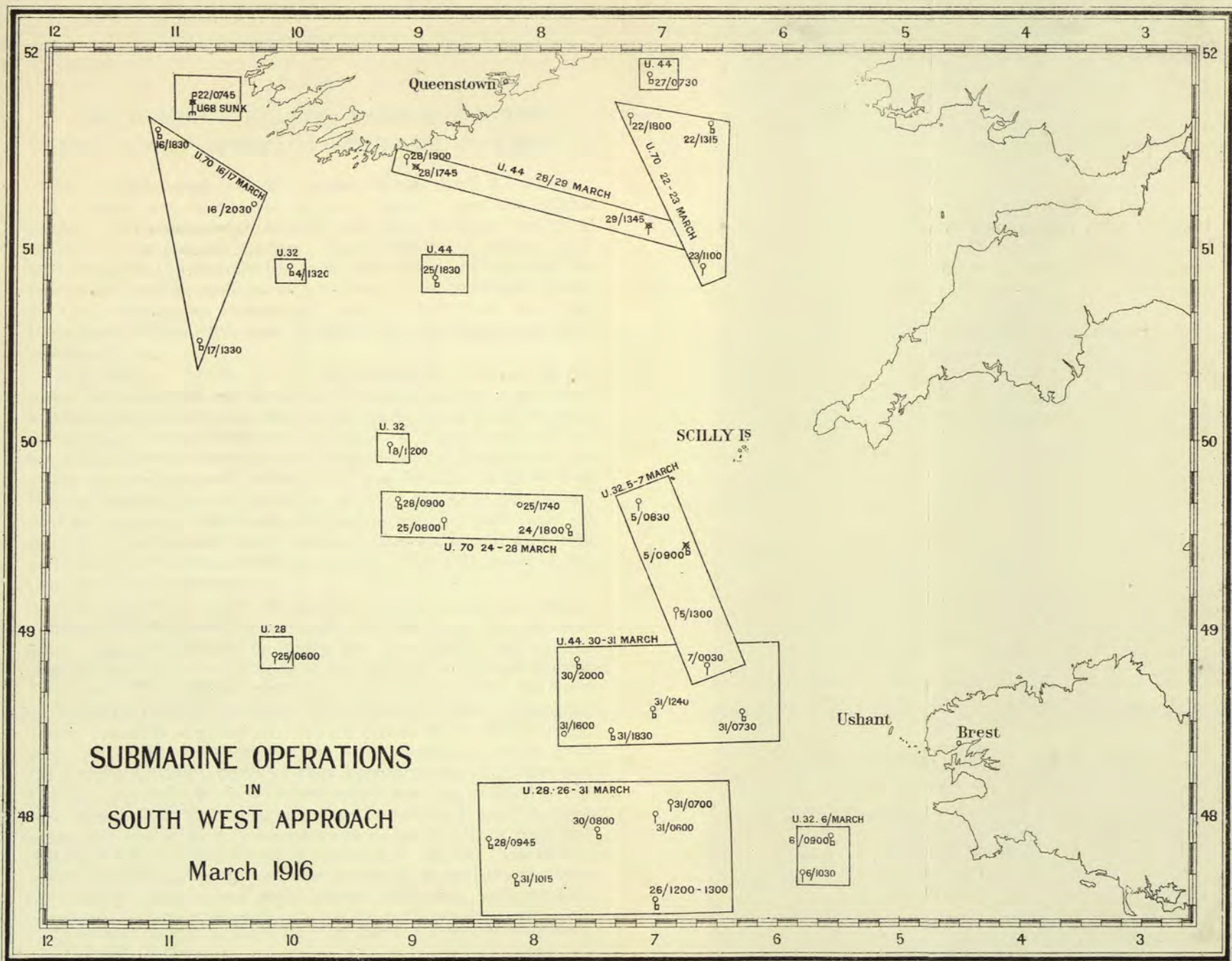
¹ B. 108, 111.

² Queenstown A.P. Reports, H.S. 463, pp. 323, 324.

³ B. 110, 112 to 122.

⁴ *Goldmouth* papers titled B. 368/16. Further details in Hurd: *The Merchant Navy*, Vol. II.





CHAPTER VII.

THE SECOND SUBMARINE CAMPAIGN IN THE
SOUTH-WEST APPROACH, APRIL AND MAY 1916.

85. "U.44" and "U.28" return Home, April 2.—Another S.O.S. signal was received at 10 a.m., April 1, from the British steamer *Ashburton* inward bound from New Zealand, and then about 80 miles west of Ushant. She attempted to escape; but after being hit 15 times she had to be abandoned and was sunk by the submarine with gunfire and a torpedo. The crew were picked up that evening by a destroyer,¹ one of four sent out from Devonport to hunt the area in which the *Ashburton* had been attacked.²

The news of the loss of the *Ashburton* was followed in the course of the day by reports that a Norwegian steamer, *Hans Gude*, had been sunk a few hours before the *Goldmouth*, and the Norwegian sailing vessel *Bell* the previous evening.³ The positions of these two losses, 30 miles east and west respectively of the scene of the attack on the *Goldmouth*, which itself was 70 miles or so west of Ushant, implied that all were the work of the same submarine. Another victim of this same submarine was revealed early on April 2. The British steamer *Achilles* homeward bound with wool and wheat had been sunk by her at dusk, March 31, close to and soon after the *Goldmouth*.

This destruction was all the work of *U.44*, in which Lieutenant-Commander Wagenführ was making his first cruise on the west coast. She left Germany on March 18; the *Achilles* was the last ship she sank on the cruise and she was back in the Ems on April 7. From March 25 to 28 she operated comparatively close to the shore of Southern Ireland, the news of her presence there causing an almost complete stoppage of outward bound traffic till the 29th, when vessels for the Mediterranean were allowed to emerge from the English Channel, provided they kept close to the Scillies and Ushant. An incident in his cruise which was not realised at the time was the fact that he sighted the *Mauretania* at short torpedo range, but in obedience to his instructions not to attack passenger ships had to allow her to pass unmolested.⁴ By the 29th he had moved to the southward, and was operating 40 to 100 miles west of Ushant. The Admiralty's orders forbidding sailings kept

¹ *Ashburton* papers, M. 03093/16, titled *Board of Trade*, 17 April 1916.

² H.S. 226, p. 105.

³ H.S. 226, pp. 116, 309, 547.

⁴ Gayer, corroborated by statement made by officer of *U.44* to crew of *Ottomar*.

outward-bound ships from him, except the unfortunate collier *Achilles*. The instructions were having the effect of causing congestion in the ports, and on April 1 over 50 vessels were waiting at Spithead for permission to proceed westwards. In the course of the day they were released and sailings were resumed. The instructions now were for them all to hug the coast as much as reasonably possible. Vessels from the Bristol Channel for North Atlantic ports were to pass east of the Smalls and go out by the North Channel.¹ The instruction shows the complete abandonment of the principle of keeping the mercantile traffic away from the shore which had prevailed during the submarine campaign of 1915.

The operations of *U.28* were farther out to sea than those of *U.44* and thus had less effect in producing traffic dislocation. All her victims on this cruise were foreign vessels and since in her approach she kept 100 miles from Ireland and operated equally far west of Ushant nothing was known of her captures till several days after the event.

U.28, Lieutenant-Commander Forstner, left Germany on March 18. She passed 100 miles west of St. Kilda and there on March 22 she stopped the Norwegian sailing vessel *Pestalozzi*, which had already been boarded by British cruisers and had a British armed guard on board. Lieutenant-Commander Forstner took the officer of the guard into the submarine as a prisoner and ordered the *Pestalozzi* to continue her voyage to South America with the remainder of the guard under threat of immediate torpedoing if she disobeyed his instructions. Nothing was known of this episode till June, when she was stopped in the River Plate by a British cruiser.²

Proceeding southward and keeping 100 miles from Ireland, *U.28* engaged the defensively armed *Phrygia*, and in spite of that vessel's claim to have sunk her appears to have been little injured by the encounter. It was *U.28* which attempted to torpedo the *Inkonka* without warning. By March 26 she was in her chosen area 100 miles WSW of Ushant, and in the course of the next few days sank five vessels,³ all foreign except the last, which was the British sailing vessel *Bengairn*.⁴ News of her operations were brought from time to time by the crews of the sunken ships, the first to arrive being that of the *Norne* at Gibraltar on April 1.⁵ After sinking the *Bengairn*, *U.28* proceeded for home and was next heard of in the North Sea, where on April 7 she reported her position. She entered List on April 10, having covered 5,000 miles.⁶

¹ B. 126 to 128.

² *Pestalozzi* papers titled X. 9279/16.

³ Norwegian s.s. *Norne*, March 26; Russian s.s. *Omsk*, March 28; French s.v. *St. Hubert*, March 30; Spanish s.s. *Vigo*, March 31; British s.v. *Bengairn*, April 1.

⁴ *Bengairn* papers, M. 03187, etc., titled *Board of Trade*, 6 April 1916.

⁵ H.S. 226, pp. 51, 133, 247, 276, 579, 1143.

⁶ Signals 2140/7 April, 0950/8 April, 1150/10 April, in I.D.H.S. Records.

On April 2 there arrived at Gibraltar the crew of the British collier transport *Rio Tiete*, carrying 4,000 tons of coal from Barry for Alexandria. Shortly after she sailed on the 26th efforts were made to intercept her by auxiliary patrol vessels;¹ but they did not find her and the arrival of her crew at Gibraltar in another steamer was the first news of her fate. She had been sunk by a submarine at 9.45 a.m., March 28, in 47.30 N, 8.25 W, at almost the same time and position as that of the destruction of the Russian s.s. *Omsk*. Like that ship she was most probably the victim of *U.28*.²

86. Westbound Traffic Suspended again, April 6.—The departure of these two submarines for Germany gave a short respite in the South-west Approach, although it was known from intercepted signals that *U.66* had left Germany on March 29 "for the north," followed on April 1 by *U.22* "to the west" and *U.73* for the Mediterranean. On the latter date three large transports with Canadian reinforcements left Halifax; the arrangement then made was for them to be met at a rendezvous in 51.15 N, 12.30 W, and to proceed thence independently to Liverpool, each escorted by one of the Devonport destroyers.³

Between the *Ashburton's* call for help on April 1 and midnight, April 4–5, no submarine was reported off Ireland or in the South-west Approach. The first part of the wireless A.B.M.V. warning to incoming ships made that night read "No recent reports of submarines off south coast of Ireland. Take all precautions, zigzag at high speed, show no unnecessary lights." This part was made *en clair*; it was followed in code by "At present best approach is on parallel of Fastnet, then hug south coast."⁴

Before the next midnight it was clear the submarine attack had begun again. At 10.20 p.m., April 5, a call for help came from the outward-bound British steamer *Zent*, sinking fast 28 miles S 54 W of the Fastnet. She had been struck by two torpedoes from some unseen assailant, and she sank in two minutes with considerable loss of life. The 11 survivors were saved by three sloops which hurried to the spot.⁵

There were four Devonport destroyers searching in the South-west Approach and also, it appears, two French destroyers hunting to the westward of Ushant. Unfortunately, at this juncture the British destroyers had to be recalled to provide escort for the Canadian convoy and they were no longer available to hunt the newly arrived submarine.⁶

¹ Appendix B. 103.

² *Rio Tiete* papers titled N. 478/16.

³ B. 106

⁴ H.S. 227, p. 9.

⁵ H.S. 227, pp. 231, 235, 449.

⁶ H.S. 226, p. 956; H.S. 227, p. 303.

Westbound shipping was again held up. Westbound vessels in channel ports were sent into Portland or Spithead to await the resumption of traffic, and of those in west coast ports only ships bound for Scapa or the North Atlantic were allowed to sail, passing through the North Channel.¹

But that also had to be closed, for it appeared that there was a submarine north of Ireland also, when at 1.50 p.m., April 6, the empty oiler *Vennachar*, bound for Key West, was torpedoed without warning 30 miles west of Skerryvore. Her escort of two armed trawlers had not prevented attack, though they may have helped to screen her on her passage into Lough Swilly which she reached under her own steam.² At 10.20 p.m. the Admiralty closed the North Channel to traffic.³

The Fastnet submarine seemed by this time to have moved to the Scillies. At 10.38 p.m., April 6, came in a report that she had sunk the French schooner *Binicaise* in that vicinity. The submarine warning issued from the Shipping Intelligence Office, Queenstown, that night recommended incoming ships to hug the Irish coast.⁴

Next afternoon the Dutch steamer *Rijndijk* came into the Scillies with the report that she had been mined 20 miles to the westward. It is more probable that she had been torpedoed without warning, since later in the day a trawler picked up the crew of the French sailing vessel *St. Marie* destroyed by gunfire a few hours after the attack on the *Rijndijk* and a few miles to the southward of it.⁵

Since the closing of the North Channel at 10.20 p.m., April 6, nearly two days passed without further reports of submarines threatening it. At 12.35 p.m., April 8, traffic was resumed through the North Channel from and to all British ports, except those in the English Channel.⁶ Five hours later it was learned that the empty collier *Adamton* from Scapa had been fired upon and sunk about midway between Barra Head and Skerryvore.⁷

Again the North Channel was closed, and two cruisers returned respectively to the Clyde and Belfast, which they had just left. The vessel in the Clyde was the *Motagua*, of the 10th Cruiser Squadron, and this was her second ineffectual attempt to get away from port. On Admiral Jellicoe's representation that both vessels were urgently required in their squadrons and could pass the threatened area by night, orders were sent to the Senior Naval Officers, Liverpool, Clyde and Larne that orders stopping traffic

¹ B. 145, 146.

² *Vennachar* papers titled *L. 273/16*.

³ B. 147, 148.

⁴ H.S. 227, pp. 507, 535, 919, 1287.

⁵ H.S. 227, pp. 691, 793, 856, 886, 918.

⁶ B. 150.

⁷ *Adamton* papers titled *Board of Trade*, 12 April 1916.

through the North Channel were not to apply to Grand Fleet vessels unless the Commander-in-Chief so requested.¹

87. **General Resumption of Sailings, April 11.**—Though there were no reports of submarines on April 9, the arrivals of several shipless crews on the 10th showed that the submarine in the South-west Approach had come still further south and had begun to operate in the mouth of the Channel. Three British steamers, comprising two empty colliers from France and an iron ore ship from Bilbao, had been sunk on the 9th and 10th as well as a Norwegian,² all about 20 to 30 miles north of Ushant; several neutral vessels had been stopped and released in the same small area. It appeared that the submarine had been near Ushant; for two days later the crew of the Spanish steamer *Santanderino* arrived in the Gironde with the information that their ship had been torpedoed without warning 10 miles west of Ushant at 3.20 a.m., April 8.

In the evening of April 10 the Italian steamship *Unione* was torpedoed about 30 miles south of the Scillies. Near her were the French destroyer *Claymore* and one of the Devonport armed yachts, which had been chasing the submarine all day.³ They did not succeed in establishing contact with the enemy boat; it seems that she had already shaped course for home and had torpedoed the *Unione* on the way. She reported herself early on the 16th when east of the Shetlands, claiming to have sunk seven steamers and two sailing vessels. Two days later she was in the Ems. From the call signs she used it was clear she was *U.66*.

The other submarine which had left "for the west" on April 1, *U.22*, was presumably that which had been operating off Skerryvore. Since the 8th she had given no sign of her presence, and the wireless A.B.M.V. message made late on April 10, gave as the latest intelligence that a submarine had been in the mouth of the English Channel that day and recommended incoming vessels as before to hug the South Irish coast.⁴

Westbound shipping had now been held up since April 6, and, apart from the injury to trade and the import and transport services resulting from the stoppage, there was serious congestion in the western ports. To relieve this, vessels were allowed to make voyages in the Irish Channel, and emptied colliers at Scapa proceeded as far as Stornoway to wait for the resumption of passages to Cardiff. That port was acutely congested, and on the 11th the Admiral at Queenstown was given discretion to sail vessels provided they kept close to the coasts of Wales and Ireland.⁵

¹ B. 156, 157, 160.

² *Eastern City* papers titled *Board of Trade*, 13 April 1916; *Glen Almond*, *Board of Trade*, 14 April 1916; *Margam Abbey*, *Board of Trade*, 20 April 1916; *Sjolyst*, H.S. 228, pp. 57, 317.

³ H.S. 228, pp. 198, 232.

⁴ B. 162.

⁵ B. 163.

Finally, at 1 p.m., April 11, all restrictions on sailing were removed, so long as vessels zigzagged in daylight and hugged the land as close as safe navigation permitted, passing inside the Smalls, the Scillies and Ushant.¹

88. Shipping on the Move, April 11 to 17.—The Admiralty were now convinced that the best chance of saving homeward-bound ships lay in making them hug the shore. Although the A.B.M.V. signal made nightly since March 31 recommended as the best course one close along the coast to the Tuskar they made special enquiries whether the signal was being satisfactorily obeyed; the response from both Queenstown and Falmouth was favourable; large numbers of ships were passing close to Ireland.² So far British vessels were making no attempt to disguise themselves as neutral ships, which now generally had their country's flag painted conspicuously on their sides.

At the moment no submarine was active on the west coast, but this condition was unlikely to last long, since *U.69* reported herself in the North Sea going north on April 5 and *U.67* left Germany on the 7th "for the north." A patrol trawler in Fair Island Channel chased a submarine at 2.15 a.m., April 13, for a short time, observing that before it submerged it had been steering south-west. This information the Admiralty passed to Admiral Bayly.³

Early on April 13 came the first intelligence of the operations of the submarines newly arrived on their station. A patrol trawler brought in the crew of the British barque *Inverlyon* sunk in the afternoon of the 11th, 108 miles west of the Fastnet. The submarine seemed to have attempted to disguise herself as an ordinary steamer with funnels and a bridge.⁴

The next shipping casualty was closer in, being only 45 miles south-west of the Fastnet. Here the British steamer *Chic* was sunk by a torpedo with the loss of nine lives including the master.⁵ The news of her loss was brought to shore by her crew and reached the Admiralty at 3.20 p.m., April 13.⁶ It did not result in the holding up of the traffic in view of the fact that the main stream of shipping was being diverted close along the shores of Ireland and inside Lundy and the Scillies.⁷ Moreover, the weather was so bad that destroyers sent out to meet and escort in the battleship *Albion* returning from the Mediterranean were driven back to take refuge in Devonport.⁸

¹ B. 164.

² H.S. 228, pp. 481, 494, 496, 500, 559.

³ Orkneys and Shetlands A.P. Reports, H.S. 434, p. 269; H.S. 228, pp. 726, 756.

⁴ H.S. 228, p. 737; *Inverlyon* papers titled L. 389/16.

⁵ Merchant Shipping (Losses).

⁶ H.S. 228, p. 966.

⁷ B. 166.

⁸ H.S. 228, p. 921.

The submarine which had sunk the *Chic* was apparently neither *U.67* nor *U.69*, but more probably *U.22*, which had left her thankless station off the North Channel and come down to the Fastnet. She did not stay there, but set about returning home. In Fair Island Channel she was fired on by an armed trawler without any noticeable result. When in the latitude of the Orkneys she made her report:—"Sank two English steamers and fired at one, this last an oil steamer escorted by patrol vessels. Advanced to Fastnet. Sea high. North Channel traffic almost entirely neutral ships. No warships sighted. Patrols weak everywhere."¹

The sinking of the *Inverlyon* had been witnessed by the master of a neutral vessel proceeding home northabout. When off St. Kilda, two days later, he was stopped and released by a large submarine of the same class as that which he had seen dealing with the *Inverlyon*. One of the two craft was probably *U.69* or *U.67*, the former being two or three days in advance of her colleague.²

This information did not reach us till late on the 14th, by which time it was impossible to tell where either of the two submarines had gone. The A.B.M.V. message made that night said "No reports of submarines off South Irish coast. . . ."³

89. The Queenstown Q-ships, April 15.⁴—In spite of the A.B.M.V. message quoted above, there was certainly one submarine making her way to the South-west Approach, where the patrols were keenly on the alert. Besides the auxiliary patrol and the 1st Sloop Flotilla, Admiral Bayly had now under his command four steamer Q-ships—the collier *Zylpha*, the *Vala* and the *Penshurst* which had only recently arrived from Scapa where they had been unsuccessfully cruising for some months, and the *Farnborough* already with one success to her credit.

The *Zylpha* cruised on the south and west coasts of Ireland. On April 5 she had been scrutinised at close range by a periscope but was not attacked, otherwise than possibly by a torpedo which missed; a sloop was in sight and the submarine did not come to the surface. It was probably *U.66*, which shortly afterwards sank the *Zent* in that vicinity and then proceeded to Ushant. On April 15 the *Zylpha* was crossing from the Fastnet to Falmouth.

The *Penshurst* had been under repair at Queenstown since her arrival on April 2 and the *Vala*, which was based at Milford, arrived on March 27 and underwent a thorough overhaul. This was complete on April 14 and she left next day to cruise in the approach to the English Channel.

¹ Signal 0600/18 April, in I.D.H.S. Records.

² Gayer attributes the *Inverlyon* to *U.73* on passage to Lisbon, which she mined on April 17.

³ H.S. 228, 1037, 1040.

⁴ Based on H.S. 646: *Queenstown Decoy Ships*.

The *Farnborough* left Milford on April 10 to cruise to the Scillies and as far south as 45 deg., whence she was to return to the Fastnet and back along the south coast of Ireland. Like Lieutenant-Commander J. K. McLeod of the *Zylpha*, Commander Gordon Campbell of the *Farnborough* had liberty to vary courses as might seem most likely to give good results in view of the signals as to movements of submarines. There was nothing in recent messages to give any clue to these; indeed, the latest A.B.M.V. message definitely stated that no submarines were reported off the south of Ireland. The only *U.* boat Commander Campbell could expect was the one which had passed Fair Island Channel on the 13th. In the hope of intercepting her he was steaming the *Farnborough* slowly north at 6.30 p.m., April 15, about 30 miles from the south-west corner of Ireland, and there he came upon her. She hoisted a signal and he sent off a boat with dummy "ship's papers," hoping the submarine would close near enough for his purpose. She fired a shot over him and, unfortunately, one number of his guns' crews opened fire also. Although this was a mistake Commander Campbell had now no alternative other than to order general fire. His guns, even under the disadvantage of a long range, apparently scored several hits, and when the enemy submerged two depth charges were dropped on her. They brought no oil to the surface; but on full consideration of Commander Campbell's report Admiral Bayly assessed the probability of destruction as 90 per cent. The skipper of a Dutch vessel only 500 yards from the submarine when she sank was of the same opinion.

This opinion was endorsed by the Admiralty, who on May 12 expressed their appreciation to Commander Campbell and awarded £1,000 to all on board the *Farnborough*, except commissioned officers of the Royal Navy.

90. **Sailings Suspended, April 17 to 19.**—Although the Admiralty had acted as though the *Farnborough's* second submarine was certainly destroyed, such was not the case, and a statement appeared in the German press to the effect that she had safely returned to port. It was *U.67* that had met the *Farnborough*. Her next encounter was with a more easy prey, the British sailing vessel *Cardonia*, which she stopped by gunfire and then torpedoed, in the forenoon of April 16, the position being about 20 miles south of the Fastnet. The crew of this vessel remarked that the officers of the submarine were very civil to them.¹

The news of the proximity of this enemy reached Queenstown in time for the A.B.M.V. warning to mention her presence and recommend the best course for incoming vessels to be close along the south coast of Ireland.²

¹ *Cardonia* papers titled *L. 269/16* and *Board of Trade*, 8 May 1916.

² H.S. 228, p. 1469.

Before noon on April 17 it was learned that two more vessels, both inward bound, had been sunk about 60 miles westward of the Scillies.¹ Again sailings out of the English Channel were suspended, as were also departures from western ports of ships whose route would take them into the South-west Approach; and to lessen still further the submarine's chance of finding prey the patrols were ordered to intercept and send in any vessels proceeding down the English Channel or southward across the Bristol Channel. Only vessels with defensive armament of a 12-pdr. gun or above or transports escorted by one or two trawlers were permitted to be at sea.² In the evening arrived the crews of two more vessels, the Norwegian steamer *Papeler* sunk on the 16th 100 miles to the westward of the Scillies and the Russian sailing vessel *Schwanden* sunk on the 15th about 30 miles to the north-westward of the Scillies. It appeared later that the British steamer *Fairport* from South America had been sunk within sight of the *Schwanden*.³ The *Fairport* had sighted a periscope and began zigzagging, whereupon the submarine fired a torpedo, and when that missed came to the surface and shelled the *Fairport* into submission.⁴

Two tank steamers were due to leave New York for London. They were given a route through a rendezvous in 49° N, 9° W, whence they were to steer for the Scillies and proceed up Channel, keeping close to the Lizard; and like other important vessels from America were to be met by Devonport destroyers and escorted into the Channel. A convoy of Canadian reinforcements which were to leave Halifax on the same date was ordered to a rendezvous in 55° N, 13° W, where Devonport destroyers would meet it to escort each ship separately into Liverpool.⁵ Like vessels bound inwards for the Irish Sea or English Channel, those making Liverpool were to hug the shore as closely as safe navigation would permit.⁶

Neither the tank steamers nor the troop transports would arrive for a week. Meanwhile, there was a lull in the receipt of intelligence of submarine operations and at 7.35 p.m. sailings outwards from western ports were resumed.⁷

91. **"U.67" and "U.69" return Home.**—Ships had recommenced sailings only a short time when the crew of another destroyed British vessel were brought in to Falmouth by a Dutch steamer. The barque *Ravenhill*, homeward bound from the Cape,

¹ B. 170, 171. Norwegian sailing vessel *Glendoon*, Iquique for Calais, and British s.s. *Harroviun*, New York for Havre, papers titled *Board of Trade*, 20 April 1916.

² B. 172 to 174.

³ H.S. 229, pp. 195, 196; Papers titled *Board of Trade*, 20 April 1916.

⁴ *Fairport* papers titled *Board of Trade*, 19 April 1916.

⁵ H.S. 229, pp. 521, 616.

⁶ B. 177.

⁷ B. 176.

was stopped and sunk about 72 miles north-west of the Scillies by a submarine marked *U.21* at 3 p.m. on the 18th. The crew had to wait in their boat till 11 p.m. next day before being rescued by a passing Dutch steamer which landed them next morning at Falmouth. They reported that a steamer near them had been attacked shortly afterwards;¹ but it is not known what vessel this was.

The next news of a ship sunk by submarine was of the British steamer *Cairngowan*. A torpedo was fired at her without warning; it missed her and she was then sunk by gunfire shortly after 7 a.m. on the 20th.² While she was still on her beam ends the sloop *Zinnia* came up and engaged the submarine, forcing it to submerge. The sloop then steamed over it and dropped two depth charges, though with no noticeable effect.³

It would seem that both the *Ravenhill* and *Cairngowan* were sunk by *U.69*, the latter as she passed the south-west corner of Ireland on her way home. On April 25 that submarine reported having destroyed four steamers and four sailing vessels;⁴ these are considered to be the British steamers *Fairport*, *Harrovian*, *Cairngowan* and the Norwegian steamer *Papelera*; the sailing vessels to be the British *Ravenhill*, the Russian *Schwanden*, the Norwegian *Glendoon* and one other not certain.

U.67 remained four more days. After sinking the *Cardonia* she appears to have crossed the South-west Approach, and on the 19th, about 30 miles to the southward of Ushant, attacked the defensively armed steamer *Sydney Reid* which eventually drove her off. Her next exploit, which for a long time did not come to light, was the destruction of the British steamer *Whitgift* with all her crew except one survivor, a Japanese quartermaster, whom she took prisoner and carried back to Germany.⁵

She now shaped course for home. In the evening of the 21st she was engaged by two armed trawlers, and escaping them sank the French sailing vessel *Chanaral* next morning. Before she finally left the South-west Approach she had a duel with the defensively armed British steamer *Norman Prince*, 100 miles west of the Scillies on the 22nd, and as with the *Sydney Reid* retired without sinking her.⁶ The submarine reached home on April 30.

The proceedings of *U.67* are of particular interest because, in addition to her own commander, she carried Captain Bauer, who was in charge of the submarine service. He had come to see for himself the conditions of the submarine war on commerce

¹ *Ravenhill* papers titled *Board of Trade*, 25 April 1916; and H.S. 229, p. 697.

² H.S. 229, pp. 766, 774.

³ *Cairngowan* papers titled *Board of Trade*, 20 April 1916.

⁴ Signal 1700/25 April, in I.D.H.S. Records.

⁵ It was a postcard in broken English from this Japanese, received by the owners on June 28, that revealed the fate of the *Whitgift*.

⁶ H.S. 229, pp. 1121, 1151, 1153.

in the South-west Approach,¹ and he was perhaps fortunate in his choice of a boat, since in the course of his cruise he had experience of an engagement with a Q-ship, two fights with defensively armed vessels, a chase by trawlers, and that peculiarly German operation, the sinking of a defenceless merchant vessel "without trace."

92. **Continuation of the Attack, end of April.**—We did not know at the time that all these operations were part of the cruise of one submarine, since intercepted signals gave the intelligence that several boats could be expected on the west coast. On April 11 *U.46* proceeded out "to the north," but she was recalled the same day to be kept in readiness for duty in the event of an expected British attack on the Bight. On the 15th *U.19* proceeded for the west of Ireland on some "special task"; an old boat, she had not yet made so long a journey and had to embark special equipment. On April 20, *U.45* left the Ems "to the north." Thus *U.19* and *U.45* could soon be expected off the west coast.

It was not till April 22 that news of either of these was received in the usual form of the arrival of a shipless crew, picked up by one of the Queenstown sloops. They had belonged to the undefended British steamer *Feliciana*, outward bound in ballast from Swansea for the United States, and torpedoed without warning by an unseen submarine on the 21st about 70 miles west of the Fastnet.²

There had been reports during the day of submarines sighted in the mouth of the Channel and off Trevoze Head; and finally, at 8.55 p.m., all vessels at Cardiff were retained in harbour, an order modified a few hours later by permission to the Transport Officer at Cardiff that he might sail vessels on the morning tide if no more submarines were reported near the Bristol Channel.³

Following on the news of the destruction of the *Feliciana* came at 8 a.m. on the 23rd that of an Italian steamer, the *Joszef Agost Foherczeg*, sunk 140 miles west of Scilly; and at 10.30 a call for help came from the British steamer *Parisiana* 80 miles WSW of Ushant.⁴ She was on passage from London for America and was sunk before help came.⁵

Before noon orders had gone out suspending all sailings out of the English Channel and from western ports towards the southward, though as before the prohibition did not apply to defensively armed merchant vessels, which, it was probably supposed, could give a good account of themselves.⁶

¹ Gayer.

² H.S. 229, p. 1197; Papers titled *Board of Trade*, 4 May and 5 May 1916.

³ H.S. 229, pp. 1125, 1144, 1262; H.S. 230, p. 11; B. 179.

⁴ B. 180; H.S. 230, pp. 35, 74.

⁵ *Parisiana* papers titled *Cap. T. 24/16*.

⁶ B. 181.

In the course of the 23rd it was learned that the inward bound British steamer *Ross* had been sunk in 48.57 N, 8.5 W, more than 100 miles to westward of Ushant, in the evening of the 22nd.¹ The 24th brought news of another sinking, the *Ribston*, an unarmed collier from Cardiff bound for the Mediterranean. She had orders to pass close to the Scillies and Ushant and then make for 43 N, 12.10 W; but her master seems to have attempted to cut a corner and was near the *Parisiana* when she was attacked.²

By noon of the 25th nearly 30 hours had passed since the receipt of the last news of submarines and that itself referred to the sinking of the *Ribston* at 9 a.m. on the 23rd. At 1.10 p.m., therefore, sailings were resumed out through the South-west Approach.³

In view of the large number of addressees in the case of these general telegrams suspending or resuming sailings, and the necessity of letting each one know who else had been informed, a system was introduced on April 21 whereby each Senior Naval Officer or authority concerned was given a distinguishing number, which materially shortened references in the telegrams. There were 72 in all, numbered consecutively from Harwich southward round England, Lowestoft being Number 62; the remaining ten numbers were allotted to Ireland. The new system was promulgated on April 21 as Confidential Interim Order No. 595; and this telegram of April 25 was the first to use the new numbers. It went to Senior Naval Officers and Naval Authorities from London to Glasgow, i.e., Nos. 3 to 39, and to the ten Irish Senior Naval Officers Nos. 63 to 72. It reopened the South-west Approach, which had been closed for more than two days.

The submarine which had caused this hold-up of the traffic was *U.19*, which on April 30 when crossing the Skagerrak reported that she had carried out her "special task" on April 21 and had afterwards sunk five steamers and one sailing vessel. These are considered to be the *Feliciana*, *Joszef Agost Foherczeg*, *Ross*, *Parisiana*, *Ribston* and a Norwegian sailing vessel, the *Carmanian*, sunk on the 25th as she was passing wide of the south-west corner of Ireland on her way home. The crew of this unfortunate neutral vessel journeyed 80 miles in their boat before reaching the shore of Ireland.⁴

93. End of the Second Submarine Campaign.—In actual fact, though *U.19* was not aware of it, the submarine campaign in the South-west Approach had come to an end. As before, the zeal of the submarine commanders had put their own Government into a situation so awkward that the only escape from it was to put a stop to their activity. Once again, the United States

¹ H.S. 230, p. 182.

² *Ribston* papers titled *Cap. T. 24/16*.

³ B. 184.

⁴ H.S. 230, p. 1078.

Government had protested against unwarrantable treatment by submarine commanders of the citizens of those States, not in the South-west Approach as in the case of the *Lusitania*, but in the North Sea. It was one of the *U.B.* boats that was the culprit this time; but the effect was the same. The German Government, bending before the threatening attitude of President Wilson, decreed that future submarine warfare was to be on the same lines as cruiser warfare, and that no ships were to be destroyed without examination and proper steps for the safety of their crews. This instruction, when communicated to Admiral Scheer, Commander-in-Chief of the High Sea Fleet, seemed to him impossible to fulfil, "As war waged according to Prize Law," he writes in his book,¹ "by *U.* boats in the waters around England could not possibly have any success, but, on the contrary, must expose the boats to the greatest dangers, I recalled all the *U.* boats by wireless, and announced that the *U.* boat campaign against British commerce had ceased." The wireless signal made on April 25 recalled all *U.* boats from the west coast and enjoined on them that they must carry on war against merchant vessels only in accordance with the Prize Law.²

On that date, April 25, there were three submarines at sea, *U.19* already on the way home, *U.45* which had left on the 20th and was now nearing the Irish coast, and *U.20* one day out from Germany. Not one of these three boats took in the order to return.³

On April 28, therefore, news of another submarine attack came in. It was an American liner which sent the message; she had picked up the crew of the tug *Industry*, outward bound for the United States, but destroyed by a submarine 120 miles west of the Fastnet at 6 a.m. the previous day.⁴ A new A.B.M.V. message was at once sent out warning incoming shipping of the position of the submarine.⁵

Nothing more was heard of the enemy till the morning of the 29th, when the 2nd Flotilla destroyer *Larne*, returning from escort duty to Devonport, reported having fired on her at long range the previous evening in 49.27 N, 10° W. An hour later a Danish steamer reported to the patrols that a submarine had stopped her a few hours before and some 30 miles to the north-west of the *Larne's* encounter.⁶ The Admiralty once more suspended all sailings out of the Channel and southward out of the Irish Sea,⁷ a step which was now practically a matter of routine when a submarine was known to be in the South-west Approach.

¹ *Germany's High Sea Fleet in the World War* (English translation, Cassell, London, 1920, p. 242).

² "Alle 'U' Boote, entschliesslich West-küste, Heimat zurückkehren; Handelskrieg führen nur nach Prisenordnung" (Gayer, III, p. 54).

³ It does not appear to have been signalled from Norddeich—at least we intercepted no such message.

⁴ H.S. 231, p. 383, and papers titled *Board of Trade*, 23 May 1916.

⁵ H.S. 231, p. 371.

⁶ B. 186; H.S. 231, p. 741.

⁷ B. 187.

The enemy seemed to be crossing towards the Bay of Biscay. The next news of her was a call for help at 6 p.m., April 29, from the *Sussex*, a British steamer, about 90 miles west of Ushant; a second message from her half an hour later implied that she had escaped.¹ Her escape was due to a fine exhibition of "bluff" by her master, Mr. Douglas Bayley. His ship was fitted with a gun platform, but the gun had been dismantled before he left London for New York. She was returning for Havre with a most valuable cargo. When the submarine opened fire, Mr. Bayley ran up the ensign and manned his empty platform as if he had a gun; this bold manoeuvre apparently frightened the submarine, for it submerged and disappeared. The Admiralty informed him that his conduct merited "high commendation."²

Since by the evening of May 2 no further reports of this submarine were received, sailings were once more resumed at 7.45 p.m.³ after being held up for 54 hours. It seemed, however, that the danger was not yet over. At that actual moment a Japanese steamer was being chased by a submarine 130 miles to the south-westward of Ushant. Her S.O.S. call reached the Admiralty at 9.50 p.m.⁴ and at midnight they once more suspended sailings to the westward. Incoming steamers for Liverpool and the Bristol Channel were being diverted to pass north of Ireland by the A.B.M.V. message.⁵ Shipping was held up for only 12 hours. At 12.45 p.m., May 3, it was again released; and though further submarine attacks took place, the intelligence arrived in general so late that it did not result in any particular action.

94. "U.20" the last Submarine to Operate in the Second Campaign.—U.45 had arrived in the South-west Approach and sunk the *Industry* by April 27. It was she probably which engaged the *Larne* and chased the *Sussex*. On April 30 she torpedoed without warning the Spanish steamer *Vinifreda*, 120 miles WSW of Ushant, and on May 1 she destroyed by gunfire a British sailing vessel, the *Maud*.⁶ A few hours after sinking the *Maud* 50 miles south-west of Ushant, U.45 was engaged by the French armed trawler *Halicor*, emerging undamaged. Her next encounter, on May 2, was with the British defensively armed steamer *Port Augusta*, which drove her off; and after torpedoing the French sailing vessel *Le Pilier* she left the area west of Ushant and proceeded for home, reaching the Ems on May 10.

U.20 remained several days later. She arrived in the South-west Approach at the end of April, her first victim being the French sailing vessel *Bernadetti*, sunk by her on May 1 in 49° N, 11° W, that is 160 miles SSW of the Fastnet, the nearest

¹ H.S. 231, pp. 952, 990.

² *Sussex* papers titled *Foreign Office*, 8 May 1916.

³ B. 189.

⁴ H.S. 232, pp. 575, 595, 1107; H.S. 233, p. 26.

⁵ B. 190.

⁶ H.S. 232, pp. 634, 744.

land.¹ The next vessel she attacked was a British steamer, the *Clan Macfadyen*, which first sighted her 50 yards on the port beam. U.20 fired and hit the ship, which immediately turned her stern. She had a gun there, and for 35 minutes the *Clan Macfadyen's* gunners engaged the submarine in the dim light of the early dawn. At the tenth round from the steamer's gun the submarine dived. Though it was thought she was hit, she later overtook the *Clan Macfadyen* and tried, but failed, to blow her up with a torpedo.²

In the afternoon of May 2 U.20 met the British steamer *Ruabon* bringing iron ore from Spain. She fired on the *Ruabon* till she had been abandoned and then torpedoed her, steaming away without speaking to any of the crew.³ Later in the day she chased but failed to stop the Japanese steamer whose S.O.S. signal had caused westbound shipping to be held up.

That night U.20 sent a wireless message, the first signal made by a German submarine in the South-west Approach. It merely stated her position, 47° N, 7.20 W, and that the weather was fine in the Bay of Biscay.⁴

Close to this position she next morning stopped and released a Greek steamer and had a duel with the *Clan Lindsay* of the same line as the *Clan Macfadyen* and like her armed for self-defence. She also escaped, after what seemed a half-hearted attack on the part of U.20.⁵ Still in much the same position U.20 sank another French sailing vessel, the *Marie Molinos*, at 3 p.m., May 3.

During the next two days she seemed to find no vessels either to accost or sink. But on the 6th she destroyed the British sailing vessel *Galgate*, 150 miles due west of Ushant, and on the 7th stopped a Russian sailing vessel, *Marlborough Hill*, the same distance west of the Scillies. The boats of this vessel capsized as they were being lowered and the submarine commander, seeing the crew had no means of escape from drowning, spared the ship and passed on.

Towards the crew and passengers of the next vessel he met he showed less humanity. It was the White Star Line *Cymric* from New York for Liverpool, with a crew of 112 and 6 passengers. This vessel he torpedoed without warning at 1.10 p.m., May 8; he then departed without allowing any sign of the submarine to appear. The *Cymric* did not sink at once. She was abandoned; but after a couple of hours, seeing that she was still afloat, her master went back with a wireless operator, who repaired the damaged wireless and sent out a call for help. Although the position was 138 miles west of the Fastnet,⁶ one of the Queenstown

¹ H.S. 233, p. 741.

² *Clan Macfadyen* papers titled *Board of Trade*, 29 May 1916.

³ *Ruabon* papers titled *Board of Trade*, 19 May 1916.

⁴ Signal 0300/3 May, in I.D.H.S. Records.

⁵ H.S. 233, pp. 207, 728.

⁶ The A.B.M.V. message of May 7 no longer directed Liverpool bound ships to the North Channel.

sloops was on the spot in five hours, followed by three others. Together they rescued all but four killed in the explosion and one drowned.¹

From here *U.20* proceeded steadily home. Her diving rudder was out of order and she had cut short her cruise on that account. She was back in the *Ems* on May 14. Her arrival concluded the Second Submarine Campaign against merchant vessels.

A noticeable feature of this Second Campaign was the fact that the submarines in the South-west Approach almost always operated out of reach of the auxiliary patrols. The trawlers were rarely more than 40 miles from shore and even the sloops, in Admiral Bayly's opinion, could afford no protection further to the westward than $11^{\circ} 30'$, that is, 80 miles west of the Fastnet.²

Yet in the Hoofden, where submarines could not get beyond the radius of action of the patrols, the *U.B.* and *U.C.* boats had shown no less activity than the *U.* boats in the two months of the campaign.

95. The First Sinn Fein Rebellion, April 1916.—The patrol against submarines in the South-west Approach had been hampered to some extent towards the end of April by the unsettled condition of Ireland. Our Secret Service agents for some time had been reporting plots and conspiracies; and it had been expected that on or near St. Patrick's Day, March 17, an attempt would be made to land arms and ammunition. Although the patrols at that time were specially on the alert no evidence was discovered that such a landing had taken place. The state of unrest, however, continued to become more grave, as was shown by a Sinn Fein leaflet found at the end of March.³ Intercepted signals on April 8 gave us the information that *U.19* was to be employed on a special task of extreme urgency on the west coast of Ireland, the probable date of her departure being about April 12.⁴ On the 16th the Admiralty ordered the Commander-in-Chief to send a light cruiser and four destroyers to be temporarily under Admiral Bayly for the purpose of assisting him to deal with an outbreak of the Sinn Fein party expected near Limerick about Easter Eve (April 22). The submarine was expected to be about to assist the rebels either by smuggling arms or assisting some vessel to do so.⁵

The first sign of any maritime activity in connection with the anticipated outbreak was the appearance of a small steamer in Brandon Bay moving about in a suspicious manner. She was boarded by an armed trawler who found her to be a Norwegian named *Aud*, from Christiania for Cardiff, and her papers were apparently correct. After being released by the trawler she still

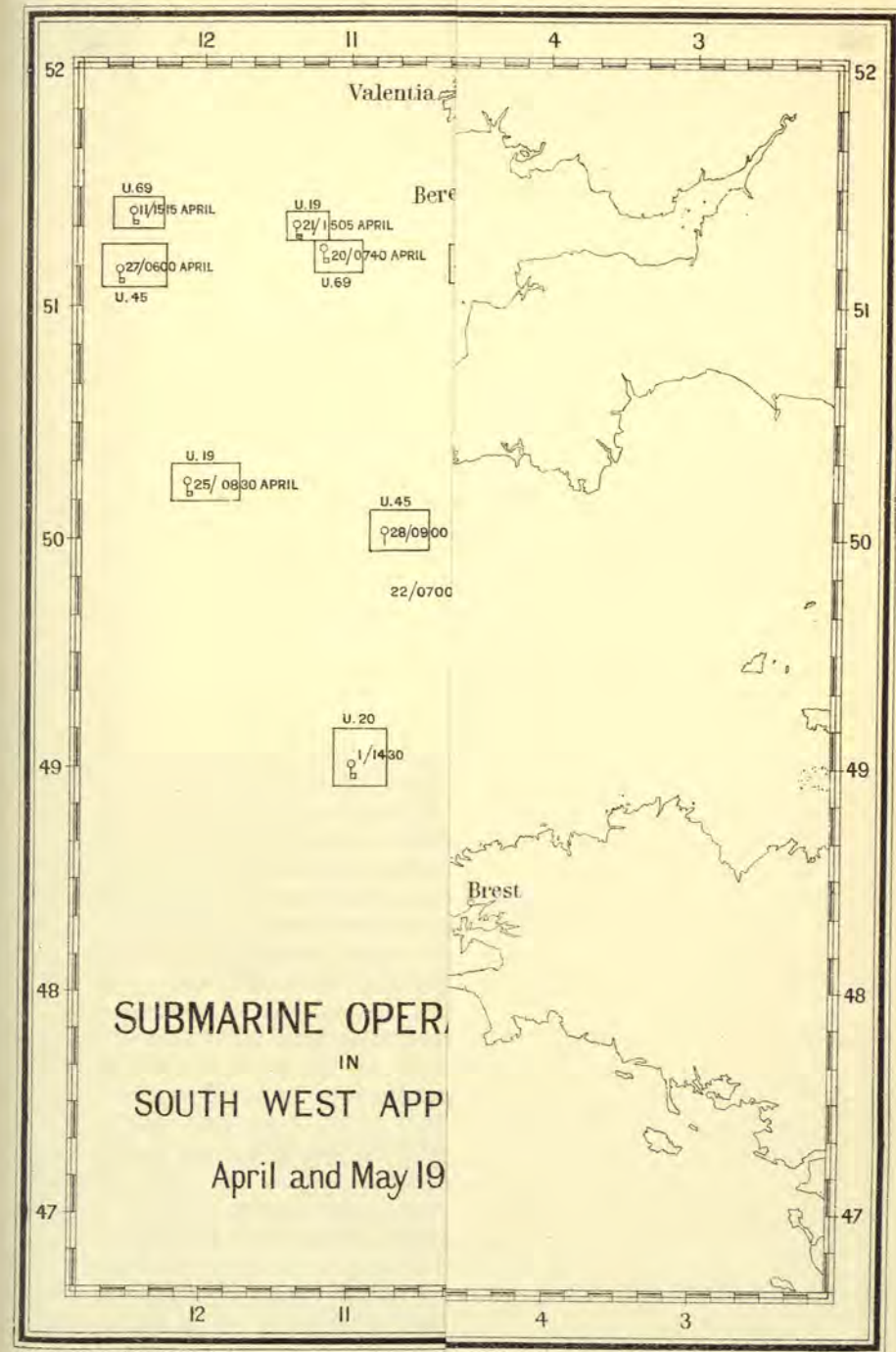
¹ *Cymric* papers titled *L. 482/16* and *Board of Trade*, 12 May 1916.

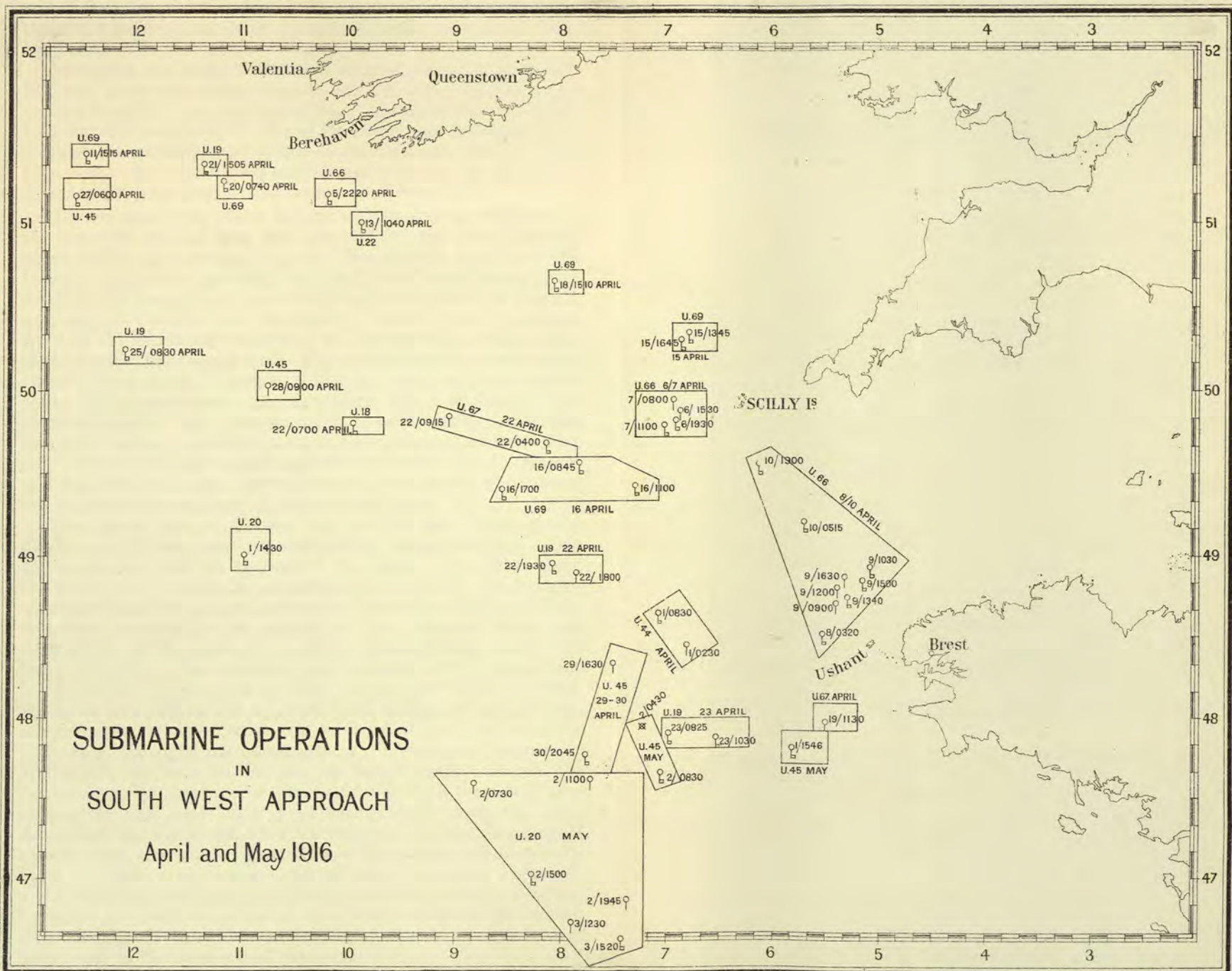
² Queenstown A.P. Reports, H.S. 453, p. 444.

³ M. 40722/16.

⁴ Signals 1102 and 1340, April 8, in I.D.H.S. Records.

⁵ H.S. 228, p. 1363.





continued moving about in a curious manner, and on the 21st was chased by two trawlers. She made no attempt to follow the signal to stop, and could be seen throwing part of her cargo overboard.

Meantime, the police had found an empty boat in Ballyhuge Bay with some ammunition close by it. Three men had been seen to land from the boat, and one of these resembled the description held by the police of Sir Roger Casement, an Irishman, who, resident in Germany, was known to be in touch with the Sinn Fein party. He was arrested but refused to answer any questions; it transpired later that he had been landed from *U.19*.

The steamer *Aud*, which had refused to stop in obedience to the trawlers' orders, was soon arrested by the sloop *Bluebell*, called up by the trawlers' signals. The weather was too rough to put a prize crew on board, but the *Bluebell* took charge of the steamer and escorted her towards Queenstown, where it was the intention to examine her thoroughly. Shortly after midnight, April 21-22, two destroyers joined up, but they left again as soon as the Fastnet had been passed. The *Bluebell* and the *Aud* reached Daunts Rock Light Vessel at 9.25 a.m., and the sloop altered course for Queenstown. At this point the *Aud* hoisted two German ensigns. Her crew was seen to be hurriedly scrambling into their boats; a puff of brown smoke appeared over the after part of the ship, and a small explosion occurred. In 11 minutes the *Aud* had sunk, the *Bluebell* rescuing her crew,¹ who turned out to be officers and men of the German Navy.

The naval base at Galway was in the very heart of the disaffected district, and Admiral Bayly despatched the sloop *Laburnum* on April 25 to protect the base. On arrival there at 10.30 a.m., April 26, Lieutenant-Commander Hallwright, commanding officer of the *Laburnum*, found that the naval base had been isolated by the cutting of the telegraph wires and destruction of the railway; a motor reconnoitring party had been attacked. He therefore went ashore with a signalman to obtain an Ordnance Survey Map of the surrounding country. While he was still ashore a report came in that the rebels were advancing on the naval base. He returned at once on board the *Laburnum*, leaving his signalman ashore. Lieutenant-Commander Hallwright, as soon as he was on board again, ordered the *Laburnum* to fire, first in the direction from which the rebels were advancing, and later on a road easily visible from the ship. Altogether the *Laburnum* fired ten rounds; the first two seemed enough, and the police reported that the rebels had dispersed. Since a night attack was expected, the *Laburnum* anchored, and Lieutenant-Commander Hallwright arranged a series of signals by which he could be informed from which direction the attack was coming. Nothing further in the nature of an attack took place, and in the morning all was quiet.²

¹ *Bluebell's* Report, M. 03782/16.

² *Laburnum's* Report, M. 04066/16.

Diving operations carried out on the wreck of the *Aud* revealed that her cargo consisted principally of rifles and ammunition of three different patterns. Since we had no suitable ammunition for the rifles it was not considered worth while salvaging them, and after June the wreck was left alone.¹

In view of the circumstances on the coast of Ireland, Admiral Bayly asked on the 23rd that two of the Grand Fleet destroyers might remain temporarily with him. Although the Admiralty agreed to this the Commander-in-Chief asked for them to return to Scapa, since his destroyer force had recently suffered some casualties;² but a development occurred which caused them to be retained by Admiral Bayly.

A move of troops from Dublin to Holyhead had been in progress, guarded as usual by the auxiliary patrol vessels of Kingstown and Holyhead areas, but on April 24 an armed party of rebels seized Dublin General Post Office, and the trouble seemed even worse than on the west coast of Ireland. Two infantry brigades embarked at Liverpool for Kingstown, and were escorted across by four destroyers. Admiral Bayly was ordered to cover the landing, and sent the *Adventure*, which arrived on the 25th. The actual passage of the troops was covered by the Liverpool destroyers *Dee* and *Dove* and the three Grand Fleet destroyers *Onslow*, *Nicator* and *Ossory*. The first two transports from Liverpool reached Dublin on the 26th, the day after an Irish Republic had been declared.

The declaration caused a serious turn of affairs at Galway, and Admiral Bayly asked that a battalion of marines that were in readiness to embark at Liverpool should be sent to him, his intention being to distribute them as guards to the various war signal stations in the disaffected areas. The battleship *Albion*, lately returned from the Mediterranean and about to refit at Plymouth, was hurriedly got ready and sent across to Queenstown. The situation at Galway was such that at 11.20 p.m. on the 26th the *Gloucester* proceeded with 100 Munster Fusiliers for Galway. Two days later the *Laburnum* escorted a transport there, and on the 30th the *Snowdrop* escorted another transport to Galway. On that day, April 30, several of the sloops were engaged in conveying troops, the *Iris* to Sybil Head, the *Primrose* to Fenit, and the *Bluebell* to Cahirmore war signal station. Twelve Falmouth drifters and six from Larne were sent to Galway to run mine nets and protect ships there from submarines. Besides taking troops westward to Galway, the Queenstown sloop *Iris* conveyed marines to Kingstown, while another sloop and various destroyers were occupied in carrying mails, since the communications in many places had been wrecked by the rebels.

The Milford drifters were now maintaining an E.C. mine net barrage across St. George's Channel. This was in place except

¹ M. 05622/16.

² H.S. 230, pp. 221, 272.

on April 24, when the gale was too strong for them. This helped to reduce the danger that submarines might attack our forces at Kingstown.

The Sinn Fein movement on this occasion failed to gain ground, and in the evening of the 29th all further transport of troops to Ireland was stopped. The next day it was reported that the Galway rebels had dispersed. Some trouble was expected on May 6 when arms in the hands of civilians were requisitioned. On that date there were at Galway the *Gloucester*, two sloops, one trawler unit, 18 drifters and a company of Royal Marines. As it happened, no special trouble was experienced, and on May 10 the *Gloucester* left for Rosyth, having been off Galway for a fortnight. The marines were sent back to Pembroke, only sufficient being retained for guards at Queenstown and Galway naval base. The net drifters were also sent back to their own ports.

Affairs at Dublin seem to have quieted down earlier. The Grand Fleet destroyers proceeded for the north on May 2 and the *Adventure* for Queenstown next day. By May 10 the General Officer Commanding in Ireland telegraphed that he now considered Galway safe, and the first Sinn Fein rebellion thus came to an end.¹

The naval interest of the movement lies in the fact that for the last week in April and the first week in May, many of the sloops and some part of the auxiliary patrol were mainly engaged in dealing with the situation ashore or in searching the coast for vessels which might be about to land arms. They were thus not available for dealing with the submarines which, apparently uninterested in what was going on ashore, carried out their operations at a considerable distance from land. It would seem that the only interest taken by Germany in this first Sinn Fein rebellion was the landing of Sir Roger Casement and the fitting out and despatch of a cargo of arms and ammunition. Both of these pieces of assistance miscarried owing, apparently, to badly synchronised arrangements; Sir Roger Casement was captured and, later, executed, while the arms and ammunition were left to rust at the bottom of the sea outside Queenstown harbour.

¹ Papers titled L. 873/16, containing Admiral Bayly's letters on the Sinn Fein rising.

CHAPTER VIII.

WORK OF THE FLANDERS FLOTILLA IN THE
SECOND SUBMARINE CAMPAIGN.

96. **Operations on the Transport Routes to France.**—The order to recommence submarine attacks seems to have been anticipated by the Flanders command and came to fruition a week earlier than with the High Sea Fleet boats. The second campaign was inaugurated by *U.B.2* in torpedoing without warning a vessel in the North Sea on February 21. So thoroughly did she carry out the underlying idea of the new campaign that no survivor of the vessel, the *Arbonne*, remained.¹ The attack was continued by a raid on Lowestoft smacks and by operations by Lieutenant Steinbrinck off Havre on February 26.²

Two more boats of the new more powerful "B.II" class arrived in Flanders early in March, *U.B.19* on the 1st and *U.B.29*, Lieutenant Pustkuchen, on the 8th. These improved *U.B.* boats went out after more important vessels than fishing smacks. On March 7 *U.B.18* and *19* proceeded for the transport routes to France, *U.B.18* taking the French end of the lines while *U.B.19* remained on the English coast. The latter had no success; but Lieutenant Steinbrinck in *U.B.18* when off Boulogne on the night of March 7 observed a vessel at anchor and torpedoed it. This was the British steamer *Harmatris* containing a very valuable cargo of shells. It was thought at first she had been mined and the port of Boulogne was closed for a few hours until it was realised she had been torpedoed.³

The *Harmatris* was the first munition transport in Home Waters to be sunk by a torpedo. She had brought shells and shell cases from Canada; and arriving at Boulogne on the 7th anchored there a quarter of a mile from the end of the breakwater. She had been at anchor there for 9½ hours waiting for the tide when the attention of Lieutenant Steinbrinck was drawn to her. A quarter of an hour after he torpedoed her, she sank; though efforts were made to raise her they failed, and after a month she was given up as a total loss.⁴

Going on towards Havre, Lieutenant Steinbrinck torpedoed the French steamer *Louisane* and the Norwegian sailing ship *Silius* at anchor outside that port at 10 p.m. on the 9th. Havre was at once closed to outbound vessels. Since the protection of

¹ Gayer, III, 41.

² See Section 56.

³ H.S. 218, pp. 537, 545, 562, 607, 616; Papers titled X. 9466/16.

⁴ M. 39278/16 in Transport Papers T. 13142/16.

ships at anchor off Havre was only what could be afforded by destroyers and boarding vessels, the Ministry of Marine asked for nets for a net patrol. The port was reopened in the evening; but to reduce the number of vessels waiting at anchor to enter the harbour all ships coming from the westward for Havre were sent to wait at Cherbourg or Spithead.¹

The appearance of submarines off Havre was one more piece of evidence that the Dover Straits barrage was ineffective, and an effort was made to render it more dangerous by a series of new minefields. The first was laid on March 10 by the *Paris* about 16 miles NW by W from Ostend; she laid 120 mines 4 ft. below low water ordinary springs, following this up two days later by a similar field 15 miles W by N from Ostend. A third field was laid on March 23 between the South Falls Bank and the West Hinder Bank by the *Orvioto*. This was a larger field—600 mines 120 ft. apart at a depth of 12 ft. below low water springs. No attempt was made by the enemy to interfere with the laying of these three fields, which was carried out with the usual secrecy.²

97. **Havre Closed, March 23 to 25 and April 2 to 4.**—The minefields seemed to make little difference to the activity of the Flanders boats. Indeed, on the night of March 22–23 *U.B.18* was again off Havre. Shortly before midnight the British steamer *Kelvinbank* with bullocks from South America and waiting in Havre Roads was struck by two torpedoes; half an hour later the Norwegian steamer *Kannik* from New York was also torpedoed. Their crews, like those of the five vessels on patrol, neither saw nor heard anything except the explosions.³ The first intimation to the Admiralty of the presence of a submarine at this vital spot was a warning in French issued from Havre wireless station, taken in at 12.47 a.m. In the course of an hour all sailings for Seine ports had been stopped, and those transports which had already left Spithead were recalled to Portsmouth.⁴ Havre and Rouen were closed to transport traffic, and remained closed till 8.9 p.m. on the 25th, that is for two whole nights.⁵

A submarine having twice torpedoed vessels in Havre Roads and the Ministry of Marine having asked for nets, the Admiralty now ordered 20 drifters with nets to be sent to Havre, half from Falmouth and half from Poole, to act under the instructions of the French Admiral.⁶ They were the first British vessels to operate in French territorial waters for the defence of French interests. It was speedily found that their nets were too deep and steps were taken to shorten these; for supplies, repairs and discipline they were put under the Divisional Naval Transport Officer, Havre.

¹ H.S. 218, pp. 957, 961, 1062, 1103, 1136, 1147.

² Lockhart Leith: *History of British Minefields*.

³ H.S. 220, pp. 1058, 1233.

⁴ H.S. 220, pp. 1059, 1060.

⁵ B. 72, 73, 76, 77, 92.

⁶ B. 78 to 80; Papers titled A. 2002/16.

At the same time the idea of erecting a submarine-proof boom at Havre began to take shape.¹

The Dover barrage seemed ineffective to keep out submarines ; they evidently passed through and on April 1 one was caught in a net maintained by drifters near the Varne. Though a sweep was exploded over her, she seems to have escaped, for in the afternoon of April 2 Havre was again closed on account of a submarine sighted under Cap de la Hève and remained closed till the morning of the 3rd.² Scarcely had the port been declared open than a periscope was seen outside, and once more departures were prohibited. There were waiting at Southampton and Newhaven eight transports with troops and seven with ammunition, food supplies and stores, while at Avonmouth was another with mechanical transport ; but they were not allowed to leave that night. At noon, April 4, Havre was reopened.³

In the afternoon of April 4 mines were discovered outside Calais and the port was closed till the following afternoon. Havre also was closed, on account of a submarine sighted, throughout the daylight hours of the 5th. It was opened in time to receive the 11 transports due to cross that night.⁴ In the interval the Havre drifter flotilla had scored a great success, the first against the new large *U.B.* boats.

98. Destruction of a "U.B." Boat by the Havre Drifter Flotilla, 5 April 1916.—The presence of the submarine which had caused the closure of Havre was reported to Lieutenant J. McLoughlin, R.N.R., senior officer of the Havre drifter flotilla, at 4.45 a.m. He immediately ordered the six net drifters *Endurance*, *Welcome Star*, *Stately*, *Comrades*, *Pleiades*, *Pleasant* to sea as soon as the tide served and they left at 7.40 a.m. Before long the *Endurance* found a submarine in her nets ; in struggling to get free it smashed her rudder with its periscope and became so entangled in her nets that she had to let them go altogether, being herself unmanageable without a rudder. The other drifters shot their nets round the netted submarine, whose wild plunges were reproduced in the movements of the indicating buoy, and finally the French torpedo boat *Le Trombe* dropped three bombs over the enemy. This was sufficient. The submarine came to the surface and surrendered, her crew being saved by the various boats round. French trawlers then came up and took the submarine in tow, but it sank off Cap de la Hève.⁵

The boat was *U.B.*26, one of the newest of the Flanders boats, commanded by Lieutenant Smiths, who with his whole crew was taken prisoner. From his log, which was subsequently salvaged, it appeared that he had been cruising off Havre since April 2.⁶

¹ Papers titled *X.* 9014/16.

² B. 129 to 130 ; H.S. 226, pp. 137, 235, 589, 615, 744.

³ B. 131 to 133 ; H.S. 226, pp. 806, 820, 1042, 1133.

⁴ B. 134, 143.

⁵ M. 03240, 04017/16.

⁶ Papers titled *Foreign Consul*, 30 April 1916.

In the early hours of the 5th he torpedoed without warning and sank the Norwegian steamer *Baus*, an event which led to the departure of the drifters, and to his own capture.

Lieutenant McLoughlin and Skipper T. C. Wylie of the *Endurance* were awarded the D.S.C. Two ratings received the D.S.M., and a sum of £1,000 was distributed among the crews of the drifters concerned.

Only three days passed before another submarine was netted by the Havre drifters. This time it was the *Comrades* that caught her, the submarine being strong enough to tow the drifter stern first at 3 knots, till the water came over her counter. Finding he could not manœuvre, the skipper of the *Comrades* cut his nets adrift and off went the submarine with three flaring indicator buoys trailing behind her at 7 knots. The *Comrades* turned round and gave chase and when abreast of the middle flare dropped a depth charge. The three buoys stopped and began to sink. Three more depth charges were dropped to make sure. By this time it was quite dark. The drifters waited round in the neighbourhood till daylight ; but when dawn came nothing of the enemy could be seen but a large quantity of oil. The Admiralty, believing that a submarine had been destroyed, awarded another £1,000. The drifters *Comrades* and *Stately* thus participated in two awards in the same week.¹

Nevertheless, it is not now thought that a submarine was sunk on this occasion, nor is it known what boat it was that was caught. From April 6 to 8 *U.B.*18 was operating off the British coast of the Channel. On the 6th a submarine torpedoed and sank without warning the British steamer *Vesuvio* 6 miles east of the Owers Lightship, destroyed by bombs the French sailing vessel *Jeanette* off St. Catherines, and at night torpedoed without warning the Dutch steamer *Eemdijk* in the same neighbourhood. On the way back on the 7th she sank by bombs the British sailing vessel *Clyde*, and at 7.30 p.m., April 7, torpedoed without warning and sank the British steamer *Braunton* 4½ miles south of Beachy Head.² Only the crew of the *Clyde* reported her as *U.B.*18, but it is not unlikely that all this destruction was the work of that boat, though the *Braunton* might have been sunk by the submarine afterwards netted off Havre.

Seeing that the submarine had come alongside the ketch *Jeanette* and placed a bomb on board, Admiral Sir Stanley C. J. Colville, now Commander-in-Chief, Portsmouth,³ suggested the use of a similar vessel as a decoy ship. He was informed that such decoys were already working from Lowestoft, and in granting him permission to prepare such a vessel the Admiralty instructed him to send an officer to visit Lowestoft and obtain information as to the fittings that had been adopted there.⁴

¹ M. 03478/16.

² I.D.H.S. Vol. : "Submarines *U.B.*18 to 33."

³ Since 17 February 1916.

⁴ M. 04077/16.

99. **Further Attacks on the Transport Routes, April.**—On April 8 Calais was once more closed for a few hours on account of the discovery of mines. It was open for only three hours; further mines were found and at 6.22 p.m. on the 8th it was once more closed. The port was not much used for the supply of our army in France; in fact, only two transports were held up by the measure—one with hay and one with barbed wire. To this was added next day one with frozen meat, for though on the 9th the French allowed ships to leave they would not permit any to come in. It was not till the morning of the 10th that the Admiralty knew that the port had been reopened.¹ The mines which had caused the closing of Calais for the two days had been laid on April 3 by *U.C.6*.²

For a week all the transport routes remained open, but on the 15th mines were found off Boulogne and the port was closed, though in the evening ships were allowed to enter or leave within two hours of high water. All restrictions were removed on the 18th. The mines were probably those laid by *U.C.7* on March 24; it appears that none of these were found till April 15, when the port was closed.

The Second Submarine Campaign came to its end with no further attacks either by *U.B.* or *U.C.* boats off French ports in the Channel. Possibly the second submarine netted by the Havre drifters reported conditions to be too dangerous on the transport routes. The only submarine we know to have come westward of Dover Straits in April was *U.C.6*, which mined Calais on April 3 and Folkestone on April 6.³

100. **Raids on the Lowestoft Fishing Fleet and Anti-submarine Operations from Lowestoft, March 1 and 6.**—In the English Channel it may be assumed that the principal object of the Flanders boats was to damage the transport traffic to France. In the Hoofden there were no transports and the targets were more varied.

On March 1, when the new campaign opened, *U.B.13* was at sea among the Lowestoft fishing fleet. She destroyed four smacks⁴ before a patrol drifter came up, whereupon she disappeared.⁵

About midnight a drifter carrying mined nets near the Elbow Buoy felt two of her mines explode and reported that she had a submarine in her net.⁶ *U.B.13* returned safely and no other Flanders boat is known to have been out at that time, so that

¹ B. 151 to 155, 158, 159, 161.

² Appendix D.

³ Gayer is the authority for this statement. The Calais field consisted of 12 mines and the Folkestone field also of 12 mines. *U.C.6* must, therefore, have replenished between the two operations. No other submarine had succeeded in laying two complete fields within an interval of only three days.

⁴ *Reliance, Tryon, Harold, Trevoise.*

⁵ H.S. 217, p. 214.

⁶ H.S. 217, p. 263.

it is probable the explosions were due to some other cause than a submarine. Nothing of the kind was found on the spot. The next submarines to come out were *U.C.6* and *U.C.4*, which laid fields at Dover and near the Tongue Light Vessel on the 3rd.

The Lowestoft fishing fleet which had been raided by *U.B.13* had amongst it some dangerous craft—the armed disguised smacks which had done such good work in the previous campaign. One of the armed smacks, the *Fame*, had an encounter on March 6. At 5 a.m. a small submarine came up alongside and opened fire with rifles; she was so close that she struck the main boom of the *Fame* with her conning tower. The smack's gun was cleared and two shots were put into the submarine at 15 yards range before she dived with her conning tower open.

An hour later the *Fame* sighted another submarine but not near enough to risk revealing her armament. Between 10 and 11 a third submarine bore down on the *Fame* and closed within 300 yards, opening rifle fire to which the smack replied with her 3-pdr. The second round was a hit producing flames and smoke as the submarine submerged. But even this was not the end of the *Fame's* adventures of that day. About 2.30 p.m. she was accosted for the third time by a submarine which closed to 400 yards. There was a heavy swell and no wind to give the smack way; accurate shooting was difficult and though she fired nine rounds none were hits. The submarine submerged unhurt. This last was a very large boat.¹

The Admiralty awarded £1,000 to the *Fame*, and her skipper, Mr. James Williams Hoppins Strong, was given the Distinguished Service Cross. Nevertheless, no German or secret source confirms the destruction of a submarine that day; on the contrary, it is most likely that all three encounters resulted in little or no damage to the enemy.

It appeared later that the *Fame* was not the only smack to encounter submarines that day. Three hours before the decoy was accosted by the first small boat, the fishing smack *Young Harry* found a submarine 40 ft. off hailing her to abandon ship. This was done and the *Young Harry* was sunk by a bomb. At 9.30 a.m. another smack, the *Springflower*, sighted a submarine a mile away. The smack tried to get away and shortly afterwards the submarine disappeared. In the afternoon she reappeared and at 5.55 p.m. opened fire with a machine gun, closing to 50 yards. Three of the smack's crew were forced to come on board the submarine while the other two rowed a demolition party to the *Springflower*, and not till the smack had sunk were the whole five men put back in their own boat, after which the submarine departed.² The contrast in the approach to and treatment of the *Young Harry* and of the *Springflower* suggests that between the two episodes the submarine had undergone an experience which suggested caution.

¹ M. 02194, 03795/16.

² Papers M. 39194, 39596/16.

The submarine which sank the two smacks was *U.B.17*. It appears that the submarines which encountered the *Fame* were *U.B.6* and *U.B.16*;¹ it is possible that they warned their colleague.

On the 12th another of the armed smacks engaged a submarine at 1 p.m., 10 miles ESE from Lowestoft. She failed to sink the enemy and she noticed that it was carrying a gun, apparently a 3-pdr. Three hours later the armed trawler *Chirsin* of Lowestoft Auxiliary Patrol fired on a submarine 6 miles ESE from Lowestoft; it submerged and made off.²

The mined nets of the Lowestoft drifter *Chris* were fouled by what was thought to be a submarine about 13 miles ESE of Thorpeness on the 17th and two mines exploded. There was a thick fog and the drifter was at anchor. The object, whatever it might have been, was sufficiently strong to cause the drifter to drag her anchor; but no evidence that a submarine had been destroyed could be found.³ About that date *U.C.5* laid a field near the Sunk Light Vessel; if it was she who got into the net it did her little damage for she mined the Inner and Outer Gabbard on the 24th.⁴

Besides the armed disguised smacks which were doing such good work, Captain Ellison devised a special type of indicator net with mines to be worked by sailing smacks. While one of these smacks, the *Energic*, was outside Lowestoft among the fishing fleet on March 30 she sighted a submarine. It submerged; and the smack's skipper, A. R. Thompson, seized the opportunity to get his net over. It was 300 yards long, and he was towing it by a rope of 250 yards, so that the net was well astern of him. Suddenly the line tautened and a mine exploded; the hull of a submarine came to the surface, rolled over and sank, and for a quarter of an hour large bubbles came to the surface. This method of towing nets from sailing smacks had been in use for only ten days, and so quick a success was gratifying. The Admiralty awarded £1,000 to the *Energic* and a D.S.C. to Skipper Thompson.⁵

Yet here again there is no evidence from the German side to corroborate the loss of a submarine. The incident is mentioned neither by Gayer nor in the North Sea volumes of the German History. The boat might have been *U.C.5*, which laid a minefield near the Corton Light Vessel that day; but if so she cannot have been much damaged, for she laid further fields in April.

101. Holland takes Action to Protect Dutch Shipping.—

Between his two visits to Havre on March 8 and 22, Lieutenant Steinbrinck in *U.B.18* made a cruise in the neighbourhood of the North Hinder. There at 2.30 a.m., March 16, he torpedoed without

¹ *Nordsee V*, p. 68.

² H.S. 219, pp. 165, 225.

³ M. 02637/15.

⁴ Gayer makes no mention of any such incident at that time.

⁵ M. 03032/16.

warning and sank the Dutch liner *Tubantia*. The secrecy with which this was done, for he did not reveal the submarine's presence, led at first to the opinion that the big Dutch liner had stumbled on a mine; and later, when it was known that a piece of the torpedo which struck her was in our possession, the Germans put forward the ingenious theory that she had been torpedoed by a British submarine in order to make trouble between Germany and Holland.¹

The Dutch Government, which had so far borne with patience the gradual destruction of their own national merchant marine, now made a move. They stationed a salvage ship at the North Hinder and arranged that two tugs should continuously sweep for mines on a definite line between the North Hinder and a point 3 miles south-east (mag.) from the North Galloper Buoy, which had been substituted for the lightship on March 16. The two tugs began operating on April 1,² their work appearing all the more necessary after the destruction on March 18 of a valuable Dutch steamer, the *Palembang*, on a minefield laid the previous night near the North Galloper by *U.C.10*.

The sinking of the *Tubantia* was not the only loss near the North Hinder in March. *U.B.6* was also there on the 16th and claims to have sunk a large steamer. This was probably the British s.s. *Falcon* which was missed by a torpedo at 6 p.m. Another steamer claimed for *U.B.6* on this cruise was probably the Swedish *Ask*, torpedoed without warning near the North Hinder on the 17th. As it happened she did not sink but was towed in and patched up.³

It is claimed also for *U.B.13* that she sank a steamer on March 16.⁴ This cannot be identified. Shortly after midnight, March 18–19, the *Port Dalhousie*, which had been lying at anchor near the Kentish Knock Light Vessel since nightfall, was struck and sank in one minute, with a loss of six lives. This was the work of *U.B.10*.⁵

U.B.13 is credited with the destruction of another ship on March 31.⁶ This ship cannot be identified. Possibly the claim is due to the submarine commander's mistaken impression that he had sunk the Great Eastern Railway steamer *Cromer*, which rammed a submarine the following night near the Maas Light Vessel. Since Germany made no complaint at the time the Admiralty concluded that the submarine was sunk.⁷ But there is no evidence that any German submarine disappeared that day.

¹ H.S. 219, pp. 723, 773, 897, 1144, 1208; H.S. 220, pp. 45, 305, 774, 983, 1297; H.S. 221, p. 707; H.S. 222, p. 790.

² M. 01416/16; Papers titled *Foreign Office*, 18 October 1916.

³ Gayer states *U.B.6* sank two large ships near the North Hinder, one on March 16 and one on March 18.

⁴ Gayer, who gives no position.

⁵ Gayer; *Port Dalhousie* papers titled *Board of Trade*, 22 March 1916.

⁶ Gayer, III, p. 48; he gives no position.

⁷ M. 02946/16, titled X. 9480/16.

U.B.13, if it was she, certainly survived to take part in the operations of April 24.

The neighbourhood of the Hinder being now a favourite area for enemy activity, the Chief of Staff suggested that Captain Ellison should send auxiliary patrol vessels over to patrol the vicinity of the Maas, Schouwen and North Hinder Light Vessels. They were to be prepared to meet the well-armed German trawlers known to be based on Ostend and Zeebrugge. "It is highly desirable," wrote the Chief of Staff,¹ "to fight any German armed small craft, but it will be bad management to do so with inferior numbers in view of their probable superior equipment." He indicated the offing of Ymuiden and Schooneveld as good localities for mined nets, and warned them not to get on to the Thornton Bank minefield laid in October 1914.

This same district was swept for submarines on April 8 and 9 by four destroyers of the 10th Flotilla from Harwich. On neither day did they see anything hostile.²

102. The Torpedoing of the "Sussex," March 24.—The reckless torpedoing of ships at night without examination or warning, which was the *U.B.* boats' chief chance of being useful, was a method of conducting war likely to lead to friction with neutral powers. Holland and the Scandinavian countries had already suffered severely from Germany's attack on the shipping of the world; but being weak powers situated, as they were, in close and lucrative proximity to Germany their protests had not received much attention from the authorities in Berlin.

Lieutenant Pustkuchen in *U.B.29* sank three foreign vessels on the 19th and 20th in the course of a cruise close to Lowestoft itself. The first was the French steamer *Nominoe* torpedoed at anchor close to the outer Pakefield Gat Buoy shortly before midnight, March 19–20. Proceeding northward, Lieutenant Pustkuchen torpedoed two more ships, the Norwegian *Langeli* and the Danish *Skodsborg*, lying at anchor close together 5 miles SSW of the Corton Light Vessel.

Three days later one of Captain Ellison's armed smacks, the *Telesia*, Skipper W. S. Wharton, had an engagement with a submarine about 35 miles south-east from Lowestoft. It first eyed him, and then fired two torpedoes at him at different times. Both missed, and on the second occasion Skipper Wharton got a chance to fire which he utilised so successfully that the Admiralty awarded £1,000, a D.S.C. to the skipper and two D.S.M.s to the crew.³

There was no definite corroboration of the conviction that a submarine had been sunk by the *Telesia*, and no other vessels were attacked near Lowestoft that day. The enemy boat cannot have been a *U.C.* boat, since they did not then carry torpedoes;

¹ M. 011657/16.

² Commodore (T)'s Diary.

³ Papers titled X. 9707/16; M. 03180, 03766, 04034/16.

nor is it likely to have been *U.B.29*, which was at that time preparing for a cruise in the Dover area.

In the afternoon of the 24th Lieutenant Pustkuchen, then on the Folkestone-Dieppe line, sighted a steamer crowded with men making for the French coast. He torpedoed it without more ado, taking care not to reveal the presence of *U.B.29*, and crossing over to the English side torpedoed, also without warning, the British steamer *Salybia* bound from the West Indies for London.¹ With these two successes to his credit he returned to Zeebrugge, little knowing the injury he had done to his country.

The steamer crowded with men he had torpedoed was the French packet *Sussex*, making her usual trip from Folkestone to Dieppe and carrying on this occasion over 325 civilian passengers. This particular route had for some time been reserved for civilians and was never used by troops, who, in the Dover area, always crossed at night between Boulogne and Folkestone. Among the passengers in the *Sussex* were some 25 Americans, including women and children, some of whom were either killed or injured. The incident roused great indignation in the United States, where the methods employed by the German submarines were being observed with an amazement rapidly turning into anger at what seemed the cynical disregard of pledges made by the German Government. By those pledges passenger ships of every nationality were to be spared molestation and, further, no unarmed vessel was to be torpedoed without warning. As has been shown, the German submarine commanders in this second campaign had no more compunction than in 1915 as to torpedoing vessels of which they knew not even the nationality. The realisation of the fact that the concessions won by American diplomacy after the *Lusitania* disaster were useless, because not kept, produced an irritation in the United States deepened by the prevaricating answers of the German Government, which at first denied that the *Sussex* had been torpedoed by a German submarine, and only tardily admitted that this was possible when confronted with pieces of a German torpedo, found on board the *Sussex* after she had been towed into Boulogne.²

Before the end of March another neutral vessel was torpedoed without warning. This was the Swedish steamer *Hollandia*, sunk shortly before 11 p.m., March 31, when at anchor near the North Galloper Buoy. Her destruction was probably the work of *U.B.6*, which is stated to have sunk a large steamer near the North Galloper that night.³

103. A Barrage instituted off Lowestoft, April 16.—The interchange of diplomatic notes between the United States and Germany on the subject of the methods of warfare practised by

¹ *Salybia* papers titled X. 2795/16.

² *Sussex* papers titled *Foreign Office*, 26 March 1916. Further details of the rescue of the passengers of the *Sussex* in Corbett: *Naval Operations and Hurd: The Merchant Navy*.

³ Gayer; H.S. 226, p. 148.

German submarines made at first little difference to their continuance of those practices. In the dark hours of April 2-3 the Norwegian steamer *Peter Hamre* was torpedoed at anchor near the Kentish Knock, and the British steamer *Perth* near the Cross Sand. Nothing was seen of the operating submarine. It may have been the boat rammed by the packet *Cromer* near the Maas the previous night.¹

A week later two more steamers were torpedoed at anchor, the *Silksworth Hall* at 2.30 a.m. on the 10th near the Corton, and the *Robert Adamson* at 11.40 p.m. on the 10th near Harwich.²

The neighbourhood of Lowestoft seemed a favourite field for enemy submarines, both those that raided the fishing fleet and those that torpedoed ships at anchor in the War Channel. It had been visited by the *U.C.* boats on several occasions. In March Captain Ellison proposed that a line of mined nets should be moored in a position which experience suggested would be a suitable one in which to catch submarines. His proposal was carried out on April 16 when nets containing 200 mines were laid between 52.27.45 N, 1.57.30 E, and 52.13.50 N, 2.3 E, the tops of the nets being 48 ft. below low water ordinary springs.³ It barred the approach to Lowestoft from the east and south-east and protected that part of the swept channel between Aldborough and Lowestoft which had so often been chosen as the site of *U.C.* minefields.

Yet it did not succeed in putting a stop to submarine activity; *U.C.6* laid a field off Orfordness on April 24 and five days later *U.C.10* mined Southwold, abreast of the centre of the net line. On April 19 and 20 a submarine was sighted by smacks fishing north-east of Lowestoft; it appeared to be about to attack one of them when a patrol boat came up and it submerged. What was probably the same submarine torpedoed the British steamer *Tregantle* close to the Corton Light Vessel at 10.45 p.m., April 22. If it were the same boat that had been among the smacks, it seems to have approached Lowestoft from the north-east and thus missed the net barrage whose northern extremity was due east of and 7 miles from the port.⁴

Further out to sea Captain Ellison had his decoys cruising in hope of being accosted by the submarines. Two of the latest type, the smacks *Cheero* and *Hobbyhawk*, trailing mine nets, were out on the 23rd in the neighbourhood of Smiths Knoll. In addition to the nets they each carried a portable hydrophone. In the evening they heard with this a submarine approaching, though nothing was visible. Suddenly the *Cheero's* towrope tautened and there were two explosions in her nets; simultaneously the sound of the submarine's engines ceased on both hydrophones.

¹ H.S. 226, pp. 390, 411, 464.

² H.S. 228, pp. 26, 271.

³ Lockhart Leith: *History of British Minefields*; M. 02559, 03642/16.

⁴ Lowestoft, 52.28 N, 1.46 E; Corton Light Vessel, 52.32 N, 1.50 E.

It did not begin again. Close to the two smacks was the trawler *King Stephen*, who marked the position by a dan buoy. Nothing more was heard on the hydrophones except the easily recognisable beat of the *King Stephen's* propeller. Three days later the position was swept and a heavy obstruction was found in water too deep for diving. "I have no doubt," wrote Captain Ellison,¹ "that this is wreck of the submarine."

The Admiralty concurred in his view and gave the customary awards. It seems to have assumed on later evidence that the sunken boat was *U.C.3*;² but as the loss is not mentioned in the last volume of Gayer's *Die deutschen U-Boote*, which closed with the end of April, it seems improbable that this is the case. Moreover, intercepted signals definitely state that *U.C.3*, which was at Bruges, possibly under repair, throughout March and April, laid a minefield off Nieuport on the night of May 11-12.³

At this period the Flanders boats were particularly active in co-operating with the High Sea Fleet in one of its enterprises against our east coast. A minelaying submarine, *U.C.5*, ran ashore on the Shipwash shoal in a falling tide on April 27 and surrendered to H.M.S. *Firedrake*.⁴ At 9.30 that night four buoys attached to the nets 2½ miles south-east of the Shipwash Light Vessel started to flare. Depth charges were dropped at the spot, without any obvious result in locating the cause of the disturbance. Though this may have been caused by a submarine, the Admiralty did not think it had been destroyed.⁵

104. The "Zareba" laid off the Belgian Coast, April 24 to 7 May 1916.—For some time Admiral Bacon had been making preparations for the laying out of a mine and net barrier to enclose Ostend and Zeebrugge, and thus prevent the egress of the *U.B.* and *U.C.* boats. It was not till April 23 that all arrangements were complete.⁶ Four minelayers were to be employed, besides minelaying trawlers, and drifters with mine nets; practically the whole of the Dover command participated, and in addition 12 Harwich destroyers acted as escorts.⁷

The result of the operations of April 24 was that a double line of deep mines 15 miles in length was laid, and 13½ miles of mined nets were moored, 11 miles being made active.

The Flanders aircraft made several attacks on this huge flotilla, without damage to our forces. One of the enemy seaplanes was brought down by our own airmen, and blew up on striking

¹ Papers titled *Cap. E*, 52/16.

² C.B. 01292G: *Submarine Losses Return*, dated January 1919.

³ Signal 1707/12 May, in I.D.H.S. Records.

⁴ H.S. 231, pp. 170, 206; *Nordsee V*, p. 155.

⁵ M. 04132/16 titled *X*. 7740/16.

⁶ The total force consisted of 2 monitors, 4 large minelayers, 6 trawler minelayers, 7 minesweepers, 10 Dover destroyers, of which the *Crusader* flew Admiral Bacon's flag, 12 Harwich destroyers, 73 drifters, 1 armed yacht, 4 motor launches, 3 Trinity House vessels.

⁷ Orders in M. 011642/16.

the water. Best of all, there were almost certain indications that four, if not five, enemy submarines were destroyed by the nets and mines.¹

In the course of the afternoon three of the Flanders destroyers were sighted. The Harwich destroyers *Medea*, *Melpomene*, *Murray*, joined later by the *Milne*, gave chase, whereupon the enemy boats ran for port. In the ardour of pursuit our destroyers came under the fire of the shore batteries, with the result that the *Melpomene* was hit in the engine room and had to be towed away by her consorts. Seeing this, the German destroyers came out again, but retired with one boat damaged after a short engagement in which a monitor joined. It was noticed that they fired faster than our boats, and that their guns, apparently 4-in., outranged the 4-in. guns of our destroyers. The *Medea* also was hit by the shore guns, but not seriously damaged. The *Melpomene* was successfully towed to Dunkirk.²

Unfortunately, it appears not true that four or five submarines were destroyed in the course of the operations of April 24. Although not confirmed as yet from any German source it is considered that one was certainly sunk in the mine-nets or minefields. The boat may have been *U.B.13*, which went out at that period, and of whose proceedings nothing is known.³

It is recorded by Gayer⁴ that *U.B.10* found herself entangled in the nets near Thornton Ridge on April 24 and remained in them for eight hours, mines exploding round her at intervals. She managed to get free and to make port, where a piece of net to which a mine was still attached was found hanging from her propeller. The line of which this net had formed part was presumably that east of Thornton Ridge, where several explosions were heard each side of midnight, April 24-25, by some drifters left behind by accident on the *Rabs*.⁵ They had failed to take in the signal of recall when the rest of the flotilla retired, and after remaining on their station all night left for Dunkirk in the morning of the 25th. The three destroyers from Zeebrugge which had engaged our destroyers the previous day again came out in chase; one of the drifters, *Au Fait*, was sunk, and her crew captured. The remainder reached port in safety after a daylight passage of 45 miles along the enemy's coast.

Further lines of mines and mined nets were laid on April 28, May 3, 5 and 7, the whole forming a barrage complete from the limit of Dutch territorial waters to Nieuport, thus enclosing the whole Belgian coast.

¹ The account and plan given by Admiral Bacon in his book *The Dover Patrol*, Vol. I, pp. 156 to 160, is taken almost verbatim from his report, M. 04623/16. As the book is easily accessible only a summary is given here.

² Destroyers' Reports in H.S.A. 287, pp. 916 to 922.

³ *Nordsee V*, pp. 130, 147.

⁴ III, p. 57.

⁵ M. 04212/15, which gives details of the operations of the drifters against the submarines caught in their nets.

The efficacy of the barrage seemed to Admiral Bacon sufficiently proved by the fact that no fresh minefields were found in the English Channel between April 17 and May 17; in the Dover area the previous average had been one every five days. It is true that mining to the west of Dover Straits seemed to come to a temporary halt; but we now know that on April 29 *U.C.10* mined Southwold and *U.C.1* the north of Galloper,¹ while in May various points from Margate to the Corton were visited by *U.C.* boats. The Flanders submarines therefore found a way through or round the barrage without prohibitive difficulty.

It is possible that they cut through the nets. Experiments were carried out from Harwich by *E.55*, which had been fitted with knife-edge hydroplanes and a knife-edge prow. She ran three times through some nets. It was found that there were very slight indications that a submarine had gone through, and each time a net failed to go away with her, so that the buoy did not indicate. This was in the middle of April. The experiments were continued with various types of nets and clips; and the ultimate conclusion reached at the end of May was that the nets should not be more than 240 ft. long.²

The zarefa was discovered early on April 25 by *U.C.5*, which had come out on a minelaying expedition. After informing Zeebrugge of the presence of the net barrage, she proceeded along it till she came to a gap, passing through which she continued her journey to the east coast.³ It was while on this cruise that she grounded on the Shipwash shoal, and at 1 p.m., April 27, was captured by the *Firedrake*.⁴

Strangely enough, the coincidence of dates which had marked Admiral Bacon's appointment⁵ was repeated in the date of his *magnum opus*, the Zeebrugge zarefa. On 10 April 1915, when he hoisted his flag in command of the Dover Patrol, the German Admiralty put into force their decision to cease using the Dover Straits; on 24 April 1916, during the laying out of the Zeebrugge zarefa, they issued an order of even greater importance, the order to cease warfare against merchant vessels, except in the manner prescribed by the Prize Law.

105. Effect of the Torpedoing of the "Sussex."—The correspondence with the United States on the subject of the methods of carrying out war on commerce by means of submarines had continued even after the German Government's soft answer, in which they endeavoured to shift the blame on to other shoulders than their own. The wrath of the American Government increased till it could be appeased by only one thing: "Unless

¹ Gayer. He gives no information concerning submarine operations in May.

² M. 03763, 05143/16.

³ Log captured from *U.C.5*, N.I.D. 8504, 8354/16.

⁴ Log of *Firedrake*.

⁵ See *Home Waters*, IV.

the Imperial Government (of Germany) should now immediately declare and effect an abandonment of its present methods of submarine warfare against passenger and freight-carrying vessels, the Government of the United States can have no choice but to sever diplomatic relations with the German Empire altogether." Thus read the conclusion of a note handed to the German Government on April 20 by the United States Ambassador.¹

Germany had little desire at the moment for war with the United States, and after a short discussion decided that it would be better to give up torpedoing ships without examination. On April 24 the Admiralstab was informed that the practice was to cease, and that in future all operations against merchant vessels were to be conducted in accordance with the Prize Law. This, as we have seen, brought the Second Submarine Campaign to an abrupt conclusion.

On May 4 was transmitted to the United States the official reply of the German Government. It pointed out that war could not be conducted without danger to those neutrals who chose to visit the fighting zone; it asserted, incorrectly, that the submarine attack on merchant vessels had been adopted in self-defence against the British attempts to prevent the import of food into Germany;² but it also contained the important announcement, "in accordance with the general principles of visit and search and destruction of merchant vessels recognised by international law, such vessels, both within and without the area declared as a naval war zone, shall not be sunk without warning and without saving human lives, unless these ships attempt to escape or offer resistance."³

The reply concluded with a suggestion that the United States should now cause Great Britain to remove the restrictions on trade with Germany, and a statement that if the United States failed to do this "the German Government would then be facing a new situation in which it must reserve for itself complete liberty of action."

The Second Submarine Campaign in Home Waters concluded in a doubtful tone—in fact, with an attempt to connect the wholesale destruction of neutral shipping and innocent lives with the restriction of German imports. If, indeed, the submarine was the principal weapon with which Germany could attack England, the great blockading power, there could be little of permanence in the truce now proclaimed.

¹ Telegram from United States Secretary of State to Ambassador Gerard, dated 18 April 1916, printed in *Department of State, European War*, No. 3, p. 245 (F.O. Library).

² The sequence was, in fact, the other way; the British restriction order was issued a month after the German declaration of the submarine attack. See Monograph 19: *The 10th Cruiser Squadron*, Chapters V and VI.

³ *Department of State, European War*, No. 3, p. 305.

CHAPTER IX.

NORTH SEA OPERATIONS IN THE FIRST THREE WEEKS OF MARCH.

106. Zeppelin Raid on Hull, March 5.—The Admiralty expected a large increase of submarine activity in the North Sea when the Second Submarine Campaign opened on March 1, and they recalled the Dogger Bank fishing fleet, anticipating that it would be the subject of attacks similar to those of the 1915 campaign. It remained in the Humber till the 8th, when permission was given for it to resume fishing, but only to the northward of the Bank itself.¹

Yet for the first weeks of the Second Submarine Campaign, an attack on merchant or fishing vessels in the North Sea, as distinct from the Hoofden, seemed no part of the German plan of operations. Raids on the traffic between Farn Islands and the Naze, which had been a marked feature of the earlier campaign and had caused the loss of so many Scandinavian vessels, were not reported; and throughout March and April no vessel was sunk in the North Sea by a submarine sent out from the High Sea Fleet to attack merchant shipping.

The first activity shown by the forces under Admiral Scheer in March was the departure of the three Zeppelins—*L.11*, *L.13* and *L.14*—shortly after noon on March 5; they reported themselves as on a north-westerly course with "only H.V.B. on board,"² a signal already recognised in the Admiralty as meaning that they were to bomb England.

L.13 arrived first, crossing the coast of Lincoln about 9.14 p.m., *L.11* appeared half an hour later on the north side of the Humber, and at 10.30 *L.14* was passing over Flamborough Head. The two latter cruised over the northern counties, and in spite of heavy snowstorms made an attack on the town of Hull; but *L.13* made her way westward and southward, dropping most of her bombs on villages in Rutlandshire and in the Isle of Sheppey.³

The Admiralty kept the Harwich light cruisers at one hour's notice throughout the night, in readiness for an attempt to intercept the returning Zeppelins; but there was too little information of the movements of the airships to warrant a search in any particular district. Further, by 7 a.m., March 6, it seemed clear that the Harwich Force might be required for more definite work in a different direction.

¹ Tels. 562, 608, to R.A., East Coast, March 1 and 8.

² Signals 1200, 1210, 1212 of March 5, in I.D.H.S. Records.

³ *Air Raids*; Report by Director of Air Services, H.S. 218, p. 295.

107. **The German Fleet out, March 6.**—At 5.30 a.m., March 6, a German signal was intercepted from a position fixed by directionals as about 20 miles north of Terschelling. When decoded the signal was found to be from the Commander-in-Chief of the High Sea Fleet; and in combination with an earlier message showed that the 1st and 3rd German Battle Squadrons and the 4th Scouting Group at least were steering south-westerly from that position.¹

This became known to the Chief of Staff at 7 a.m. One interpretation of the appearance of the High Sea Fleet at such an unusual place as Terschelling was that an invasionary or bombarding raid might be in progress; and the Chief of Staff at once ordered the auxiliary patrol and minesweepers on the east coast to be recalled, the minelayers at the Nore to raise steam in preparation for laying out defensive minefields in the Thames Estuary, and the Grand Fleet and Harwich Force to prepare for sea. At 7.45 a.m. he ordered the Harwich Force to reconnoitre north-eastward from the North Hinder, retiring on Dover Straits in front of the enemy, if necessary; Commodore Tyrwhitt was to take with him a group of submarines with an attendant destroyer, the remainder of the submarines being kept ready for defence. At 8.4 a.m. the Grand Fleet was ordered to proceed and concentrate in the Long Forties.

The 3rd Battle Squadron was at sea, having sailed from Rosyth during the afternoon of March 5 for a watching and exercise cruise in the centre of the North Sea. The Commander-in-Chief now recalled the squadron to May Island. Meanwhile, efforts were being made to get all merchant shipping on the east coast into harbour; and the whole auxiliary patrol on that coast, including the drifters of Dover barrage, were recalled. The Harwich Force sailed for the North Hinder before nine, three submarines and Captain Waistell with his two destroyers accompanying it.² Two other submarines with a destroyer took up their stations near the Long Sand to protect the northern approach to the Thames, while the vessels of the Nore Defence Force went out to take their positions in the defence scheme,³ except that four submarines with two attendant vessels went to the Tongue Light Vessel. In addition, the reserve ammunition for the Harwich Force was brought forward to immediate readiness.⁴

Besides the Thames, the Humber was a likely objective for the enemy, especially since it had just been subjected to a Zeppelin attack; and the Commander-in-Chief ordered the Blyth submarines down to Grimsby to await orders there.⁵

¹ Signals 0550, 0621, March 6, in I.D.H.S. Records.

² Total force:—*Cleopatra*, *Undaunted*, *Aurora*, *Penelope*, *Conquest*, *Nimrod*, 11 "L" class, 9 "M" class, *Firedrake*, *Lurcher*, E.16, E.26, E.41.

³ Nore Local R List 3 (H.S. 218, pp. 82, 84).

⁴ H.S. 218, p. 113.

⁵ H.S. 218, p. 120.

Another German signal decoded by 11 a.m. gave us the unexpected information that although the High Sea Fleet flagship had come a few miles westward of Terschelling, at 10 a.m. the enemy fleet had altered course to northward; in none of the signals yet intercepted had the 1st and 2nd Scouting Groups, that is, the German battle and light cruisers, been mentioned. This information was wired to Aberdeen, with instructions to pass it to Admiral Jellicoe by "I" method if he were at sea.

He had not yet sailed. In fact, the Scapa squadrons did not begin to sail till after 1 p.m. The 2nd Battle Squadron at Cromarty had been about to leave for firing practice and, being ready for sea, left at noon, at which time the battle cruiser squadron proceeded from Rosyth.

Although for a few hours the Admiralty felt some anxiety as to what the German battle cruisers were about, all doubt was dispelled by a long signal from Admiral Scheer, explaining to the High Sea Fleet, and also unknowingly to us, what all the squadrons were to do.¹ The information was passed at 1.15 p.m. to Admiral Jellicoe, then leaving Scapa in the *Iron Duke*. The German battlefleet was to be 30 miles north of Terschelling at 2 p.m., when the missing 1st and 2nd Scouting Groups would join them with three flotillas; the battlefleet would reach harbour at dark, while the three flotillas advanced in the direction of the Forth as far as they could, subject to being back in the Ems at daylight; for a short time they would be accompanied by the 1st and 2nd Scouting Groups, which had to be off the Ems at 8 p.m.

The German movement, whatever it had been, was over. Admiral Jellicoe, seeing that there was no chance of contact with the enemy's main fleet, proposed to return with his battle squadrons to the bases at daylight, remaining at 2½ hours' notice; and this was approved. Admiral Bacon, anxious to prevent minelaying by U.C. boats in his area, obtained permission to send out the auxiliary patrol again; normal conditions were resumed in the Dover and Nore areas, though on the east coast neither auxiliary patrol nor merchant vessels were allowed to move from harbour till the next morning. The Grand Fleet and battle cruisers arrived in harbour in the course of the next forenoon; and the Harwich Force, which was recalled at 6.40 p.m., returned by the same Hinder Channel by which it had gone out, arriving in Harwich at 11.45 a.m., March 7.

At the time, the German cruise just concluded was thought to be merely an exercise;² but Admiral Scheer, like his predecessor, Admiral von Pohl, had no intention of risking his fleet in the dangerous waters outside the German Bight merely for exercises. There had been an object in the cruise, though at the time it was not appreciated by us.

¹ Signal 1151/6 March.

² Tel. 282 from C.-in-C., H.F., *recd.* 1.5 p.m., March 6.

108. **German Plan of Operations.**¹—Admiral Scheer had been appointed to the command of the High Sea Fleet by Order in Council dated January 24, and immediately began to arrange his ideas as to the future conduct of the war. The first important production of his staff, issued at the beginning of February, was the following document :—

PRINCIPLES GOVERNING THE CONDUCT OF THE
NAVAL CAMPAIGN IN THE NORTH SEA.

(a) *General Idea.*—The existing ratio of strength forbids us for the present to seek a decisive battle against the assembled English fleet. Our strategy must also be such as shall prevent this decisive action being forced upon us by our adversary.

(b) *Inferences.*—By exercising systematic and constant pressure on the enemy we must firstly force him to give up his present waiting attitude, and to send out some of his forces against us, giving us favourable chances for attacking; secondly, by these attacks we must prevent such a feeling of superiority coming over him that he no longer fears to bring us to action when he likes.

His many vulnerable points give us the advantage that we can always take the initiative even with our weaker forces.

(c) *Methods Available.*—A memorandum by the Chief of the Naval Staff has laid down the methods open to us :—

- (1) Submarine war against commerce.
- (2) Mine warfare.
- (3) War against trade in the north.
- (4) Aerial warfare.
- (5) Intensive sweeps by the High Sea Forces.

(d) *Execution.*—The submarine war against commerce and aerial warfare have been begun, and will continue their course as planned. Mining, war on trade, and sweeps by the High Sea Forces are related. The more closely they are connected within the limits of the programme of operations the better their prospects of success.

The first work of the Fleet Command will be to concentrate upon drawing up such a programme as shall provide according to circumstances for minor or major operations by portions of or by the whole fleet, upon preparing the necessary material, and finally—an important point—upon choosing the leaders and commanding officers for these enterprises.

A necessary preliminary to such action is to keep the German Bight between Horn Reefs and Borkum free from enemy encroachments (mining, etc.) by means of standing patrols working according to plan, by laying suitable minefields of our own and by frequent sweeps into the outskirts of this area by our light craft.

The loss of *L.19* with all hands after the air raid of January 31 brought to an end the unsupported reconnaissances by airships. Among other points decided by Admiral Scheer's staff was that in future such air raids were always to take place in conjunction with destroyer sweeps, the destroyers to help the airships in case of accidents, and the airships to feed the destroyers with information of British forces which might be at sea.

The next air raid was planned for some date early in March, the moon being new on March 4. It was finally fixed that the operation should be a large one, including a sweep by the 1st and

2nd Scouting Groups well to the southward of the route of the returning Zeppelins, in the hope that they might meet and overwhelm any British light forces sent out to chase the airships. The destroyers were to sweep the area between the Dogger and Swarte Banks for patrols and minesweepers, which as a sequel to the loss of the *Arabis* it was now expected would be covered by vessels of some power, affording a reasonable target. All the channels of exit from Harwich, Dover and the Thames were to be mined by *U.C.* boats during the night in which the air raid took place; and seven *U.B.* boats were to be stationed in hopeful situations between Yarmouth and Dover Strait. The whole operation would be backed up by the High Sea Fleet in force.

All arrangements were completed for the raid to take place late on March 3. The six *U.C.* boats carried out their part of the programme, *U.C.6* mining Dover, *U.C.4* the Edinburgh Channel, *U.C.10* the Black Deep, *U.C.5* the southern exit from Harwich, and *U.C.3* the northern; the only omission from the programme was that *U.C.7* failed to mine the northern exit from the Downs. The seven *U.B.* boats took up their stations; and the board was thus laid out according to plan.

109. **The German Sweep of March 6.**—Though all was ready a thick fog obscured all in the Bight on the night of March 2-3, and the fleet was unable to sail; a postponement of 24 hours had to be made. Even then the start of the operation was suddenly interrupted by a wireless call from the raider *Möwe*, last heard of in the Atlantic, which now, quite unexpectedly, announced herself as due at a position 20 miles south-west of Horn Reefs at daylight, March 4, and requested to be safeguarded from there home.

The destroyers and light forces which went out to meet her had to refuel before they could take part in the fleet operation, and as they were an important part of the forces to be employed, the fleet could not move till they were ready. The *U.B.* boats were recalled in the evening of March 4, but were sent out again on the 5th, except *U.B.18*, whose station was the farthest north off Smith's Knoll.

At length, on March 5, the move from the Bight began. At noon the three airships left their sheds, and at dark the High Sea Fleet weighed anchor and proceeded, the 1st and 2nd Scouting Groups leaving in advance of the battleships. It was an imposing force: 20 modern heavy ships, 11 light cruisers, and 50 destroyers. Only the 2nd Battle Squadron was left behind to protect the Bight from raids; in case the British should appear the two submarines *U.68* and *U.69* were ready for attack, and the minelayer *Arcona* had 100 mines on board. The Flanders air squadrons prepared for flight in order to assist by reconnaissance.

Before dawn, three of the High Sea Fleet airships came out to reconnoitre ahead of the fleet; but a strong southerly wind made them return, and thus Admiral Scheer was left with no

¹ *Nordsee V*, Chapter II.

chance of the air reconnaissance considered so important, except such reports as might be made by the airships engaged in bombing England. Even these were of little value, since the intense cold affected the engines of the dynamos of the airships and hindered their use of wireless. British wireless messages from Sheerness and Harwich recalling minesweepers and auxiliary patrol vessels were intercepted at 8.30 a.m.; from these Admiral Scheer deduced that his excursion was known to us.

In accordance with the plan, the 1st and 2nd Scouting Groups turned back on Brown Ridge, close to the exit of the K Channel so generally used by Commodore (T) for entering the North Sea. The time was 8.55 a.m., March 6. The Harwich Force was then leaving harbour, but since the enemy had been reported off Terschelling, Commodore Tyrwhitt proceeded direct for the Dutch coast by the Hinder Channel, and on this occasion returned by the same route. Had he used K Channel it is not improbable that he would have established contact with the scouting groups.

The German battle squadrons turned back at 9.30 a.m. when off the Texel and, after spending a few hours manœuvring off Terschelling in order to delay their arrival in the Bight till dark on account of the danger of attack from British submarines, re-entered Wilhelmshaven at 12.35 p.m., March 7. They had met no British forces.

No more fortunate was the remainder of the programme. The 1st and 2nd Scouting Groups on turning at 8.55 a.m. proceeded to a rendezvous well north of Terschelling where, at 4 p.m., the destroyers were detached to steam in the direction of the Forth, from which heavy forces might possibly be coming. Should the destroyers meet any they were to make a night attack. At 9 p.m., between the Dogger and Swarte Banks, the destroyers turned back for the Bight. Like the rest of the German forces, they had seen no British ships, not even fishing vessels, which, it will be remembered, were all in harbour in obedience to the Admiralty instructions of March 1.

The mines laid by the *U.C.* boats failed to injure the Harwich Force, and the only success achieved by the *U.B.* boats was the sinking of the two smacks off Lowestoft on March 6. This was the sole result of the whole operation.

110. British Submarines in Heligoland Bight and the Kattegat, March 5 to 10.—Admiral Scheer's decision to return to harbour only during the dark hours was due to the menace exerted by our submarines, whose presence off the German rivers was reported at frequent intervals. We were making an attempt to keep a constant surveillance over the Bight, and on March 3 the Admiralty instructed Captain Waistell to maintain a continuous watch, arranging the departures of submarines so that relief on the station should be possible. As it happened, there were none of our boats in the Bight that day; but on the 4th four left for the watch—*E.23* for a station inside Heligoland to west

of 8°, *E.29* between the Ems and Norderney, *E.5* between Ameland and the Western Ems, *H.7* between Horn Reefs and List.

E.23 made her way into the Bight by the Norderney Gap in the minefields and noticed as she passed that the Norderney lights were lit. At 11 p.m., March 5, she went to the bottom for the night in 13 fathoms due north of Norderney Light. Her commanding officer in his report¹ writes: "11.45. Several large vessels passed over, at least six, going apparently westward. 12.30. More ships passed." He was quite right. What was passing over his head was more than two-thirds of the High Sea Fleet. In the morning he went on to his station and saw nothing of the return of the fleet. He left for Harwich on the 10th, having found no targets.

E.29, after sighting Norderney Light, went to the bottom at 9.50 p.m., March 5, about 15 miles north of Borkum. She also knew nothing of the passage of the High Sea Fleet close to her. Next night she spent on the bottom in much the same position and the High Sea Fleet passed her in safety once more. Rising at daybreak, March 7, her commanding officer sighted a destroyer and fired two torpedoes at it, both missing the target. The sea was rough and the boat broke surface and called attention to herself. A hurried dive took her out of danger, but in less than five minutes he felt two explosions. Although across the high waves he had seen only a destroyer, he had really come up in the middle of the battle cruiser squadron, which had been sent out again to pick up the returning flotillas after their sweep to the Dogger Bank. He was only 500 yards from the *Seydlitz*; she saw him and altered course, though he saw nothing of her.² After his escape from the depth charges, he proceeded east and two hours later saw a light cruiser and some destroyers. Again the heavy sea made him break surface and spoiled his chance of attack. No other presented itself during the rest of his cruise. He left for Harwich on the 10th.

E.5, Lieutenant-Commander Harrington D. Edwards, D.S.O., failed to return. She had been seen at a distance by *E.29* in the afternoon of the 6th about 7 miles north of Juist Island.³ Nothing more was seen of her; the Germans make no claim to have sunk a submarine in that neighbourhood and the cause of her loss remains a mystery.

H.7 arrived off Horn Reefs during the forenoon of the 5th, too late to see anything of the squadron which went out to meet the *Möwe*. She remained till the 10th, but saw nothing except the Zeppelins which scouted while the fleet was on its way out of the Bight.

While these four submarines were in the Bight, *D.7* had gone across from Blyth to the Kattegat in the hope of meeting a

¹ H.S.A. 271, p. 170.

² *Novdsee V*, p. 70.

³ H.S.A. 271, p. 188.

German auxiliary cruiser reported to be operating there.¹ She left on the 5th, and rounded the Skaw at 6.30 a.m., March 7. She saw nothing of the reported auxiliary cruiser nor any merchant vessels on the "Trading with Germany" list. The chief point of interest of her cruise which terminated when she reached Blyth on the 11th was the intense cold. The periscope had to be dipped every five minutes to melt the ice on its surface; spray formed a rope of ice 2 in. thick all round the aerial, lengthening to foot-long icicles in the bight of it. In spite of the cold the engines worked extremely well.²

111. First British Submarine Mining of Heligoland Bight, March 8.—In addition to the despatch of these five submarines, a new experiment was tried at this time.

Submarine *E.24* had been converted for use into a submarine minelayer, a special type of mine, known as the "S" mine, being designed to be laid by her. She was ready by the end of February and proceeded from Harwich with 20 of the new mines, in accordance with the following orders:—

Submarine *E.24* is to leave Harwich at 5 p.m. on March 4 and proceed past Amrum Bank to the east of Heligoland to lay mines ENE from lat. $54.1\frac{1}{2}$ N, long. 8.14 E, in 8 fathoms.

The mines should be laid within one hour of slack water.

It is most important that the limits of the minefield as laid should be known, and that no mines should be laid unless the accurate depth of water is known.

After the mines are laid you are to return to Harwich.

E.24 met with no special obstacle, and on March 8, between midnight and 1 a.m., laid her 20 mines in a straight line 1.2 miles long running N 36 E from $54.2\frac{1}{2}$ N, 8.14 E,³ close to the Elbe Light Vessel.

Having used up most of her battery power during the mining operations, and being unable to recharge it before dawn, *E.24* had to remain on the bottom during daylight of the 8th. She left the Bight that night and, proceeding past Norderney and Borkum, reached Harwich in the afternoon of March 10. The minefield she had left was not only the first to be laid by a British submarine but was the nearest to the enemy's chief ports laid throughout the whole war.⁴

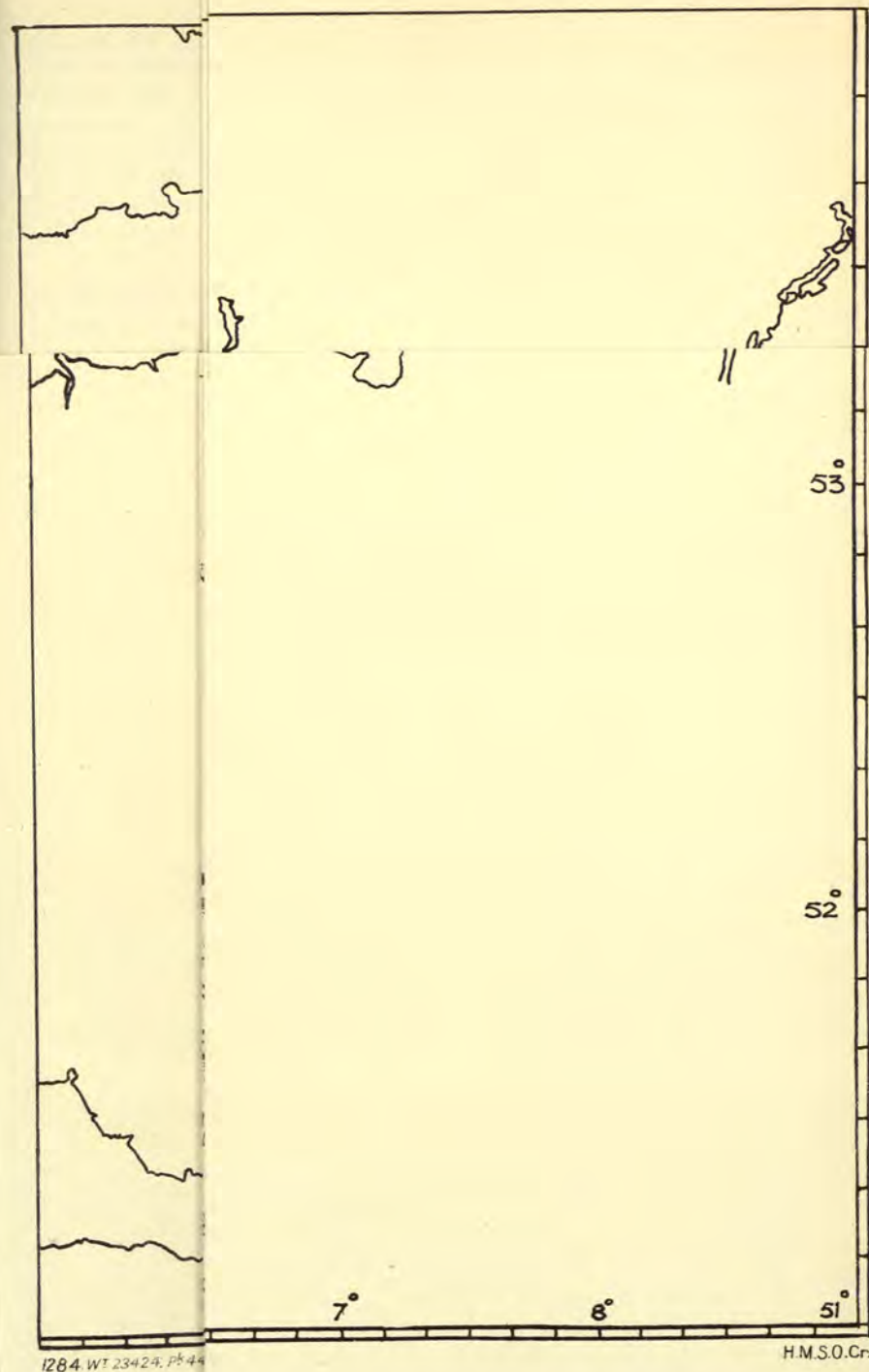
112. Destroyer Sweep for Submarines in K Channel, March 10.—The fact that several German submarines were operating off Lowestoft on March 6 suggested the idea that they were really

¹ H.S. 217, p. 453.

² H.S. 626, p. 39.

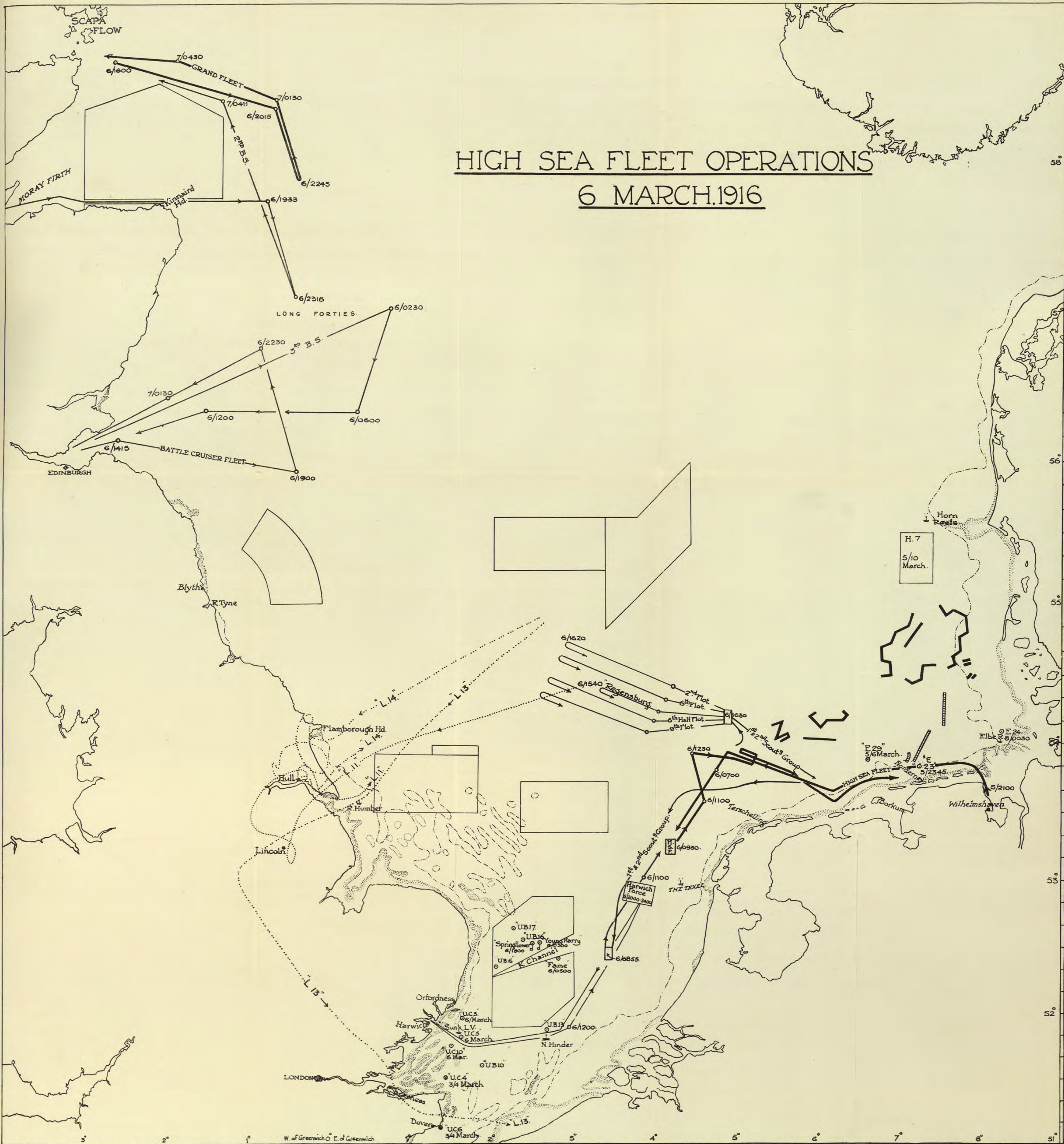
³ Report by Capt. (S) and track chart in H.S.A. 271, pp. 173, 185. Lockhart Leith's figures given in his Appendix, p. 417, appear to be incorrect here; he makes the minefield of 20 mines to cover 8 or 9 miles, which seems unlikely.

⁴ Lockhart Leith, p. 213.



HIGH SEA FLEET OPERATIONS

6 MARCH 1916



waiting for Commodore Tyrwhitt's squadron and were aware that he generally used K Channel. The Admiralty, therefore, advised him to alter the position of the channel. He himself obtained permission for a destroyer hunt of the channel by all available destroyers, sweeping with Burney sweeps; and, on March 10, 18 destroyers proceeded for the search, the Commodore himself, with his pendant flying on board the *Nimrod*, taking charge of the operation.

The weather was very bad and a collision took place in which the *Miranda* was damaged. After 3½ hours the flotilla returned, having seen no submarines.¹

The weather also curtailed a sweep of the Grand Fleet in force planned for March 11 across the mouth of the Skagerrak and up the Norwegian coast. It was hoped that this would make the enemy hesitate about repeating the kind of cruise just concluded; there was also a possible chance of meeting a raider or even of the High Sea Fleet itself being out. Before the Scapa squadrons started it was known from directional intercepts that a submarine was in the North Sea more or less on the proposed route of the fleet; and as the weather in the north continued to be too bad for destroyers the battle squadrons did not leave port.²

In the south of Scotland the weather did not prevent the battle cruiser fleet from sailing from Rosyth about noon with its light cruisers and destroyers in attendance. It was soon found that here, too, destroyers could not keep up with the heavy ships, and at 4.30 Admiral Beatty turned back with the battle cruisers and destroyers, leaving the sweep to be carried out by the 1st and 2nd Light Cruiser Squadrons. They returned to Rosyth on the 13th with nothing of any special interest to report.³

Still another operation was begun at this period and had to be abandoned on account of the weather. It was intended that the British mine barrier across the Bight should be reinforced by another at Borkum Riff. The programme was arranged to begin on March 9, but the minelayer, the *Biarritz*, did not reach Harwich in time to leave that day. Moreover, our submarines in the Bight were not yet due to leave and must have a chance of getting away before the new minefield was laid. On ascertaining that the submarines would not be clear before the morning of the 11th, Commodore Tyrwhitt who, as before, would take charge of the operations, postponed the actual minelaying till the small hours of March 12 and the departure till noon of the 11th.

He went out by the Hinder Channel again, taking with him most of the Harwich Force to participate in the operation. The weather, not favourable at the start, became worse; and, when at 9 p.m. the *Biarritz* reported it impossible to lay mines in the existing conditions, he was forced, while still south of the Haaks,

¹ Comm. (T)'s Diary; H.S. 218, pp. 868, 927, 980, 986, 1022, 1032, 1094.

² H.S. 218, pp. 884, 1006, 1122, 1205, 1243.

³ H.S. 218, pp. 1164, 1213, 1237, 1280, 1299, 1323. Log of *Lion*.

to abandon the operation and return, with the idea of carrying it out as soon as the seas moderated.¹

113. **Further Mining of Borkum Riff, March 15.**—The orders for the operation, described as "B.Z.", had been issued by Commodore Tyrwhitt on March 9. They provided that the *Biarritz* should be accompanied through the Hinder Channel and as far as a position "A" on Terschelling Bank by the *Conquest* and one division of destroyers. From this position, which would be reached at 11 p.m., the *Biarritz* was to go on alone to a position "B" in 53.39 N, 6.5 E, on Borkum Riff, reaching it at 2 a.m. She was then to lay her mines 20 to the mile in a northerly zigzag covering about 9 miles, after having taken care to verify the position by soundings, as it was most important not to come to the southward of the 10-fathom line. Having successfully laid the mines, she was to go back to Terschelling and rejoin her escort at a third rendezvous to south-westward of the light vessel. At this last position would be also the Harwich light cruisers and two more destroyer divisions, which would have left Harwich two hours later than the *Biarritz*. At 6 a.m., that is four hours after the laying of the field, she was to make the wireless signal XSN, which would announce the successful completion of the operation.²

By March 14 the weather conditions were favourable and the *Biarritz* sailed with her escort, the *Conquest* and four "L" class destroyers, at 10 a.m. Commodore Tyrwhitt, with four light cruisers, the *Nimrod* and eight "M" class destroyers followed at 12.30 p.m. All went well. The *Biarritz* experienced no opposition, and in fact seemed to have been unnoticed. She laid her mines according to the plan and having rejoined her escort went direct to Sheerness, while the Harwich Force returned to its own port.³

There were no British submarines at the Borkum end of the Bight at the time, the only one there having returned before the mines were laid. This was *E.41* making her maiden cruise with the object of gaining some experience before minelaying, for which she was intended.⁴ She was to cruise between Ameland and the Western Ems, taking care not to go east of 6° E unless she was sure of her position. Her written orders,⁵ dated March 10, do not specifically warn her against the new field, which at that time had not been laid; but probably she had been verbally informed that it might be laid and would be to the eastward of 6° E. She arrived on her station at noon, March 11, and remained there till 6.20 p.m., March 14, sighting nothing except a few trawlers, apparently unarmed. In the rough seas she had leaked

¹ Comm. (T)'s Diary; H.S. 218, pp. 763, 807, 844, 1179, 1215; H.S. 219, p. 47.

² *Harwich Force Packs*, XII, H.S.A. 291, pp. 251, 252.

³ Comm. (T)'s Diary; H.S.A. 291.

⁴ H.S. 218, p. 830.

⁵ Comm. (S) War Records, H.S.A. 271, p. 191.

a good deal, to the detriment of her electrical gear; as a result she was under repair till the end of the month.¹

114. **A British Submarine Mined off the Ems, March 22.**—The next submarine cruise was not so fortunate. In view of the prevailing gale no boats were despatched from Harwich to the Bight between the 10th and 16th; on the latter date *E.26* and *H.8* left to cruise between Terschelling and Ameland, *E.26* to keep about 6 and *H.8* about 12 miles from the coast.

There was low visibility throughout the cruises of these two submarines. The watch of *E.26* was uneventful except for one incident; coming to the surface at dusk on the 19th, she found herself 100 yards from another submarine, a German boat very much like our own "E" class. Both submarines dived at once, and *E.26* saw the enemy no more. But he had observed enough to raise doubts whether what had been thought to be the lost *E.5* on March 6, was not one of the new German class. Nothing else was sighted by *E.26*, and she proceeded for home in the evening of the 21st.

The cruise of *H.8* had been decidedly more eventful, though till the 20th she saw nothing and on that day only a trawler. On the 21st she was driven under by three trawlers and a destroyer in company. Next day she was unfortunate enough to strike a mine, and as she was the first submarine to survive after such an experience the report² of her captain, Lieutenant B. L. Johnson, R.N.R., is of special interest. It reads:—

March 22. 10.50 a.m. Position by D.R., lat. 53.36 N, long. 5.22 E. Whilst diving 60 ft. on gauge a violent explosion shook ship, her bow immediately struck bottom, inclination 25° to 30°. We were keeping "diving watches," and those of the crew not on watch went to diving stations and obeyed all orders quickly and correctly.

I endeavoured to blow No. 1 M.B.³ but air went straight through, so went full speed astern on motors and blew No. 2 M.B. and then No. 3 M.B. Came to surface, wind and sea as before, full visibility.

Started gas engines, headed WNW and surveyed damage. Discovered that No. 1 M.B. forward trimming tank and torpedo tubes were open to the sea and hydroplanes missing. Emptied No. 1 fuel tank and prepared to dive. Gyro compass, diving gauge, forward periscope and Forbes log out of action. Set up spare depth gauge and forward periscope and repaired Forbes log.

11.25 a.m. Lat. 53.37 N, long. 5.16 E, sighted four floating mines flat-topped, spherical, painted brown and green.

Tested W/T and found telephones broken.

The damaged submarine reached Harwich at noon on March 23. It was then found that both forward hydroplanes and the bow cap had gone, the upper part of the hull in that vicinity as well as

¹ Comm. (S) War Records, H.S.A. 271,

² H.S.A. 271, p. 202.

³ Main ballast.

both starboard torpedo tubes were wrecked. In reporting on the incident Captain Waistell remarked :—¹

Having investigated what happened after the explosion, I can with great pleasure bring to your notice the splendid conduct of the captain, officers and crew of *H.8*. Lieutenant Bernard L. Johnson, Royal Naval Reserve, her commanding officer, by his coolness and prompt action undoubtedly saved the boat; any delay in getting her to the surface would have been fatal. He reports that Sub-Lieutenant John M. Mansfield, Royal Navy, Sub-Lieutenant Alfred E. Meadows, Royal Naval Reserve, and the entire crew, although it appeared obvious to all that the boat was lost, proceeded at once to their stations without any signs of excitement, and all orders were carried out promptly and correctly.

I would submit that such conduct, in the face of apparent certain death, is an example of courage of which the whole service may be proud.

Some pieces of the mine which had damaged *H.8* were found in her and proved to be parts of a British Elia mine. The small amount of damage done could be explained by assuming that the mine had been exploded by a violent pull on the mooring rope and not by impact with the hull of the submarine. But its position so far west of where it had been laid could be accounted for only by assuming that in the prevailing easterly gales since the 14th the mines had dragged westward, in some cases into such shallow water that they had become awash, as in the case of those seen by *H.8* after the explosion.

Although the *Biarritz* may have been a mile or two out in estimating the position from which she started to lay her mines, she cannot have been much in error, as was proved from German messages intercepted by us on March 16. It was clear from them that a German auxiliary named *Ottensen* had struck a mine in 53.43 N, 6° E, and had sunk with a loss of 20 lives.²

Yet there could be no doubt that some part of the field had moved, which was a disquieting factor to be reckoned with if submarines were to continue their watch. "If these mines will drag some 12 to 15 miles in less than a fortnight, the whole area north of Terschelling and Ameland would appear to be unsafe," wrote Captain Waistell on March 27;³ and it is noticeable that the submarines next despatched to the Bight made their entrance by the Amrum Bank route.

The German auxiliary *Ottensen* which had struck one of the mines was a barrage-breaker, one of a group sent out on the 15th to explore for mines near Borkum Flat. There was a fog at the time when she struck the mine, and her immediate companion in seeking for her came into collision with the sinking vessel and proceeded to anchor as the safest plan in the mine-infested area. The new field lay directly opposite the western entrance into the Bight, and the urgent necessity of ascertaining the extent of the

¹ H.S.A. 271, pp. 209, 210.

² Numerous signals of March 16 and 17 in I.D.H.S. Records.

³ H.S.A. 271, p. 206.

mined area was obvious. All the minesweepers were allocated to this work; and orders were given that they were to sweep even on days when no airship screen was possible, in order to restore freedom of movement to the High Sea Fleet as soon as possible.

The task of delimiting the minefield was rendered more easy by the fact that many of the mines showed on the surface, and it was soon accurately traced in spite of its irregularities.¹

115. Sweeps across the Skagerrak and Watch on Horn Reefs, March 9 to 19.—The watch on the north-eastern exit from the Bight was maintained by submarine *V.1* from Yarmouth, which between March 10 and 15 cruised between Horn Reefs and Sylt. An easterly gale blew most of the time, and she saw only a German submarine which, in the distance, looked very like one of our "E" class boats.

On the 14th *H.5* left Yarmouth to relieve *V.1* off Horn Reefs. She remained till the morning of the 20th, sighting nothing but an armed trawler which, on the 17th, she attacked with a torpedo, which missed.²

At the same time *E.30* from Blyth was in the Kattegat. She rounded the Skaw after dark of the 16th in heavy head seas which damaged her superstructure and wireless mast; and on the 18th off Anholt she stopped and examined several vessels. One, the *Kong Inge*, Norwegian, was on passage to a German port with a mixed cargo. A prize crew was put on board her with instructions to see that she proceeded to Leith. In the course of the cruise other vessels were examined; but all were in order. Those carrying contraband doubtless kept in territorial waters, which could easily be done.

One of the objects of despatching *E.30* for this cruise was to practice communicating with submarines at sea. The damage to her aerial interfered with this at first; but even after it was repaired she failed to receive any of the 20 groups sent daily at a routine time by the *Iron Duke* using maximum power on Q wave. This was so unsatisfactory that the Commander-in-Chief asked that steps should be taken to improve communication.³

The cruiser sweeps across the Skagerrak and on the Norwegian coast were continued. On March 15, the *Roxburgh*, with two destroyers, proceeded from Rosyth for a cruise southward along the Norwegian shore from Udsire to the Naze, and thence across the Skagerrak and home. The object of the cruise, as laid down in the Commander-in-Chief's orders, was to intercept hostile and suspicious vessels and to show the flag off the Norwegian coast outside territorial waters. Since there had been reports that armed raiders might be accompanied by submarines, and in view

¹ *Nordsee V*, p. 72.

² H.S.A. 271, p. 206.

³ H.S. 626, pp. 41, 42, 178.

of the unfortunate experience of the *Alcantara* when dealing with the *Greif*, it was specially laid down that boarding was to be carried out by the destroyers, supported by the cruiser; and that all three of our ships should keep well before the beam of the vessel being boarded, and steam at high speed on constantly varying courses, except when the boarding boat was being lowered or hoisted.¹

No special incident marked the cruise, which was carried out as in the orders. There were very few vessels to be seen and the coasting traffic kept inside territorial waters; but off the Naze a Norwegian liner was stopped and released. Shortly afterwards she made a wireless signal which, being in Norwegian, no one in the squadron could understand. Consequently, it roused suspicions which proved to be unfounded, since it was nothing but an ordinary trade message about cargo.²

Advantage was taken of the passage of individual cruisers to and from their refitting ports to repeat this type of cruise. The *Calliope*, refitting at the Tyne, was to be relieved there by the *Comus* from Scapa. On the 19th both ships left with instructions to sweep northwards and southwards respectively along the Norwegian coast, each with a pair of destroyers which they would exchange on meeting. Soon after leaving, the *Calliope* discovered a serious fire down below, necessitating fires being drawn for a time in both boiler rooms. She put into Rosyth; and the *Comus* carried out her part of the sweep alone, without meeting any suspicious vessels.³

Besides these occasional cruises the Commander-in-Chief instituted a patrol north of the Shetlands by a cruiser working with one armed boarding steamer. This was in addition to the usual patrols and was put in operation in order that German raiders might meet a force strong enough to overpower them and to secure that they revealed their character. All armed boarding steamers were warned that a disguised enemy vessel might give a false name and ports of departure and destination which would agree with her appearance and position, and that the greatest precautions were to be taken to avoid torpedo attack from such a ship.⁴ The patrol was carried out between March 9 and 13 by the *Black Prince* and an armed boarding steamer, and was the first special anti-raider patrol since the destruction of the *Alcantara* by the *Greif*.

116. **Loss of "E.24."**—By March 21 *E.24*, Lieutenant-Commander Naper, which had already once laid a minefield to the south of Heligoland, was ready again with 20 mines for a second expedition. She left Harwich that forenoon with orders to enter the Bight by Amrum Bank during the dark hours and

¹ Appendix N.

² Papers titled X. 6883/16.

³ G.F.N.

⁴ G.F.O. and M., Various, March 2.

lay her mines in a zigzag line, of which the mean direction should be SSE from $54.1\frac{1}{2}$ N, $8.8\frac{1}{2}$ E, that is about 3 miles to the westward of her former field. In view of danger from mines off Ameland, Lieutenant-Commander Naper was recommended to return by the Amrum Bank route.

But he never returned; and beyond a position signal near the British shore nothing more was heard of *E.24*. It seemed impossible¹ that, with so many safety arrangements, her loss could have been due to the mines she carried; and as Lieutenant-Commander Naper had to lay his field in 12 fathoms, whereas the former field was in 8 fathoms, it seemed most unlikely that he can have hit one of the mines already laid by him.² No definite reason for her loss could be assigned, but she and her crew of 4 officers and 31 men were never found again.

No more mines were laid by British submarines till June 1916.

117. **Air Raid on Zeebrugge Aerodrome, March 20.**—For several weeks Admiral Bacon had in contemplation an air attack in force on the Zeebrugge aerodromes. All available aeroplanes at Dunkirk and the machines from the French and Belgian armies and from the Royal Flying Corps³ were to combine in attacking the sheds on shore, while the seaplanes at Dunkirk and those carried by the *Vindex* and *Riviera* would bomb the seaplane base at Zeebrugge Mole. On February 23 the Admiralty gave orders that the raid should be carried out as soon as possible, a division of Harwich destroyers co-operating with Dover destroyers on the day of the raid.⁴ Admiral Bacon arranged that the Harwich boats should patrol to the northward of Thornton Ridge to pick up any seaplane which might alight on the water there, while the French and Dover destroyers patrolled between Ostend and Dunkirk.

Successive postponements delayed the operation, originally intended for the early hours of February 27, for nearly a month; but it took place at last about 4 a.m. on March 20, with results which appeared to be good.⁵

The division of Harwich destroyers—*Lance*, *Lookout*, *Lucifer*, *Linnet*—when on the way back and about 5 miles west of the North Hinder Light Vessel, suddenly heard reports at 8 a.m., and found shells splashing round them. They were under attack from three German destroyers coming from the direction of Zeebrugge. Our destroyers turned and gave chase; and an action developed on approximately parallel courses, the *Lance* and *Linnet* leading and receiving all the enemy's fire. By 8.25 the other

¹ Capt. Waistell's report, H.S.A. 271, p. 218.

² But they might have dragged westward like the *Bjarritz* field (T.S.D.D.).

³ The Air Service of the Army was called the Royal Flying Corps, while that of the Navy was called the Royal Naval Air Service.

⁴ H.S. 215, p. 581.

⁵ Orders and reports from R.N.A.S. pilots in H.S.A. 291, pp. 537 to 550.

two British destroyers had arrived within range; whereupon the enemy altered course and ran direct for the Belgian coast, soon getting out of range. Commander W. de M. Egerton, in the *Lance*, senior officer of the division, saw no advantage in continuing the action under these conditions, and signalling for firing to cease he turned back and steamed for Harwich. Only five direct hits had been received by our destroyers. An interesting point was that though one of the *Lance's* depth charges was struck by a splinter, it did not then explode, but fired quite normally when released into the sea.¹

Commodore Tyrwhitt was in the *Cleopatra* at anchor at Harwich when, at 8.15 a.m., he received a signal from the *Lance* to the effect that hostile torpedo craft were only 40 miles away.² At 8.41 the Commodore ordered *Laforey's* division, which were the standby destroyers of that day, to raise steam with all despatch and reinforce the *Lance*. Soon after 10 Commander Egerton signalled that the enemy had run in to the Belgian coast, and that he would wait off Thornton Ridge; and when at 11 he signalled further that he was looking for the North Hinder Light Vessel to fix his position the Commodore sent the *Medea* and *Medusa* to him, and followed himself with the *Cleopatra* and *Conquest*, which had been engaged on target practice. Two hours later the *Lance* joined him, and the whole party swept up to Brown Ridge and back, turning to Harwich next morning,³ in order to prepare for a long-delayed operation of some magnitude.

CHAPTER X.

THE AIR RAID ON HOYER NEAR SYLT, MARCH 26, AND MOVEMENTS CONNECTED WITH IT.

118. **The Plan of Operations.**⁴—The idea of attacking the German air base at Hoyer on the Schleswig coast, opposite the island of Sylt, had been under consideration since June 1915, when it was first brought forward by the Director of the Air Department, Admiralty.⁵ Details of the plan to be adopted were left in abeyance till the end of November 1915, when by

¹ H.S.A. 291, pp. 232 to 246. Report to Admiralty is M. 02646/16.

² The signal as taken in by *Cleopatra* read: "*Lance* to Felixstowe. Enemy's torpedo craft 10 miles north-east South Hinder." (Signal Log 23481.)

³ Signal Log 23481; and Deck Log of *Cleopatra*; Diary of Comm. (T).

⁴ H.S. 381 contains the orders and the reports made to the Admiralty.

⁵ Commodore Murray F. Sueter.

the Admiralty's direction Commodore Tyrwhitt, who was to carry out the operation, drew up a scheme which was approved.¹

The stormy weather prevailing at the time was not suitable for the operation; but as the Admiralty considered that a covering force of battle cruisers would be required, they sent a copy of the orders to Admiral Jellicoe to make the necessary arrangements, so that the air raid could be carried out as soon as fine weather should come.²

By the middle of March conditions seemed favourable, and Commodore Tyrwhitt redrafted the orders on March 22 into their final form. The force, exclusive of the battle cruiser support, consisted of the 5th Light Cruiser Squadron, the *Aurora*, *Nimrod*, and two divisions of the 10th Flotilla, the *Undaunted*, *Lightfoot*, and two divisions of the 9th Flotilla, and the *Vindex* carrying seaplanes.

Since K Channel, although it had been swept on March 19, was still thought unsafe, he decided to use G Channel, running north-eastward from Cromer, both for going and returning. On reaching the open North Sea the Harwich Force escorting the *Vindex* were to make for a position A, about 8 miles SSW of Horn Reefs Light Vessel, arriving there at 3 a.m. Thence they would proceed ESE to a position B, 8 miles south-east of the Vyl Light Vessel, which should be reached at dawn. There the *Vindex* would release her seaplanes for the attack on Hoyer, 40 miles to the south-eastward, cruising herself in company with the destroyers near the Vyl Light Vessel to pick up the returning seaplanes. Immediately these had been recovered, the *Vindex* was to make for the end of G Channel at full speed, escorted by the *Lightfoot* and two destroyers, while the light cruisers and the remaining destroyers covered her rear. One of the destroyers left at Harwich was to come out and keep watch at the exit of G Channel to show returning ships where they could find the buoy marking its opening.³

119. **The Harwich Force Sails, March 24.**—Since the operation was to take place at the Amrum end of the German Bight, and Commodore Tyrwhitt's retirement would be across the enemy's front, the Admiralty intended that he should have the close support of the battle cruisers. This had been decided in January when the companion air raid "A.R.H." on the Norderney sheds was under consideration.⁴

By March 20 the conditions seemed favourable for the air raid on Hoyer and, moreover, the 1st Scouting Group was known to be in the Baltic. The Admiralty, therefore, enquired of the Commander-in-Chief the earliest date when the co-operation of

¹ Copy of the scheme in H.S. 381, pp. 36 to 40.

² M. 00111.

³ H.S.A. 291, p. 355.

⁴ See Section 46. The telegrams arranging battle cruiser support at that time are in G.F.S.P., Vol. LXIV (H.S.A. 146), p. 394.

the Battle Cruiser Fleet could be secured. The Commander-in-Chief had proposed a sweep of the Skagerrak, but learning that the air raid was now definitely to take place, postponed the sweep, lest it should cause unrest in the High Sea Fleet, and lead to interference with the Harwich Force. The battle cruisers were available after March 22, but the Commodore's preparations were not complete till the 24th. The definite conclusion whether he would start or not, depending as it did so much on local conditions, was left to the Commodore, who was to inform Admiral Beatty direct of his decision. The latter arranged to take the battle cruisers as far as 56° N, 6° E, about 45 miles west of Horn Reefs.

There was no unforeseen delay. The weather was suitable, and on the 23rd the Commodore telegraphed that he would sail at 4.30 a.m. on the 24th. He left at that time with the following forces:—

LIGHT CRUISERS.

Cleopatra, Penelope, Conquest, Aurora, Undaunted.

SEAPLANE CARRIER.

Vindex.

FLOTILLA LEADERS

Nimrod, Lightfoot.

DESTROYERS.

<i>Meteor</i>	<i>Medusa</i>	<i>Laforey</i>	<i>Laertes</i>
<i>Mastiff</i>	<i>Murray</i>	<i>Liberty</i>	<i>Lassoo</i>
<i>Minos</i>	<i>Mansfield</i>	<i>Llewellyn</i>	<i>Laverock</i>
<i>Manly</i>	<i>Morris</i>	<i>Laurel</i>	<i>Linnet.</i>

The Battle Cruiser Fleet and the 1st Destroyer Flotilla sailed from Rosyth a couple of hours later.

Although K Channel had been swept on March 19, Commodore Tyrwhitt did not use it, his plan having been drawn up for G Channel, farther to the northward. He reached the end of it about 2 p.m., and shaped course for Horn Reefs.

The battle cruisers did not steer direct for Horn Reefs, but took a false course during daylight as if making for the coast of Norway; this was in accordance with a suggestion from the Commander-in-Chief intended to hide their real destination from any German scout disguised as a neutral which they might pass during the day.¹

120. **Movements of the Harwich Force during the Air Raid.**—

The weather off Horn Reefs was fine and the sea calm when the Harwich Force reached position B at 4.30 a.m., March 25, though occasional brief showers of snow were experienced. The *Vindex* stopped and hoisted out her seaplanes, and all five machines got

¹ C-in-C. to V.A., B.C.F., 0925, 22.3.16, in G.F. Out Telegrams, H.S.A. 70.

away at once without any trouble. Just at that moment a torpedo was seen approaching Commodore Tyrwhitt's flagship, the *Cleopatra*; it was observed in time, and by prompt use of the helm it was easily avoided. Leaving some destroyers to keep down the submarine, which, however, he suspected to be one of our own, the Commodore proceeded to the Vyl Lightship to wait for the returning seaplanes. Two were picked up, but of the other three there was no sign, although search for them was extended well to the east and south.

In the course of the search the *Lightfoot*, which was sweeping with two divisions of destroyers, sighted two German armed trawlers about 6 miles off the northern extreme of Sylt Island, steaming towards the shore. This was at 8.40 a.m.; and 10 minutes later the *Morris*, *Mansfield* and *Murray* were within range of them. In a few minutes one of the trawlers, the *Braunschweig*, was sunk. The other, named *Otto Rudolf*, was frequently smothered in smoke which impeded our firing, and it was past 9 o'clock before she had been sunk and her crew rescued by the *Murray*. The *Otto Rudolf's* commanding officer had been seriously wounded; he died on board the *Murray* next morning and was buried at sea.

Though the two trawlers had been unable to make any effective return to the fire of our destroyers they had indirectly caused us a serious loss. At the moment when the *Mansfield* opened fire on them the destroyers with the *Lightfoot* had been spread in the following order:—*Lightfoot*, *Laertes*, *Linnet*, *Laverock*, *Lassoo*, *Nimrod*, and the four "M" class, of which *Medusa* was one. Seeing the *Mansfield* open fire the *Laverock* increased to full speed, passing the *Lassoo*, her next ahead, on the starboard side; and opening fire on the leading trawler altered course at 8.55 to port till all guns would bear.

Noticing that the *Laverock* had left her place in the line the *Nimrod* at 8.55 hoisted the flag signal addressed to "General."

"Destroyers form single line ahead, cease fire," following it 5 minutes later by "10th Flotilla form single line ahead in sequence of fleet numbers, cease fire."¹ The *Nimrod* then stopped abreast of the left-hand trawler, which was in the middle of a cloud of smoke. The commander of the *Nimrod*, though junior to the commander of the *Lightfoot*, had considered he should take charge as his senior officer was 2 miles away and unaware of what was happening. He intended by these signals merely to recall the *Laverock* to her place in the line; she was the only boat within sight firing, since the "M" class destroyers were hidden by the smoke from the sinking trawlers.²

Unfortunately, the signal was seen also by the *Medusa*; and in endeavouring to obey it she was run into at 9.10 a.m. by the

¹ *Nimrod* Signal Log 22, 888.

² Court of Enquiry papers titled *Court Martial*, 4 September 1916; Commander Rowley-Conwy's letter dated May 3.

Laverock, which suddenly emerged from the smoke to take up the position for which the *Medusa* was steering. The *Medusa's* engine room began to fill, and though at first the inrush of water was checked by a collision mat, it was soon obvious that she could not steam.

The *Laverock* had received only slight injury, and was sent off on a course of N 30 W as fast as possible. This course took her to Commodore Tyrwhitt, who ordered her to return independently to Harwich via G Channel.

121. **Taking the "Medusa" in tow.**—Although the *Nimrod* had reported by wireless at once that the *Medusa* had been in collision, the message did not reach the Commodore, who at 9.20 recalled the *Lightfoot's* flotilla to the Vyl Lightship, as by this time he had given up all hope of the three missing seaplanes. It was just at this moment that the *Laverock* was passing the *Lightfoot* and reporting that she had collided with the *Medusa*.¹

Half an hour passed before the *Lightfoot* realised the extent of the damage to the *Medusa*. She then proceeded to take the helpless destroyer in tow. At this time two German seaplanes were overhead bombing the two vessels; "some of their shots were quite good, but some very bad," writes Commander Colin Maclean of the *Lightfoot*.² All this occurred 6 or 7 miles west of the north extreme of Sylt Island. Commander Maclean kept only two destroyers to guard him and his tow, and sent the remainder off to join the Commodore. The helpless *Medusa* was then no farther than 6 miles from Lister Deep Buoy, and a seaplane was circling overhead. He had moved only a mile or so from the scene of the collision by 11 o'clock, when the Commodore appeared with the 5th Light Cruiser Squadron.³

The *Lightfoot's* 10.3 signal was the first received by the Commodore to convey an idea of what had happened, and even then he thought the *Medusa* had been hit by aircraft. He at once turned to SSE and increased speed to 25 knots,⁴ detaching the *Vindex* to return home independently with six destroyers as a screen. On reaching the *Medusa* the Commodore ordered the *Aurora* to stand by her to assist, and the whole squadron moved off westward, at first in company. Seaplanes flew over them, dropping bombs without effect, though the *Conquest* was once nearly hit.

It was found that the speed of towing could be 12 knots, and at this speed the squadron proceeded for home, enemy seaplanes

¹ *Lightfoot* Signal Log 39018. The signal was timed 0920 and sent at 9.18 (*Aurora's* Signal Log 22670).

² H.S. 381, p. 84.

³ *Lightfoot* to Comm. (T):—10.3. My position 10 a.m., 55.4 N, 8.8 E; am taking *Medusa* in tow. *Lightfoot* to *Laertes* and *Lassoo*:—10.7. Stay and escort *Lightfoot* and *Medusa*. Please keep off Taube if possible. *Lightfoot* to Comm. (T):—10.55. My position from Vyl Light Vessel S 30 E, 23 miles.

⁴ Signals 10.19, 10.22, in *Cleopatra's* Signal Log 23481.

appearing at intervals and being engaged by the guns of the cruisers. At 12.28 p.m. came an order from the Admiralty to the Commodore that he was to withdraw without delay.¹ Half an hour later a hostile seaplane's message made in plain German was taken in; it reported "two enemy groups of different strengths steering away." In fact the Commodore was then steaming at 15 knots, and leaving behind the *Medusa*, *Lightfoot*, *Aurora* and a destroyer division which he had sent to screen them.

He now came to the conclusion that he might not be able to get the *Medusa* away, and at 2 p.m. he signalled by searchlight to the *Lightfoot*, "Be prepared to abandon and sink *Medusa*." Captain Wilmot Nicholson in the *Aurora*, Captain (D) of the 10th Flotilla, then detailed the *Lassoo* to be prepared to take off the *Medusa's* crew.

All this time the battle cruisers had been in support close to Horn Reefs. Commodore Tyrwhitt reported to Admiral Beatty what had occurred, and at 4 o'clock sighted the battle cruisers. Admiral Beatty arranged to remain in support till after dark; he would then shape course for Rosyth, leaving behind with the Commodore the *Botha*, leader, and 11 destroyers of the 1st Flotilla. It seemed they might be wanted, since the Admiralty warned both him and the Commodore to be prepared for destroyer attack after dark, and at 6.20 that strong enemy forces were sweeping to the west and north-west after him. In view of this threat, the Commodore went round the north of Area I, instead of going back by the route he had come out by. Shortly afterwards the 1st Flotilla had to return to refuel, leaving Admiral Beatty with no destroyer screen.

122. **The "Medusa" abandoned.**—All were anxious to get out of the danger area as soon as possible. Efforts were made to increase the speed of towing the *Medusa*, but a rising sea made her yaw badly, and at 7.40, before she was more than 50 miles west of Horn Reefs, the tow parted. On learning this the Commodore turned back and circled the *Medusa* with his light cruisers. It was now dark, and he decided to abandon her. At 8.15 he made the signal, "*Lightfoot* take off *Medusa's* crew and sink *Medusa*. *Nimrod* and destroyers proceed north 15 knots. *Aurora* close *Lightfoot* and assist." Half an hour later he asked whether it was possible to take off the crew; the *Lightfoot* replied that so far she had been unable to do so, and the Commodore signalled at 9.5 p.m. to the *Aurora*, "Cancel orders. Tell *Medusa* to put out all lights and that we will come back to her in the morning." His object was "to get the destroyers away. They were stopped close to the *Medusa*; the night being exceedingly dark, and as they were all showing lights, it was very difficult to render assistance to the *Medusa* while they were there without risking further collisions."²

¹ *Aurora's* W/T Log 22670 gives 12.28 as time of receipt.

² Comm. (T)'s letter of March 27, H.S. 381, p. 80.

This last order was passed by the *Aurora* to the *Medusa* in the form, "Douse all lights, we will return to you in the morning, ship is not to be sunk." It was acknowledged from the *Lassoo*, which had just succeeded in taking off the whole crew of the *Medusa*. Captain Wilmot Nicholson then steamed off with the *Lightfoot* and *Lassoo*; the captain of the *Medusa* reported that the firing arrangements for sinking his ship had carried away, but she was nevertheless sinking slowly, and this last fact Captain Wilmot Nicholson reported to the Commodore.

123. The Night Encounter with Enemy Destroyers.—When the Commodore retired to the northward it had been with the express purpose of avoiding an encounter with the enemy, whose strength would probably be greater than his own; but the battle cruisers with the addition of the Commodore's force would be strong enough to deal with them, and Admiral Beatty proposed a sweep with the battle cruisers and Harwich Force combined south of Area I to catch the Germans returning at daylight. This the Admiralty would not permit.¹

The night was not to pass without some sign of the enemy. At 10.15 p.m. the *Cleopatra* observed close on her port bow a shower of sparks as if from a coal burning vessel steaming at a high speed. Captain Loder Symonds of the *Cleopatra* assumed this to be from enemy torpedo craft, and put his helm over to bring them ahead. His manœuvre brought him straight on to one of two boats which appeared crossing his bows; the *Cleopatra* struck her amidships, causing an explosion as if the enemy's boiler had burst. Although only two minutes had elapsed since the sighting of the sparks, the night was so pitch dark that nothing could be seen of the second enemy boat. Immediately after ramming, the *Cleopatra* stopped engines for a few seconds, and then went on full speed.

Captain Loder Symond's prompt alteration of course, so fatal to the enemy, had an unpleasant sequel. The move brought the rest of the 5th Light Cruiser Squadron on to his port beam, and in fact, the *Undaunted*, next astern, came dangerously close; and in endeavouring to avoid each other the two ships collided, the *Undaunted* striking the *Cleopatra* a glancing blow on the port quarter without injuring her more than slightly.

No signal was made by the Commodore to enquire what damage had been done to the *Undaunted*. He had lost touch with the whole of the squadron; he steamed southward for 10 minutes and then back again, and at 10.35 resumed his former course of north-west.²

¹ Appendix C. 24.

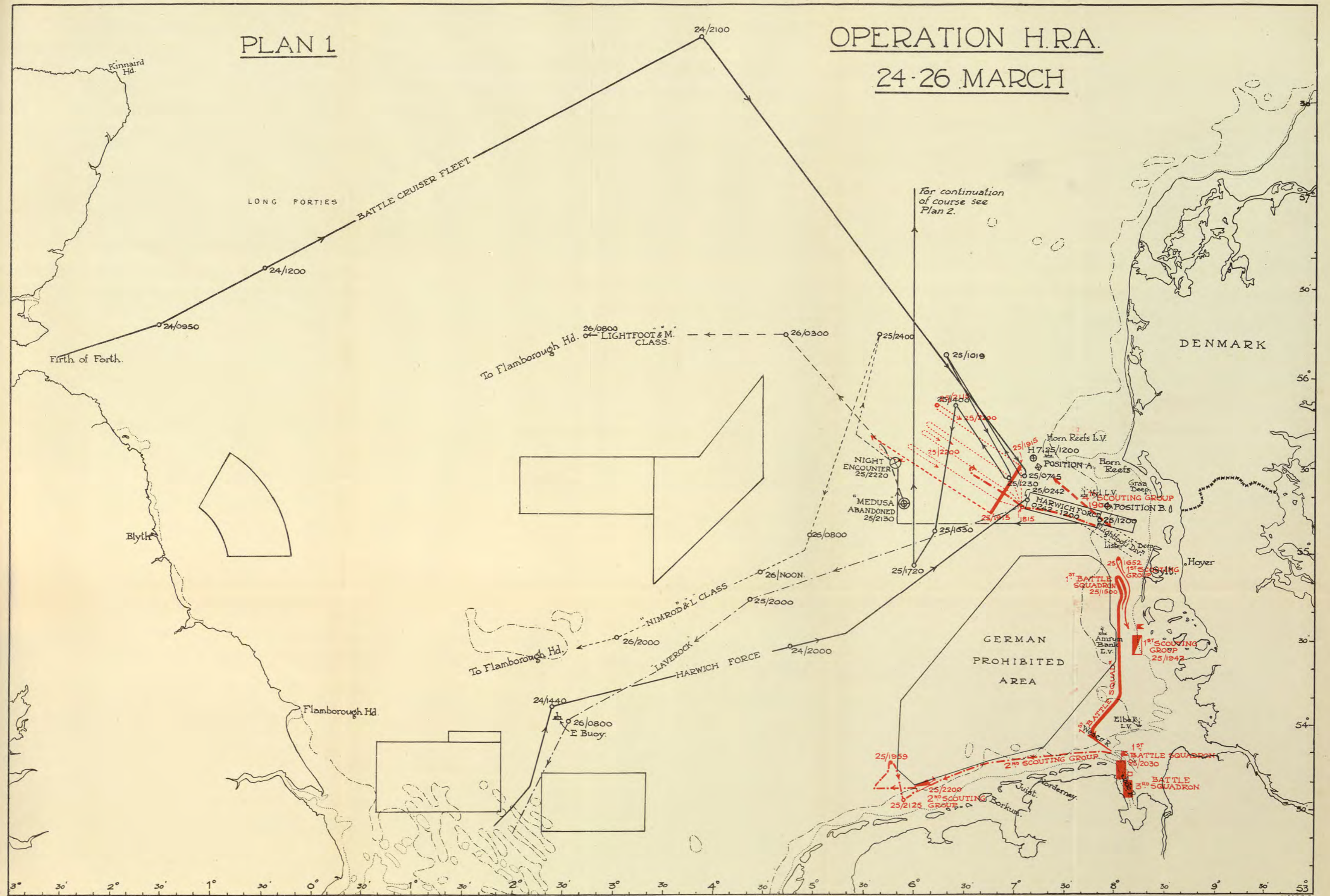
² From *Cleopatra's* Deck Log:—10.20. *Undaunted* next astern struck *Cleopatra* a glancing blow on port quarter, lost touch with all other ships; 10.20 to 10.30 course south; 10.30 altered course north; 10.35 altered course north-west; Midt. altered course N 35 W.



PLAN 1

OPERATION H.R.A.

24-26 MARCH



LONG FORTIES

BATTLE CRUISER FLEET

24/1200

24/0950

Firth of Forth

Blyth

Flamborough Hd.

To Flamborough Hd. 26/0800 LIGHTFOOT & M. CLASS.

To Flamborough Hd. 26/2000

LAVEROCK HARWICH FORCE

24/1440

26/0800 E Buoy.

24/2100

26/0300

For continuation of course see Plan 2.

25/1019

NIGHT ENCOUNTER 25/2220

"MEDUSA" ABANDONED 25/2130

26/0800

25/2000

24/2000

25/1959

25/2200 2ND SCOUTING GROUP

25/2125 2ND SCOUTING GROUP

Morn Reets L.V.

H7 25/1200

POSITION A

POSITION B

HARWICH FORCE 25/1200

1ST BATTLE SQUADRON 25/1500

1ST SCOUTING GROUP 25/1942

1ST BATTLE SQUADRON 25/2030

2ND BATTLE SQUADRON

3RD BATTLE SQUADRON

DENMARK

GERMAN PROHIBITED AREA

1ST SCOUTING GROUP

1ST SCOUTING GROUP

1ST BATTLE SQUADRON

2ND BATTLE SQUADRON

3RD BATTLE SQUADRON

124. **The "Undaunted" damaged.**—For 40 minutes there was no news either asked for or received from Captain St. John of the *Undaunted*.¹ The other ships had left her, and she was alone with German destroyers in her close neighbourhood. Our own destroyers were well away to the northward, 20 miles ahead of the light cruisers, and totally unaware of what had happened. It was not till 11 that the *Cleopatra* received any intimation from the *Undaunted*; Captain St. John then signalled by wireless, "Bow badly damaged, can one ship stand by me. 2244." The Commodore did not accede to this request; he ordered the *Penelope*, *Conquest*, and *Aurora* back to Harwich,² and continued his own course of N 35° W at 10 knots.

From the signal logs, which at this moment of crisis seem to be even more badly kept than usual, it is difficult to reconstruct the messages that passed; but what appears to have been the sequence is as follows:—At 11.30 Captain St. John signalled that he could go only 6 knots, carrying 20° of port helm.³ About midnight the Commodore enquired by wireless of the *Undaunted*, "Indicate your position and who is with you. 2358"; to which the *Undaunted* replied by wireless, "Latitude 55.35 N, longitude 5.27, course N 36 W, estimated speed 6 knots, no one in company."⁴ The Commodore now informed Captain St. John that he would meet the *Undaunted* in 56° N, 4.53 E, at 6 in the morning,⁵ and with that promise of future protection the badly damaged ship had to be satisfied.

Her bulkhead had been well shored up; but the shores had to be continually watched and kept in their places, even at 6 knots speed. During the night the weather became worse, and the sea rose so much that the bulkhead began to work.

125. **The German Fleet known to be at Sea.**—The Admiralty had been aware from intercepted German signals that various enemy forces were at sea, in fact, that both exits from the German Bight were being searched by cruiser and destroyer groups. They had not informed either Admiral Beatty or the Commodore exactly what vessels were out, but at 8.26 p.m. had told the Commodore that the area north-west from the Vyl as far as 4.45 E was dangerous.⁶ This was the area containing both the *Medusa* and the *Undaunted*. At 11.27 p.m., however, he was informed that the enemy destroyers had given up the search

¹ No signals to or from *Undaunted* can be found in any of the signal logs of *Cleopatra* and *Undaunted* between the collision and 11 p.m.

² W/T Signals 2312 to *Aurora*, 2320 to *Penelope* and *Conquest*.

³ Recorded only by *Aurora*, Signal Log 22670, as Captain (D) IX to Comm. (T) 2330.

⁴ The time of origin of this reply is given as 2330; but it is obvious that it is an answer to Comm. (T)'s 2358.

⁵ Time of origin given as 0021.

⁶ C. 22.

and had turned back, and was warned in the same message that cruisers seemed about to come out in the morning.¹

The Commodore had not reported the condition of the *Undaunted* to the Admiralty, though he had informed Admiral Beatty; a fragment of the latter signal was intercepted by the Admiralty station and seemed to require action. What had been taken in was "*Undaunted* badly damaged, can only go."

The Admiralty knew that though the German destroyers were returning it was certain that large ships would be out later; and to be ready for events they ordered the Grand Fleet to concentrate to east of the Long Forties. They also despatched five submarines to 54.10 N, 4° E, with a destroyer in attendance to look out for and communicate signals to them.²

As the night wore on the German movements became clearer to the Admiralty. At 3.10 a.m. they cancelled their order that Admiral Beatty was to keep to northward of Area I, since the German destroyers had withdrawn and were concentrating 17 miles west of Lister Deep. On the receipt of this Admiral Beatty commenced to sweep southward towards Horn Reefs, turning to SSE at 4.30 a.m. By that time the Admiralty knew that the 1st and 4th Scouting Groups would be sweeping westward from 4.30 a.m. across the Horn Reefs entrance into the Bight, and before 4 a.m. they learned that the 1st and 3rd German Battle Squadrons were steaming northward towards the same locality.³ At 4.35 a.m. they signalled to Commodore Tyrwhitt, "Take off crews, sink disabled ships and retire on battle cruiser fleet. 0435."⁴ The only disabled ships of which the Admiralty had heard were the *Medusa* and *Undaunted*; it is probable they intended by this order that the Commodore should sink those, imagining that he had them in company and was being hampered by them. They do not seem to have known that he had left them both behind.

On receipt of the order to sink his ships the Commodore signalled to the *Lightfoot*, "Very urgent. Take off crew of *Medusa*, sink ship and proceed to base with utmost despatch."⁵ It seemed that he was under the impression that a part of the *Medusa's* crew was still on board their own ship. No notice was taken of this signal by the *Lightfoot*, and as it is not recorded in her signal log, she probably did not receive it.⁶ She continued her progress westward at 14 knots, reduced later by the steep seas to 7 knots, and entering by H Channel proceeded down the east coast swept channel from Flamborough Head to Harwich.⁷

¹ C. 26.

² C. 29, 30.

³ C. 34, 35.

⁴ C. 36.

⁵ The only record of this signal is in *Undaunted's* Signal Log 22293, where we find "5.23 a.m. Comm. (T) to *Lightfoot* and *Lassoo*:—Urgent. Sink *Medusa*. Proceed to base through G Channel. Inform. (Jammed)."

⁶ Comm. (T) states that *Lightfoot* acknowledged the signal.

⁷ *Lightfoot*, Deck Log.

As regards the *Undaunted*, which was still creeping along, the Commodore ordered her to make for the Tyne, and asked if she required assistance. She replied that she could make 6 knots, but would like an escort for help in case the bulkheads gave way, and for a submarine screen.¹

The Commodore, however, proceeded with his cruisers to join Admiral Beatty, who was sweeping right back to the vicinity in which the *Medusa* had been abandoned, with the double object of sinking her and of covering the retirement of the *Undaunted*. He had also some hope of meeting the German battle cruisers alone, intending if they were closely supported by battleships to withdraw towards the Grand Fleet. The *Aurora*, *Penelope* and *Conquest* joined up with the Vice-Admiral, while the *Cleopatra* at noon parted company and proceeded to Harwich.

The Commodore had informed Admiral Beatty of his orders to the *Lightfoot*, and as she had not reported failure to carry them out it seems to have been assumed by both officers that she had sunk the *Medusa*.²

126. The German Forces withdraw.—At 11 Admiral Beatty received from the Admiralty information that owing to the bad weather all German forces had given up the search and were returning southward.³ He therefore turned to NNW and ordered the *Aurora*, *Penelope* and *Conquest* to join the *Undaunted*; and shaping his own course to provide support for these ships he returned to Rosyth.

For 27 hours Admiral Beatty had been cruising in the vicinity of Horn Reefs, and for the last 15 of these had been without destroyers, which he had had to send back for lack of fuel. On his return he suggested that in future operations initiated by us the destroyers required to operate with the battle cruiser force should sail in advance and proceed to a rendezvous at their economical speed, so as to ensure their having the maximum amount of fuel on board during the operation. The adoption of this principle would necessitate heavy ships proceeding to their operation zone without a destroyer screen, but this disadvantage could be overcome by the use of light cruisers in the place of destroyers, and by proceeding at speed.⁴

127. Movements of the Grand Fleet.⁵—The Grand Fleet put to sea at dawn, March 26, in a thick snowstorm, which delayed to some extent the concentration of the squadrons from Scapa and Cromarty. It was soon realised that the 3rd Battle Squadron from Rosyth would not be able to reach the rendezvous in time to join up and it did not proceed to sea.

¹ Signal Log, *Undaunted*, 22293, and Comm. (T)'s letter of March 27.

² Admiral Beatty's letter of March 29, H.S. 381, pp. 169 to 171.

³ C. 41.

⁴ H.S. 381, p. 170.

⁵ From *Grand Fleet Narrative*.

At first the Commander-in-Chief ordered the Blyth submarines out by H Channel in 54° N to spread on the meridian of 3.30 E between 54° and 54.35 N to cover the 5th Light Cruiser Squadron's return. The submarines were out for only a few hours, being recalled to Blyth by the Commander-in-Chief as soon as he heard that all enemy forces were returning southward.¹ He felt that there was no object in the Grand Fleet's remaining out either, especially as a heavy and very steep sea was running, with the result that the destroyers with him could not steam 10 knots against it with safety. He therefore proposed at 10.56 a.m., March 26, that the whole force should return. The Admiralty agreed, and ordered Admiral Beatty and the Commodore to go back to their bases or other British ports at once; but they instructed Admiral Jellicoe to continue to come south-eastward until it was certain that the forces engaged in the operation had definitely withdrawn.²

He steamed eastward till 4.30 p.m., by which time our forces in the east were well on their way home. The *Undaunted* was the only vessel needing protection, and though he was aware that Admiral Beatty had sent the *Aurora*, *Conquest* and *Penelope* to her, it was clear she was in difficulties, since she had reported at 1 p.m. that she was hove to on account of the weather in 56.36 N, 3.50 E. When the Grand Fleet turned back for Scapa and Cromarty, Admiral Jellicoe ordered the 5th Battle Squadron to cover the *Undaunted* from attack from the eastward, steaming in open order in line abreast on zigzag courses during daylight, and returning to their base as soon as the *Undaunted* had passed the meridian of 2.30 E.

Even in the Grand Fleet there was a collision. Early in the morning of the 27th the destroyer *Michael*, making for Scapa with the fleet in a heavy and steep sea, ran into the sloop *Carnation* patrolling off Noss Head. The latter reached Cromarty under her own steam; but the *Michael*, with her engine room and after boiler room flooded, had to be towed to Scapa.

128. The "Undaunted's" Voyage to the Tyne.³—The *Undaunted* had been hove to in 56.36 N, 3.50 E, since noon, unable to go on in the gale for fear lest her bulkheads should give way. She was still in the same position at 3.15 p.m.,⁴ with her compartments before the collision bulkhead full; the shores were still holding but Captain St. John did not think it safe to proceed against the heavy head sea. He was aware that the three light cruisers were on their way to join him and also that they could not arrive for some hours.

To protect her from submarine attack during the daylight hours of the 27th, Admiral Beatty asked for some Rosyth

¹ Tel. 788 sent by Admiralty at 0930. See Appendix C. 41.

² C. 44, 45, 46.

³ From *Undaunted's* Signal Log 22293.

⁴ Signals 1515 and 1605 to S.O., B.C.F., in *Undaunted's* Signal Log 22293.

destroyers, and four of these were sent out at 11 p.m. the 26th.¹ By 9.30 p.m. she had made good some miles and was in 56.39 N, 3° E.

Throughout the night the *Undaunted* remained alone, and it was not till 7 a.m., March 27, that she sighted in quick succession the four vessels of the 5th Battle Squadron and the *Conquest*, *Penelope* and *Aurora*.

The 5th Battle Squadron remained in close touch for an hour and then returned to Scapa. At noon the destroyers arrived to take over the escort duty and the *Aurora* and *Contest* proceeded for Harwich, leaving the *Penelope* to keep company with the damaged ship. The weather took a turn for the worse, and an attempt was made by the *Penelope* to calm the seas by emitting oil, but it was obvious that too much would be required to do any good and the experiment was not pursued.

Throughout the night of March 27–28 the *Undaunted* had in company the *Penelope* and the *Badger*, *Beaver* and *Defender*.² By dawn of the 28th her dangerous voyage was drawing to a close. The mouth of the Tyne was visible ahead. The *Penelope* and destroyers parted company, and at 9.30 a.m. the *Undaunted* made fast to the buoys outside Palmer's Yard.

For 60 hours she had been making her way from the confines of the German Bight and for more than half that time, and the most dangerous half at that, she had been alone in a heavy sea with a working bulkhead. Had it carried away during that time, there was no one to help her or rescue her crew, and had any of the German ships known to be searching in her neighbourhood come across her, she could not have avoided their attacks. Over and above all this, the Admiralty had given orders that she was to be sunk. But surviving all these varied perils here she was in Seaham Harbour!

Strangely enough, of the vessels of the Harwich Force which had set out for operation H.R.A. on March 24 she was not the last to reach the shore.

129. The end of the "Medusa."—Captain Wilmot Nicholson in the *Aurora*, Captain (D) of the 10th Flotilla, was by no means certain that the *Medusa* had sunk. When he left her 50 miles west of Horn Reefs he was under the impression that the Commodore would come to look for her in the morning, and although he had received the order to put out all her lights it was too difficult to board her again and he came away leaving her stern lights burning. Admiral Beatty's failure to find her led to the conclusion that she had sunk, and it was not till the night of March 29 that any serious doubt arose on the question. That evening a wireless press message from Germany stated that at 11 a.m., March 27, a Dutch steam trawler sighted the *Medusa*

¹ *Defender*, *Forester*, *Badger*, *Beaver*; C. 56, 57.

² The *Forester* had broken down on account of the weather.

still afloat about 60 miles west of Horn Reefs; the weather was too bad at the time to permit the trawler to take the derelict in tow, but the skipper considered she would remain afloat for some time.

The report prompted the Admiralty to enquire from Commodore Tyrwhitt what steps were taken to sink the *Medusa*, and they then learned that no one had seen her actually sink, though her officers were satisfied that she was in a sinking condition when abandoned. Moreover, it seemed impossible that she could have survived the rough weather which culminated on the 28th in a gale. Nevertheless, there was the fact that she was afloat on the 27th and the Admiralty sent two submarines to the position, one boat to look for and sink the destroyer if found, the other to go south-west of Horn Reefs to intercept vessels returning with her in case the Germans found her first.

Two submarines, *E.4* and *D.6*, were on their way to cruise between 54° and 54.30 N, 5° E and 5.25 E; these were now ordered to look out for the *Medusa*; and a third submarine, *E.29*, was despatched to take their place off Ameland. All three returned on April 4, having seen nothing of the *Medusa*.

But she had been seen by another Dutch trawler which found her in the morning of April 3 about 40 miles west of Horn Reefs Light Vessel, deserted, but with the British flag still flying. The enterprising Dutch skipper took her in tow and brought her on April 5 into Terschelling, after towing her for 150 miles. At the entrance she took ground on a sandbank and there she eventually became engulfed, all hope of salvaging her being abandoned on April 22.¹

The Dutch skipper was therefore robbed of the distinction of bringing into port as his lawful treasure trove in wartime a British man-of-war with the British flag flying.

130. Movements of German Forces towards Horn Reefs.—At the time of the air raid which had brought about the chapter of accidents described, the High Sea Fleet was preparing for another large sortie intended to locate and deal with important British forces reported to be frequently operating in the middle of the North Sea. The German plan was for the High Sea Fleet to leave in the evening of March 26 and proceed to the Farn Islands—Skagerrak line, where the cruisers with some destroyers would begin to harry commerce while other flotillas searched west of the Dogger Bank. The whole force was to rendezvous near Terschelling on the 28th and return by the western channel, the Flanders command assisting with air reconnaissance and by stationing *U.B.* boats at useful positions off the south-eastern coast of England. Meanwhile *U.74*, fitted as a minelayer, was to mine the exit from the Forth.

The battle cruisers and rest of the 1st Scouting Group returned from the Baltic early on the 25th. Scarcely had they

¹ H.S.A. 146, p. 467, and *Court Martial*, 4 September 1916.

arrived than aircraft appeared near List. The message reporting this was delayed by various mischances and did not reach Admiral Scheer till 8.45 a.m., simultaneously with a report from the List outpost trawler *Braunschweig* that British destroyers were in sight. A few minutes later came intelligence that destroyers were off the Ems also. Though this last item of information was false, there was no means of ascertaining this at the time, and Admiral Scheer assumed he had to deal with forces at both ends of the Bight.

A British air attack was all the more unexpected in that German air reconnaissances planned for that morning had been cancelled owing to the cold and the south-westerly wind; and for a time the British airmen were mistaken for Germans. The British air attack did no damage; for there were no aerodromes at Hoyer, and the seaplanes found nothing on which to drop their bombs. Three of them came to grief; one was captured from the water, another sank, and the third stranded on a sandbank. Machines which went up from List and Heligoland found various parts of our force and bombed them with what was thought to be some success.

Admiral Scheer, on receipt of the intelligence that the British were making a raid, ordered out all the ready ships and at 12.45 p.m. instructed the 1st Battle Squadron and the 1st and 4th Scouting Groups to proceed to the north, the 2nd Scouting Group to the westward, and the 3rd Battle Squadron to give support when ready. The destroyers of the northern force were to make a night attack. By that time the 1st Squadron with its destroyers were only 10 miles north of Heligoland, the other flotillas being no further north. They did not pass Amrum Bank till 2 p.m. The vessels for the westerly sweep could not get under way till 2.40 p.m.

Meanwhile the men in the signal station on Sylt had seen the sinking of the *Braunschweig* and *Otto Rudolf* and the accident to the *Medusa*. They watched her being towed off. Scheer did not intend his squadrons to go far; at 1.15 p.m. he ordered the 1st Battle Squadron to be back in the entrance at dark, leaving night operations to the destroyers. Accordingly, at 3 p.m. the battleships, then west of Sylt, turned back. The signal seemed to Admiral Hipper, in command of the battle cruisers, to imply caution, and as he had only ten destroyers against the thirty or more reported by the reconnoitring aircraft, he abstained from sending them on ahead to attack in daylight. By 4.30 he was 17 miles WNW of List with two flotillas in company. At 7.15 he sent them in five groups spread over 20 miles on a WNW course in the hope of meeting the towed destroyer and its escort.¹

131. German Destroyers encounter our Cruisers.—The roughness of the sea was such that the destroyers had to reduce speed

¹ *Nordsee V.*

to 15 knots, and even then the seas washed over them so much that they were unable to use their armament. At 9.10 p.m., therefore, the Commodore of Destroyers felt compelled to abandon the sweep and turn 16 points. At 10.20 p.m. *G.193*, of the southernmost group, sighted three darkened ships in single line ahead very close and approaching rapidly. Not knowing whether these were one of the other destroyer groups with which touch had been lost, or the flotilla cruiser with her two attendant boats, or perhaps British vessels, the officer in *G.193* had to make an instant decision. To attack with torpedoes was impossible in the bad weather and because the ships had been sighted so late. To keep his course would have meant a collision to a certainty; to turn away to starboard would have exposed him to most effective fire from vessels steaming with the wind; he, therefore, put his helm hard over,¹ and only just managed to avoid by a few feet the bow of the leading cruiser of which, owing to the oil fumes and artificial smoke screen he put up, he saw no more. His next astern, *G.194*, disappeared from that moment; it was she which was rammed and cut in half by the *Cleopatra*.

132. Withdrawal of the German Sweeping Forces.—Two boats of *G.193*'s group, which had consisted of four boats, had not taken in the order to turn back and continued steering north-west till nearly midnight, more or less in touch with some other darkened destroyers which they took to be their own colleagues. These may have been some of those with the *Nimrod*, which were still ahead of our light cruisers. The other groups of German destroyers managed the turn more or less successfully. *G.193* reported her sighting of British cruisers and later that she was in touch with British destroyers, whereupon the German commodore ordered his boats northward again to assist her. Only some of them took in the order, and in most cases the weather prevented them from carrying it out. The flotilla sweep thus produced no result; and at 4 a.m. Admiral Hipper ordered the destroyers home, turning back himself an hour later, because the battle cruisers could fire only from a windward position. When near Heligoland he thought himself the object of a submarine attack and, in fact, saw a torpedo approaching. The submarine may possibly have been *E.24*, which left Harwich in the forenoon of March 21 with orders to lay another minefield off the Elbe; she never returned, though she was expected back on the 26th or 27th, and nothing is known of her proceedings. But it is more likely that the submarine and torpedo seen by Hipper's battle cruisers were imaginary.

Another British submarine, *H.7*, left Yarmouth on March 19 to relieve *H.5* on the area between Horn Reefs and Sylt. Though she saw nothing of the German squadrons or flotillas, on the 25th at daylight she sighted Commodore Tyrwhitt's force and dived

¹ His order as given in the German History, p. 92, was "Hart Backbord," and he certainly turned to port.

to get to the southward of them. The rising gale and high sea drove her to shape course for home early on the 26th.¹

When, on March 30, a Dutch fishing vessel reported having seen the *Medusa* the German flotillas went out that night to sweep the vicinity in which she had been observed. But, again the elusive derelict escaped them and they returned empty handed.²

133. The Westerly Sweep of German Cruisers.—The forces sent to the westward would, it seemed to the Germans, have a good chance of intercepting the British in their retirement, which it was reasonable to expect would bring them, about 8 p.m., to the north or north-west of Terschelling. *U.69*, which had been sent out also, was 40 miles north of Terschelling with orders to proceed from there to a point 70 miles west of Horn Reefs, along the presumed line of retreat of the British force. She did not go the whole way; for her commander, taking in signals to the effect that the British had retired at 1 p.m. and assuming that they were now out of reach, turned back when half-way lest he should encounter the German sweep from Horn Reefs.

The cruisers and destroyers ordered to carry out the western sweep were north of Ameland at 6.40 p.m., March 25. Only nine destroyers were available, and these were spread in a sweeping formation, the 2nd Scouting Group having to do without destroyers. Before the destroyers had steamed more than an hour against the freshening south-westerly wind, one of them, *S.22*, then little more than 100 yards from the attendant cruiser, had her bow blown off by an explosion and in a few moments she sank with a loss of 76 out of her crew of 93. After a short pause the destroyer sweep was continued till 10 p.m., when the condition of the sea was such that the destroyers could not use their armament or keep an efficient lookout. It was, therefore, decided that they should turn back.

There was a British submarine, *D.4*, stationed in 54.3 N, 5.15 E, about 30 miles WNW of Borkum Riff Light Vessel. She had been sent to that position in the hopes of catching German submarines which were believed to pass through it on their way to and from Scotland. Arriving on the 23rd, *D.4* remained till early on the 27th, when in view of the heavy gale she left her station and returned. Beyond a few merchantmen she had seen nothing except some flashes to the southward at 9 p.m., March 26.³ These may have been the signals made in connection with the loss of *S.22*.

The explosion which had wrecked *S.22* had occurred 35 miles west of Borkum Riff Lightship; and assuming it to have been caused by a mine, the destroyer commodore kept his boats close in shore on the return journey.⁴

¹ Comm. (S) War Records, H.S.A. 271, pp. 228, 229.

² *Nordsee* V, p. 101.

³ Comm. (S) War Records, H.S.A. 271, pp. 225, 226.

⁴ *Nordsee* V, pp. 87 to 90.

The mine was most probably one which had dragged from the field laid by the *Biarritz* on March 15, about 10 miles to the eastward of where it was found. Though the minefield had no success in catching important ships and revealed itself by blowing up a destroyer, it put a stop to the intended sortie of the High Sea Fleet, at least until the newly-fouled area could be swept. All the minesweepers were put on to the work under air reconnaissance and a cruiser screen.¹

134. Mining of the Forth by "U.74"; and German discovery of British Submarine Minelaying.—The minesweeping flotilla on setting out to sweep the Borkum area suffered a loss at the outset, but not at Borkum. The commanding officer's boat, *Volksdorf*, struck a mine just off the mouth of the Elbe; and when the area was swept mines of a cylindrical pattern such as were laid by the *U.C.* boats came to light. The mines were, in fact, those laid by *E.24*; and their discovery acquainted the Germans with the disquieting fact that they no longer could claim the monopoly of being able to mine the enemy's ports unseen and with impunity.²

One such minelayer was on its way to the Forth. *U.74* left the Bight on the 26th to mine the area between Bass Rock and St. Abbs Head. It was her first long voyage and she was found to be suffering from all kinds of defects, intensified by the rough weather. One engine broke down altogether and she reached her objective in the night of March 31 with the machinery on only one side working. In the area from 56° N to 56.5 N, between the meridians of 2.14 and 2.20 W, she deposited 34 mines in groups of 6 in the general direction of 326 deg.³

The field remained undiscovered till the morning of April 18, when the minesweeping trawlers of Granton auxiliary patrol base found and exploded seven of them in the vicinity of 56.5 N, 2.20 W.⁴ The Admiral, Rosyth, advised that merchant shipping for the Forth from the southward should be directed to keep within 3 miles of the coast between St. Abbs Head and Dunbar (long. 2.31 W) and thence due north to May Island. This course kept them clear of the mines. The Admiralty, at 3.27 p.m., sent out a Q message warning all ships not to approach within 3 miles of the positions 56.5, 2.21 W and 56.4, 2.18 W; at 7.8 p.m. they issued a "Traffic Instruction" embodying the recommendations of the Admiral, Rosyth.⁵

At 10 p.m. on the 20th he reported that the area could now be considered clear; but next morning the Grand Fleet collier *Sabbia* was mined there and three more mines were found by the

¹ *Nordsee V*, pp. 99, 100.

² *Nordsee V*, p. 100.

³ O.U. 6020A: *German Statement of Mines laid by Surface Vessels and Submarines of the High Sea Fleet.*

⁴ Granton A.P. Reports, H.S. 402, p. 183.

⁵ H.S. 229, pp. 303, 361, 395.

sweepers.¹ At the end of April the area from 55.58 to 56.10 and from 2.10 to 2.29 was prohibited.²

135. The German Decyphering Station at Neumünster.—The premature return of Admiral Hipper's forces which had prevented any contact between him and Admiral Beatty was due, strangely enough, to an improvement in the reading of British signals. All decoding work for the German Navy was concentrated in the listening station at Neumünster, where it would seem several of the British codes had been sent. The staff had so far produced, in time for action, nothing of great importance, since they were not in possession of our cyphering keys. On February 27 they had read some signals apparently referring to the *Greif*, which caused some anxiety about that raider;³ but when we changed our code, or rather replaced by a new code the one which appeared to have been compromised, signals of importance ceased to be read until the operation just concluded. In the course of it Neumünster learned from the wireless signals passing that there was a damaged British destroyer in 55.8 N, 6.5 E; that attempts to tow her had failed; that her escort then steered north at 15 knots; and that they would return to her in the morning. This information had taken several hours to decypher and did not reach the German destroyers till 12.20 a.m., and did not alter the flotilla commodore's intention to return slowly southward in view of the heavy weather.⁴

In the morning the Neumünster staff succeeded in decyphering a signal to the effect that British battle or battleship squadrons were at 5 a.m. steering south-east 16½ knots from a position probably 57° N, 4.50 E.⁵ This information did not reach Admiral Scheer till 7.30 a.m., just as he had given the order for the fleet to return. He doubted the accuracy of the position and being unable to utilise air reconnaissance could not be sure that the British had not turned back again. He, therefore, did not change his orders and the fleet continued its withdrawal, although, as we now know, an advance on its part might have brought about an action, for at 8.15 a.m. the *Seydlitz* was 25 miles south-west from Horn Reefs Light Vessel.⁶ Had her course been north instead of south, the German battle cruisers should have met our own; but they held their course, and what looked like a promising chance of an encounter came to nothing. With the Germans, as with ourselves, the ability to read the opponent's signals was having the effect of frustrating encounters; it seems that the information the

¹ H.S. 229, pp. 821, 942.

² 178 and 183 Q messages.

³ *Nordsee V*, pp. 52, 54.

⁴ *Nordsee V*, p. 94.

⁵ It is impossible to trace which of the *Lion's* signals gave the information. She repeated it several times; but the course as signalled by her was SSE. It was also repeated by Comm. (T) to his cruisers.

⁶ *Nordsee V*, pp. 97, 98.

signals give is so full and accurate, albeit a little belated, that one instinctively waits for further light before deciding on a course of action which at any moment a further signal may show to be wrong.

CHAPTER XI.

ZEPPELIN RAIDS AND OPERATIONS IN APRIL.

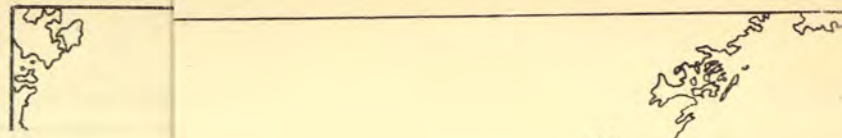
136. A Week of Airship Raids Planned.—For the moon dark period at the beginning of April the German command organised a continuous series of airship raids to cover the British Isles from the Firth of Forth to London. The moon would be new on the night of April 2-3, and the first raid was planned for March 31; it was to be an important effort, employing seven Zeppelins. These left their sheds at noon, March 31. On this occasion we did not intercept their announcements that they had only "H.V.B." on board; and we should have known nothing of the impending raid if Admiral Scheer had not informed the High Sea Fleet by wireless that seven airships were to attack the south of England that night.¹

They were first sighted by a minesweeper working at the end of K Channel. Her report, timed 1850, to her base at Lowestoft that two Zeppelins were passing her on a westerly course reached the Admiralty soon after 7 o'clock, and at 8 o'clock two divisions of Harwich destroyers were ordered out, one to be off Cromer and one off Lowestoft, to deal in daylight with any Zeppelins which might be brought down; the cruisers were not allowed out on account of the mine danger.

The *Mentor's* division sailed at 11 p.m. for Cromer, and the *Murray's* division at 1 a.m. for Lowestoft. Before midnight bombs were reported from Essex towns, and the raid had begun.

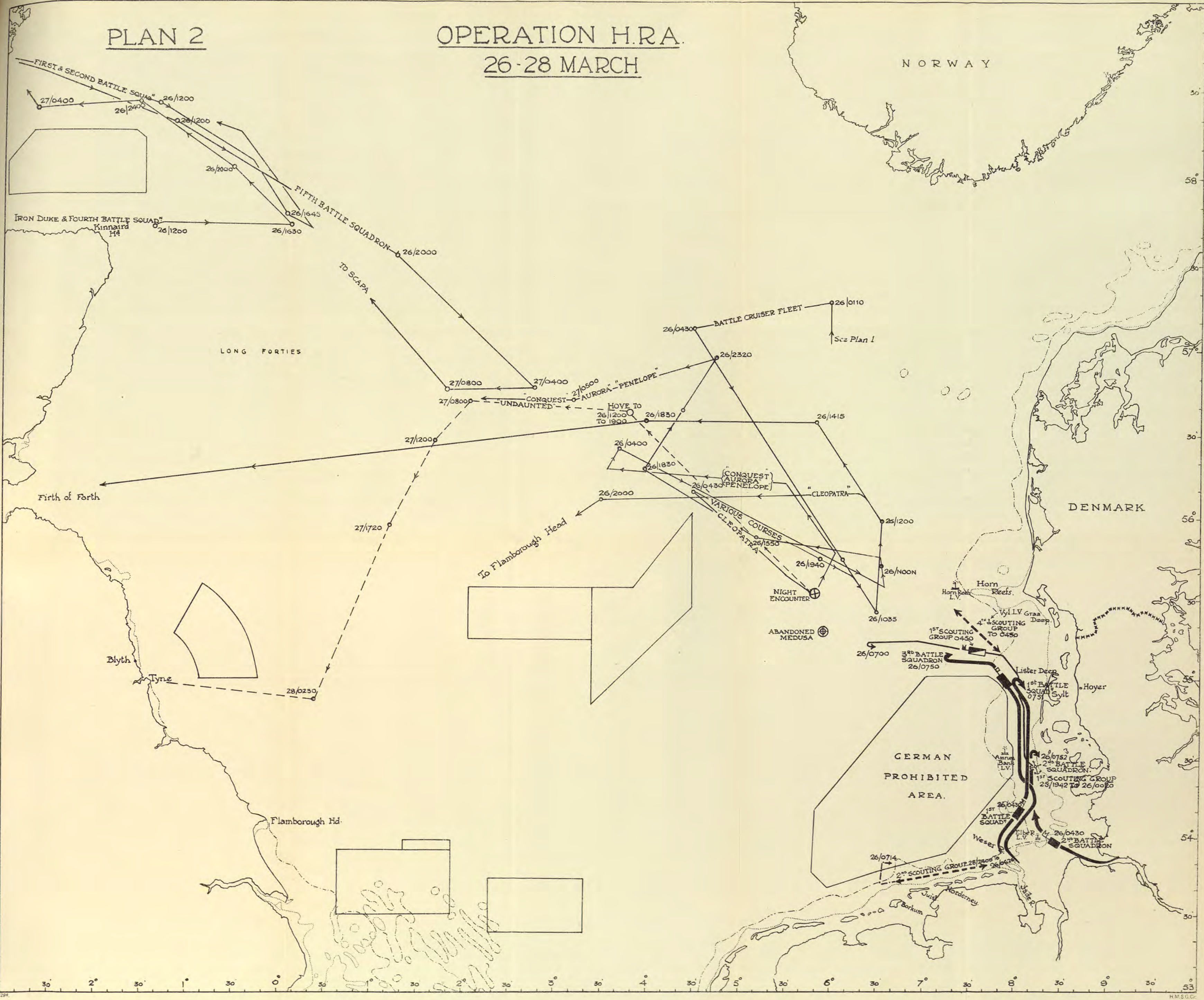
137. The Zeppelin Raid of March 31-April 1.—Of the seven airships which started for the raid, two, *L.9* and *L.11*, had to turn back with defects when they had come as far as the meridian of Terschelling. *L.13* passed over Stowmarket, where she dropped bombs intended to damage the factories for explosives. She was engaged by the anti-aircraft batteries and hit with such effect that her commander decided to abandon the idea of attacking London and to return. The remainder of his bombs he unloaded, on Lowestoft, as he thought, actually on some villages 20 miles to the southward of it. Next morning there was picked up near Stowmarket a signal form on which he had scribbled "Chief of

¹ Signal 1129/31 March, in I.D.H.S. Records.



PLAN 2

OPERATION H.R.A.
26-28 MARCH



Naval Staff, High Sea Fleet, 10 p.m. Have bombarded battery near Stowmarket with success. Am hit; have turned back. Will land at Hage about 4 a.m. *L.13.*" The form had evidently been blown overboard before it could reach the coding officer.¹ The information that *L.13* was hit and possibly in danger brought out two light cruisers and half a flotilla as far as the western entrance to the German Bight. But their assistance was not required, for *L.13* reached her shed at Hage at 2 a.m.²

L.14 escaped unhurt after bombing what she took to be the city of London. Her report speaks of the Tower Bridge and the docks, houses collapsing and fires leaping up, and an extremely heavy attack by shrapnel and rockets from which she miraculously escaped unhurt. The cold record of her flight in the British return,³ however, credits her with no worse destruction than a few broken windows and a slight damage to a pier and two empty oil tanks at Thames Haven, a long way east of Tilbury. For *L.14* never reached London; most of her bombs were dropped on villages and the little town of Sudbury in Suffolk.

L.16 also claimed to have reached the northern suburbs of London. This was no more true than the report of *L.14*. The most southerly town which received any of her bombs was Bury St. Edmunds, where 37 houses were more or less damaged.

L.22, which was delayed on passage by defects, gave up the idea of bombing London, since the other airships would have put the defence on the alert, and decided to make the Humber, where she bombed Cleethorpes. There she damaged the Town Hall, and with one bomb killed 29 soldiers and injured 53 others. These unfortunates were crowded in a chapel used as a billet. As *L.22* passed eastward out of the Humber she was engaged by the anti-aircraft guns of a paddle minesweeper,⁴ without effect.

The first of the seven airships to arrive, *L.15*, was destined never to return. She came over the coast at Dunwich at 7.45 p.m. and apparently followed the track of the Great Eastern Railway towards London, dropping a few bombs on Ipswich and Colchester as she passed. Towards the end of the journey she seems to have lost her way and, keeping too much to the eastward, struck the Thames valley north of Gravesend. Proceeding a few miles to the west she was heavily engaged by the numerous anti-aircraft batteries on the banks of the Thames. At Rainham, opposite Erith, she dropped a large number of bombs, and at the same time had a large rent torn in her hull by a shell from Purfleet battery. This decided her commander to make off at once, proceeding north-east and then east. He was overtaken by an aeroplane which endeavoured unsuccessfully to destroy his Zeppelin by bombs and explosive darts. Escaping this danger he made out

¹ *Air Raids 1916*, III, p. 5.

² *Nordsee V*, pp. 100 to 103.

³ *Airship Raids 1916*.

⁴ H.S. 226, p. 38.

to sea, throwing overboard his guns and every movable object. Just before midnight the airship was sighted at Knock Deep going slow with her tail down and low in the air. A signal from her was intercepted calling for help, to which the reply came that destroyers would come out from Zeebrugge.

138. L.15 captured in the Thames.—The Admiralty thereupon ordered Commodore Tyrwhitt and the Admirals at the Nore and Dover to send out destroyers to attack the injured Zeppelin and any forces assisting her. The Commodore sent the *Nimrod* and *Lightfoot*, each with a destroyer division, to sweep as far as the North Hinder Light Vessel.¹

Their services were not required to tackle the Zeppelin. She lost all her buoyancy and at 12.15 a.m. came down in the Thames Estuary in the middle of a flotilla of net drifters guarded by the armed trawler *Olivine*. The *Olivine* opened fire but ceased after a few rounds as there was no resistance, whereupon a voice was heard from inside the airship saying, "We surrender; have no arms; come alongside." The crew were brought off the derelict Zeppelin, the German commander, Lieutenant-Commander Breithaupt, being the first to leave. Only one man was lost, drowned while the airship was under fire; the remaining 17 were brought on board the *Olivine* and a drifter. About 1.40 a.m. some destroyers of the Nore local defence flotilla came up and attempted to get the airship in tow; this was a matter of great difficulty as her stern was under water, the envelope was partly broken, and her back was broken. A start was made after an hour, but in the morning, when still only 2½ miles from the South Knock Buoy, the airship suddenly collapsed and sank.²

The Harwich destroyers patrolling at the North Hinder and off Norfolk had nothing to report and were now recalled. Another Zeppelin raid was expected that night; and once more a division went to the vicinity of Cromer and another to Lowestoft, returning in the afternoon. They had seen no airships, the raid having taken place well to the northward.

139. The Air Raids on Northumberland and Edinburgh, April 1-2 and 2-3.—Two airships, *L.11* and *L.17*, started on April 1, parts of the High Sea Fleet being held in readiness to support them, if necessary. *L.17* broke down before she had quite reached the Humber, and had to return after lightening the ship by dropping her bombs in the sea; but *L.11*, passing over the Dogger Bank, where she was fired on but not hit by patrolling trawlers, crossed the coast south of the Tyne about 11 p.m., April 1, and after dropping bombs on Sunderland and Middlesbrough made off home again. In Sunderland about 20 private houses were completely destroyed, and 22 civilians killed. In Middlesbrough the damage consisted chiefly of broken glass.

¹ Comm. (T)'s Diary.

² M. 03072/16; Papers titled C. 972/16.

The objective for the raid of the next night was to be the Forth, especially the naval base at Rosyth and the Forth Bridge. Four Zeppelins started at noon, April 2. From their reports of position as they proceeded, which we intercepted and read, the Admiralty came to the conclusion that they were making for some northern objective, and at 5.25 p.m. warned Admirals Jellicoe and Beatty and the Admiral, Rosyth, to that effect. Of the four airships, *L.13* soon broke down and had to return, leaving the other three to continue the operation. During the night three German flotillas swept the area between Horn Reefs and the northern end of the Dogger Bank to catch any forces we might send so far to intercept the returning Zeppelins.

A northerly wind which was found to be prevailing in the western half of the North Sea drove the airships southward away from their objective. *L.22*, the first to arrive, bombed as she thought the Tyneside district; she was, however, well to the northward, and apparently mistook the Tweed for the Tyne. After bombing a factory *L.22*'s view was obscured by a thick blanket of cloud, and she soon left the coast with a good deal of her ammunition unexpended.

The next to cross the coast was *L.16*, about 11 p.m., April 2. She had decided on the Tyne as her objective, but was only a little more successful than *L.22* in finding it. Her bombs, dropped a dozen miles from Newcastle, did little damage.

L.14, Lieutenant-Commander Bocker, was the only one of the four airships to keep to the original objective. Off St. Abbs Head she was chased and fired on by destroyers, and could make only slow progress, since the wind had veered round to south-west and was now contrary. By 11 p.m. some lights in Leith and Edinburgh enabled Lieutenant-Commander Bocker to ascertain his position; but these lights were soon extinguished, and he hunted in vain for the Forth Bridge and Rosyth. Abandoning the attack on these military objectives, he dropped his bombs on the docks and harbour establishments of Leith and Edinburgh. Most of the bombs actually fell on the southern part of Edinburgh.

It is of interest that Lieutenant-Commander Bocker was an officer of the German Naval Reserve, and in the years before the war had many times visited Edinburgh and Leith as captain of a Hamburg-Amerika liner.¹ He killed 13 persons, including three children, and wrecked half a dozen dwelling houses; there was no military objective for him to attack.

Some idea of the courses of the approaching Zeppelins had been obtained from their position signals. These were reported to Admiral Jellicoe, who ordered out a light cruiser squadron and four destroyers from Rosyth to a position on the probable track of airships returning from Rosyth or Newcastle. The 2nd Light Cruiser Squadron and four destroyers sailed about 10 p.m. and patrolled approximately on the meridian of 1° E,

¹ *Air Raids 1916*, III.

between 54° and 55° W, during the small hours of April 3 in search of the airships, though without success; at 7 a.m. on the 3rd they were recalled, having seen nothing.¹ They had not gone far enough east to run into the German destroyers on the lookout for such a patrol.

140. Attack by Military Airships, April 2-3.—While the High Sea Fleet airships were bombing the north of England, two military airships from Belgium raided East Anglia. One, after circling Ipswich, dropped bombs at 1 a.m., April 3, on coast villages to the north of Felixstowe; the other dropped a large number of bombs near Epping Forest immediately after being engaged by an anti-aircraft battery. The damage done was practically nil, and there were no casualties resulting from the raid of these military airships.² The German Official History does not mention this attack by military airships, neither does it suggest that there was any co-operation between the Navy and Army commands as to air raids.

Four Harwich destroyers went out to the North Hinder to intercept these military airships on their return to Belgium.³ They left Harwich at 4.30 a.m. They saw nothing of the airships, which indeed were probably home before the destroyers started, nor did they observe any hostile aircraft or torpedo boats. They were recalled about noon.⁴

Some of the Lowestoft trawlers specially armed with anti-aircraft guns had managed to get in a shot at one of the returning Zeppelins. She was very high, but the trawler's crew imagined they saw a hit, although the airship continued her course and disappeared.⁵ Lowestoft had also two trawlers, *Kingfisher* and *Cantatrice*, specially fitted to fly seaplanes. These, with two others as guards, went out on the 31st to the neighbourhood of Smith's Knoll to intercept Zeppelins. Though they remained out the whole of this air-busy week they had no luck and sighted nothing.⁶

141. The Air Raids of April 4 and 5.—The objective for the next raid was to be London. In the afternoon of April 3, *L.11* and *L.17* went up; before long they reported themselves off Ameland, and later near Terschelling. On receipt of their signals the Admiralty passed on the intelligence to the east coast senior officers;⁷ and at 8.5 instructed Commodore (T) to send out destroyers, should the risk from mines permit, to intercept them on return from our coast; the Wash was indicated as the area

¹ Papers titled X. 6767/16.

² *Air Raids 1916*, III.

³ Tel. 876 to Comm. (T), sent 12.15 a.m., April 3.

⁴ Comm. (T)'s Diary.

⁵ H.S. 226, p. 711.

⁶ Lowestoft A.P. Reports.

⁷ Tels. 6.14 p.m. and 7.22 p.m., April 3.

they seemed to be steering for. He sent the *Laforey's* division out at 11 p.m. on this duty, and Admiral Ballard despatched a vessel with three seaplanes to wait at a position 70 miles to the eastward of Flamborough Head.¹

No airship arrived till about 2 a.m., when one passed over the Norfolk coast near Sheringham and, proceeding south and east as if for Norwich, went out to sea again by Caister. Though she dropped some bombs they did no damage and brought about no casualties.²

L.17 developed engine defects soon after starting, but managed to get near enough to see a searchlight near Haisborough. There she found she could not make headway against the wind, and therefore turned back. It was probably this airship which was seen by some fishing smacks off Haisborough at 9.30 p.m. They saw that she lowered a very bright light and kept it burning for a quarter of an hour as if to ascertain her position. She then made off eastward.³

L.11, which was the Zeppelin over Norfolk, also gave up the idea of going on to London. She dropped a bomb at intervals in the hope of provoking replies and thus enabling her to find her position, but had to go away without sighting any suitable objective. The Harwich destroyers passed the Corton Light Vessel and began sounding their way northward just about the time *L.11* passed overhead. She seems to have thought herself fired on at this point; she turned back for a moment to drop 13 bombs, and then continued her journey. The deck logs of the destroyers do not mention Zeppelins, firing or bombs; but it is nevertheless possible that the flashes *L.11* had mistaken for gunfire came from the funnels of the destroyers.

During April 4 five airships got ready to bomb the midland towns of England, and destroyers were standing by to make a sweep north-west from Horn Reefs to pick up the returning Zeppelins and deal with any British forces sent out to search for them. A strong wind from an unfavourable direction brought this enterprise to an end an hour after the airships should start.

On April 5, however, three airships proceeded. Before long one, *L.13*, broke down and returned. *L.11* shaped course for the Forth but, being driven south, crossed the Yorkshire coast at 9.10 p.m., intending to bomb Sheffield. Approaching Hull, she was received with such a fusillade that the airship was violently shaken by the shell exploding close to her. Wonderful to relate, she escaped uninjured, and making out to sea decided to give up the idea of making Sheffield via Hull, preferring to reach it from the southward. This was prevented by an engine breakdown, and she decided to give up Sheffield and attack Hartlepool, which was to windward and from whence escape was easy. On the way,

¹ H.S. 226, pp. 888, 935.

² *Airship Raids 1916*, III.

³ Papers titled X. 5420/16.

near Whithy as she thought, but really at Saltburn further north, she sighted smelting works and piers with steamers alongside. On these she dropped all her bombs with careful aim, and then retired.

The other Zeppelin, *L.16*, saw her colleague under fire at Hull, and keeping to the northward, crossed the coast well north of Scarborough. Her objective was Leeds, which she thought she had reached at midnight. She bombed factories, junctions and railway stations, and made off home.

It was not Leeds she had bombed, but Bishop Auckland, in Durham, in a colliery district, where she killed a child and damaged some miners' cottages. *L.11* caused no casualties, and did very little damage.

One of the two returning Zeppelins was sighted for a short time in the morning of April 6 by the sloop *Poppy* at the west end of the Dogger Bank. A new route called M Channel was in process of being swept for the Rosyth force from near St. Abbs Head to 54° N, 3° E. It was in the course of sweeping the southern portion of this that the 10th Sloop Flotilla saw the Zeppelin, the last time any were seen during the last raid of this new moon period. Although Admiral Ballard sent out two destroyers from the Tyne and two from the Humber, they were too late to catch a glimpse of the returning airships.¹

142. British Submarines in the German Bight, first half of April.—Three submarines—*E.4*, *D.6* and *E.29*—had left Harwich on March 30 with the special object of finding and sinking the wreck of the *Medusa*, which had recently been sighted still afloat, and to deal with any German vessels which might also be looking for the derelict.² They cruised in various positions in the Bight till dark on April 4, but saw nothing except trawlers on patrol. At dusk, April 2, *E.4* sighted a German submarine returning to port, but was unable to get within torpedo range. *D.6* saw a periscope on April 3, and *E.29* one on April 2. *E.29* was the only one of our three boats to notice a Zeppelin, and in her case it seemed to be one of those patrolling during the afternoon of April 2.³

A few days later, after the air raids were over, *E.31* and *H.10* cruised at the Borkum end of the Bight from the 8th to the 13th. Their turn of duty proved uneventful, and they were back by the 14th.⁴

143. Further Sweeps of the Norwegian Coast.—The air raid on east coast towns made little, if any, difference in the work of the Grand Fleet, whose bases, apart from Rosyth, were untouched

¹ H.S. 227, pp. 268, 301, 689; Minesweeping Statement of April 1 to 15; Papers titled X. 5425/16.

² Tel. 338 to Capt. (S), March 30.

³ Comm. (S) War Records, H.S.A. 271, pp. 232 to 249.

⁴ *Ibid.*, pp. 250 to 256.

by them. The cruiser sweeps of the Norwegian coast, already a matter of routine, were continued in April by the *Devonshire*, which, with two Rosyth destroyers, swept southward off the Norwegian coast on April 4 from Udsire to the Naze. The only suspicious vessel found was a Swede, the *Hakan*, bound for Lübeck with salt herrings; she was sent in to a British port under a prize crew. Many other steamers were seen; but they were in territorial waters and beyond examination.¹

This type of cruise was repeated a few days later by the *Roxburgh* and two other destroyers, which on April 8 swept from Udsire to the Naze. Her cruise produced no result; only one steamer and one sailing vessel were found outside territorial waters, and neither had any suspicious circumstances about their cargoes.² Unknown to both parties the little British force was being followed by *U.28*, then on the way home from the South-west Approach. The submarine reported itself in 58.57 N, 4.54 E, at 8.40 p.m., April 7,³ close to which position the *Roxburgh* had passed nine hours earlier. Next morning the submarine again made a signal, placing her in 58.3 N, 5.42 E, at 8.50 a.m., April 8.⁴ The *Roxburgh* was still eight hours ahead of her and as, moreover, the cruiser had no means of reading the submarine's signals she could make no effort either to avoid or attack it. Our cruiser turned to westward when off the Naze and crossed the course of the advancing submarine about 60 miles ahead of it.

144. British Submarines sent out to catch German Submarines in April.—Although our destroyers on the Norwegian coast were unaware of the possible chances of catching hostile boats, a definite effort was in actual progress to intercept the German submarines by our own similar craft. Signals from submarines in the North Sea on passage to and from the South-west Approach were being read at the rate of several a day; they showed that the large *U.* boats generally passed within 30 or 40 miles of the Norwegian coast on both passages. The Commander-in-Chief, considering that his own submarines would have a reasonable chance of meeting these, ordered three Blyth boats out on April 5 to positions 50 miles apart on the line from Hanstholm to the Orkneys. They were to cruise from there for six hours towards Muckle Flugga, turning back for six hours and repeating the operation till nightfall of the 8th. The three boats which left on this cruise, the first attempt we had made at a sweep by a squadron of submarines, were *E.30*, *G.4* and *G.5*, detailed for the three stations from east to west respectively.

The last two were of a new class of boat ordered in 1914; they were very little different from the later "E" class, either in length, displacement, speed or armament. These two were built

¹ M. 03484/16.

² Papers titled X. 6882/16.

³ Signal 2140/7 April, in I.D.H.S. Records.

⁴ Signal 0950/8 April.

at Chatham, and had been completed in January and February 1916.¹ It was their first long trip. All three boats were to avoid being seen, so that if the area chosen proved favourable for attack on enemy submarines it could be occupied again at some future date.²

The cruise proved barren. They arrived at their stations at 5 a.m., April 6, and remained there patrolling till 6 p.m., April 9, except *E.30*, in which a violent battery explosion occurred early on the 7th, killing four men and necessitating her immediate return to Blyth. None of the three saw anything except three apparently innocent merchant vessels which they were precluded by their orders from approaching.³ As it happened, no German submarines were passing near their boats while they were out; they were too far from Norway to have any chance of intercepting *U.28*. One of them was fired on in mistake for an enemy by one of the yachts of the auxiliary patrol, luckily without suffering any damage.⁴

Immediately on their return the Commander-in-Chief issued orders that the operation should be repeated by all available Blyth submarines patrolling on a line 30 miles wide from the eastern end of the Dogger Bank towards Muckle Flugga. The starting positions of the submarines were to be:—

- I. 56.22 N, 5.4 E.
- II. 56.46 N, 4.37 E.
- III. 57.10 N, 4.10 E.
- IV. 57.34 N, 3.42 E.

From these positions they were to proceed simultaneously at 8 knots, turning every $4\frac{1}{2}$ hours.⁵

Only three submarines, *G.2*, *D.7* and *D.8*, took part in the sweep. They patrolled from Positions I, II and III between April 18 and 23, *D.8* having to return at 4 a.m., April 19, on account of an injury to her hydroplane gearing received from the seas. On the 21st, at 6 p.m., *D.7* sighted a submarine hull down and gave chase but could not get within 4 miles. Perhaps this was *U.71* on the way home. Our two submarines arrived back at Blyth on the 24th, having seen nothing else except some steamers and Dutch trawlers.⁶

With the same idea of catching enemy submarines, *E.26*, *D.1* and *H.7* left Harwich on April 16 for positions near Borkum and Horn Reefs, where German *U.* boats were thought, from intercepted telegrams, to be acting as lookouts. Our boats remained on watch in these positions till April 19, when they returned, having seen nothing of the enemy boats, though *D.1* sighted

¹ Records of D.N.O.'s Department.

² Orders in G.F.S.P., Vol. XLIV, pp. 58, 59.

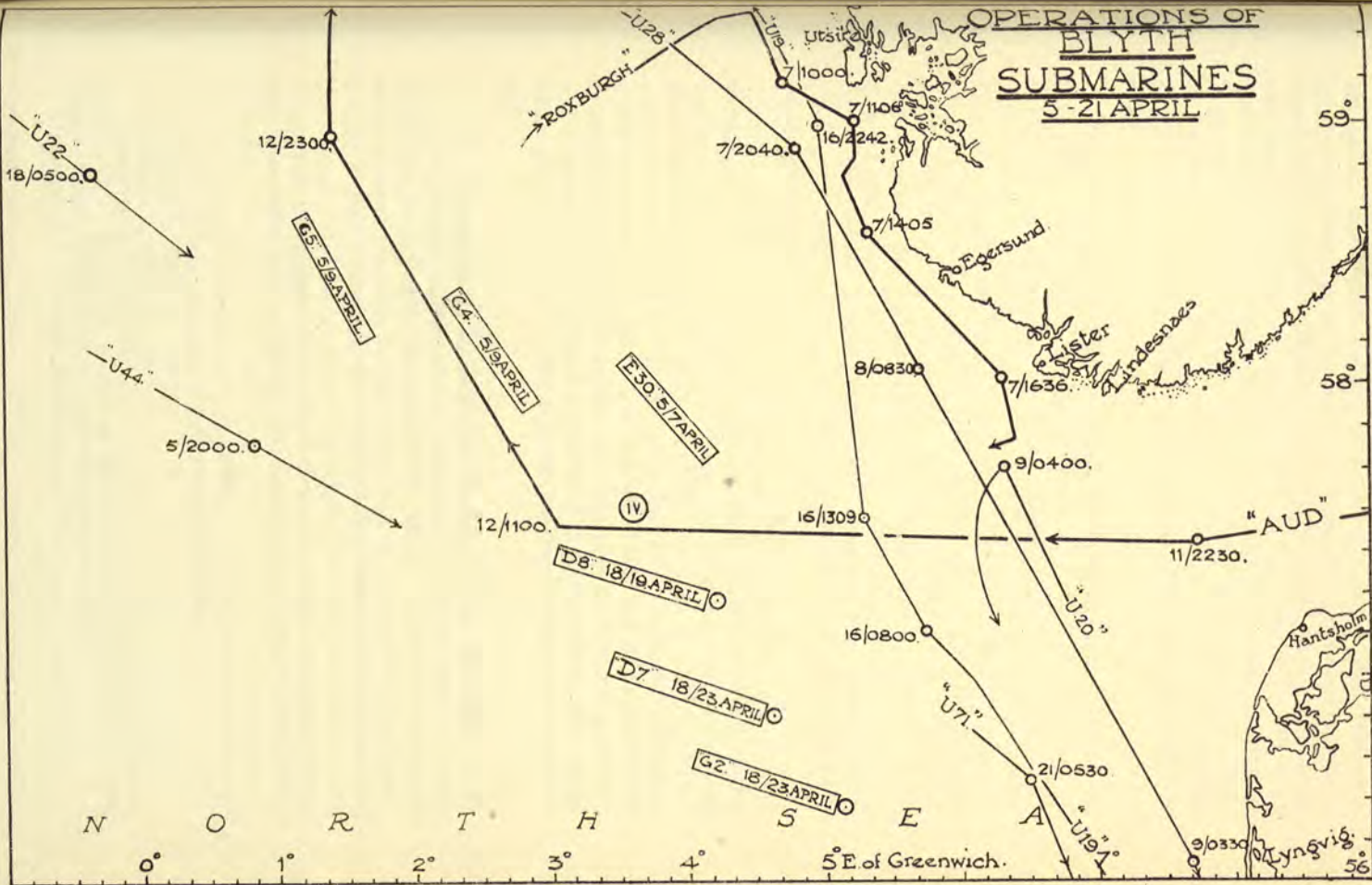
³ Reports of Proceedings in H.S. 626, p. 44.

⁴ G.F.S.P., Vol. XLIV, p. 64; H.S. 567, pp. 70 to 86.

⁵ Orders in G.F.S.P., Vol. XLIV, pp. 66, 67.

⁶ Report of Proceedings, H.S. 626, p. 45.

**OPERATIONS OF
BLYTH
SUBMARINES
5-21 APRIL**



N O R T H S E A 0° 1° 2° 3° 4° 5° E of Greenwich.

seven trawlers minesweeping 10 miles north of Ameland Gat on the 18th; these were visited by a torpedo boat which, however, gave no opportunity for attack.¹ *E.26* reported her noon position, April 19, by wireless, drawing on her the reproach that by so doing she was acquainting the enemy with her position,² for we were aware, from the German signals we intercepted, that they were in possession of several of our naval codes; and, moreover, their directional stations were well placed for accurately fixing the positions of ships making wireless signals in or near the German Bight.

145. German Attempt to Mine Fleet Bases.—As part of an operation planned for the latter part of April and designed to bring out our fleet, the German command despatched the two minelaying *U.* boats, *U.71* and *U.72*, to deposit fields outside Cromarty and in the Firth of Forth. Both boats were in position on April 18, but the activity of the patrols was so great that neither succeeded in laying her mines. They reported in one case that depth charges were dropped and in the other that the boat touched ground and caused a leak in the oil bunkers, which produced a broad trail of oil on the surface and betrayed the movements of the boat. Both *U.71* and *U.72* returned with their mission unaccomplished.³

This excellent success on the part of the patrols, which were working so hard for apparently so little result, escaped notice and was not even reported. There are no telegrams of sighting submarines either at Cromarty or in the Forth or near April 18,⁴ and the stories told by the baffled submarines cannot be corroborated from our own side. There is the fact that on April 18 the minefield laid by *U.71* on her first trip was discovered, and that seven mines were exploded in the field;⁵ it may have been these explosions that the *U.* boat mistook for depth charges dropped on her.

146. Operation L, a Destroyer Sweep of the Kattegat.—Still another attempt to interfere with the import of iron ore into Germany from Sweden was planned in April. The actual stoppage of ships was to be done by destroyers operating south of the Skaw; a light cruiser squadron was to be off the Skaw in support of the destroyers; a battle cruiser squadron was to be outside the Skagerrak in support of the light cruisers; and, what had never yet been arranged, a battle squadron was to support the battle cruisers.

¹ Comm. (S) War Records, H.S.A. 271, pp. 257-265.

² H.S. 229, p. 551.

³ *Nordsee V*, pp. 118, 119.

⁴ Cromarty A.P. Reports of date states: "Operations against hostile vessels, nil." The Daily Return of Movements of German and French Ships in Home Waters is blank for Scotland at this period.

⁵ Granton A.P. Reports, H.S. 402, p. 183.

Although the German movements on the occasion of the air raid on Hoyer of March 26 could only be dimly apprehended by means of intercepted signals, it had been observed that the forces brought out by our operation had included a battle squadron as well as the 1st Scouting Group,¹ and that Admiral Beatty's force ran some risk of coming into contact not only with battle cruisers but Dreadnought battleships also.

One idea of the sweep now devised was that it might bring out similar parts of the High Sea Fleet; and to this end our squadrons after the battleships arrived at their supporting positions were to use wireless freely. Three Blyth submarines were to be stationed in the Kattegat so that they should have a chance of attacking German groups coming from Kiel, which it was thought might be attracted out by the presence of our light forces. The light cruisers were to make sure of being seen from the Skaw when arriving on their station; but both they and the destroyers were to conceal their withdrawal.²

In pursuance of the plan the three submarines—*E.43*, *G.4*, *G.5*—started from Blyth at 6 p.m., April 19, to take up their positions at the exits from the Belts and the Sound. The destroyers for the Kattegat—half the 4th Flotilla with the *Carysfort* in attendance—left Scapa at 2 p.m., April 20. At midnight the 2nd Light Cruiser Squadron left Rosyth to be off the Skaw in support. Next morning, at 5 a.m., the 2nd Battle Cruiser Squadron proceeded from Rosyth with the 4th Light Cruiser Squadron³ and six destroyers from the 1st and 13th Flotillas. Three hours later the 2nd Battle Squadron left Scapa with the 11th Flotilla as screen.

The plan had meanwhile been extended in that the battle squadron was to sweep southward across the mouth of the Skagerrak, and the whole battle cruiser fleet to sweep eastward to within about 50 miles of Horn Reefs. In accordance with this addition to the original plan Admiral Beatty was to leave Scapa in the *Lion* at 8.30 p.m., April 21, taking with him the 1st Battle Cruiser Squadron and 1st Light Cruiser Squadron, while the 3rd Battle Cruiser and Light Cruiser Squadrons proceeded from Rosyth to join him at the noon rendezvous, April 22, in 56.10 N, 4° E, whence all the battle cruisers were to sweep in company for three hours towards Horn Reefs.

But before Admiral Beatty could sail, intercepted German signals showed that the forces in Heligoland Bight were stirring. By 5.30 it was clear that the whole High Sea Fleet was to be ready for sea that night; whether the Germans had got wind of our sweep or whether their activity was for some other reason we could not tell. The news showed that the proposed sweep of the

¹ Appendix C.

² Orders for Operation L, in Appendix P.

³ The Light Cruiser Squadrons frequently changed places between Rosyth and Scapa for gunnery and other practices.

Kattegat would no longer find the enemy unprepared. It was at once abandoned, and measures were taken to meet the new emergency.

147. The Grand Fleet Sails, April 21.—First, the ships actually at sea were recalled to concentrate at a position half-way between Aberdeen and Hanstholm. The battle cruisers and their attendant light cruisers were ordered to concentrate off the Firth of Forth, and finally, the remainder of the Grand Fleet received orders to proceed to sea and concentrate to the south-eastward of the Long Forties, in 57.30 N, 1.20 E.¹

Admiral Beatty, in the *Lion*, left Scapa at 8.30 p.m. with the 1st Battle Cruiser Squadron and 1st Light Cruiser Squadron; the 3rd Battle Cruiser Squadron, the 3rd Light Cruiser Squadron and the 1st Flotilla leaving Rosyth in time to join him at the appointed rendezvous.

Admiral Jellicoe proceeded from Scapa at 10 p.m. with the 1st, 4th and 5th Battle Squadrons, the 1st and 2nd Cruiser Squadrons and the 4th, 11th and 12th Destroyer Flotillas.

Before leaving, he heard from the Admiralty that the 1st and 2nd Scouting Groups were to scout that night in a northerly direction with destroyers; the 1st, 2nd and 3rd Battle Squadrons of the High Sea Fleet were to proceed to the northward about 10 p.m., and the whole High Sea Fleet would be off Horn Reefs at daylight, when an air reconnaissance was to be made.

By 9 a.m., April 22, the Admiralty knew that the High Sea Fleet was returning. The battleships had come nearly as far north as Horn Reefs, the cruisers going up to 56° N, practically to the southern point of the sweep to be made by our 2nd Battle Squadron in the course of the abandoned operation. The Admiralty now suggested that Admiral Jellicoe should send his light cruisers to the Skagerrak next morning with the object of drawing the German fleet out again, the Grand Fleet remaining at sea in support of the light cruisers.

148. Sweep of the Skagerrak, April 22–23.—By noon, April 22, the British battlefleet was in 57° N, 2° E. The battle cruiser fleet, now concentrated, was well to the south-eastward, and had just received orders to sweep across the mouth of the Skagerrak from near Horn Reefs; they would act as support of the 4th Light Cruiser Squadron which the Commander-in-Chief detached at 2.30 p.m. with three destroyers—*Mischief*, *Onslaught* and *Mary Rose*—to sweep the Skagerrak as far as 10° E, taking care to be west of the Naze at 11 a.m. on the 23rd; the destroyers were to be used for boarding. The night proved to be foggy and though the light cruisers penetrated well into the Skagerrak, they did not succeed in finding any vessels with contraband. They rejoined the Grand Fleet and were back at Scapa early on the 24th after an uneventful sweep.

¹ G.F.N.

The battle cruisers were less fortunate. At 3.43 p.m., in the thick fog prevailing, the *Australia* and *New Zealand* collided in the course of a zigzag, and three minutes later came again in contact. Luckily the damage done was all above water; but it was extensive enough for the two ships to have to return to port without delay. The rest of the battle cruiser fleet turned to north an hour later and proceeded according to the programme, passing under the Forth Bridge at dark of April 23.

149. The Submarine Watch on the Belts and Sound.—It had been impossible to recall the three Blyth submarines, *E.43*, *G.4* and *G.5*. They reached their stations at the exits from the Belts and Sound on April 20, and remained there till the 23rd. They had taken care while nearing the Skaw to dive frequently in order to avoid being seen by passing traffic, and their presence in the Kattegat seems to have escaped notice. After dark on the 23rd they proceeded to take up positions commanding the strait east of the Skaw. That night *G.5*, furthest east, narrowly escaped being rammed by a vessel steaming at high speed; the vessel's hull could not be made out and there is no reason to suppose she saw our submarine. This was the only semblance of a hostile man-of-war seen by the three boats. As regards merchant traffic southbound in the Kattegat, they observed that this divided at the Skaw into two main streams, one keeping close to the western shore and the other to the eastern. Nothing resembling a regular German patrol in the Kattegat was seen. There was a thick fog all April 24; in it *E.43*, in the middle position, sighted for a moment a periscope at 7.15 a.m., but no attack resulted. That evening the three submarines left for home, arriving at Blyth in the afternoon of April 26.¹

150. German Movements, April 21 and 22.—The operation to which the attempted mining of Cromarty Firth and the Forth was a preliminary was continued during the night of April 20–21 by a flotilla sweep out to the north-west from List with two battle cruisers and the 4th Scouting Group in support. The sweep passed without incident. The operation was intended to synchronise with the Irish rebellion, which was being engineered to some extent in Germany. The vessel masquerading as the *Aud* carried 20,000 Russian rifles, 10 German machine guns and some ammunition which she was to land under the protection of *U.19*.² It was not expected in Germany that the Irish would fail to carry out their part of the plan, which was merely the reception of the arms; and in order to create a diversion favourable to the rebellion the High Sea Fleet was to bombard the British coast again.

While the main body of the fleet was preparing for the enterprise the Neumünster station decyphered some British wireless

¹ G.F.S.P., Vol. XLIV, p. 71.

² See Section 95.

messages from which it was deduced that battle squadrons and cruisers had left the Forth. This was made known at 3 p.m., April 21, about 10 hours after the British 2nd Battle Cruiser Squadron sailed from Rosyth.

The weather conditions in the Bight were favourable for an air attack of the type to which the Germans were now accustomed, and which their Zeppelin raids were likely to provoke. Assuming that such an attack was in progress, Admiral Scheer ordered his whole fleet to short notice and despatched the 1st and 2nd Scouting Groups to reconnoitre towards Horn Reefs with two fast flotillas in company, sending submarines *U.20* and *U.32* to the westward to attack anything approaching the Norderney area. At 10 p.m., April 21, he proceeded northward with the whole High Sea Fleet.

The 2nd Scouting Group, ahead of the battle cruisers, were approaching Amrum Bank at 11 p.m. when the *Graudenz*, flagship of the group, struck a mine 15 miles south-west of Amrum Bank Light Vessel. Her after part filled with water, but she did not sink; she was got back to port after the Admiral had transferred to the *Pillau*. The accident was a warning and the two scouting groups altered course to pass east of Amrum Bank.

They were near the Vyl by 4.25 and there a British submarine was sighted. A quarter of an hour later Admiral Scheer turned back the whole force; three scouting airships had seen no signs of the British anywhere between Terschelling and Denmark, and it seemed useless to risk the fleet in passing through submarine-infested waters for no definite object. On the passage home the light cruiser *Frankfurt* was attacked by the submarine south-west of the Vyl Lightship, but not hit.¹

151. British Submarines in the Bight.—Two submarines, *E.23* and *E.16*, had been sent from Harwich at 11 a.m. on the 20th to wait on Jutland Bank for any German forces coming up to attack our squadrons sweeping the Skagerrak. They arrived before midnight on the 21st and took stations:—*E.23* between 56.50 and 57 deg. to the west of 7.35 E, and *E.16* between 56.40 and 56.50 to the east of the same meridian. No German men-of-war approached them or came so far north. Their orders enjoined them to proceed after dark of the 23rd—*E.23* between 56° N and the Vyl Lightship, *E.16* between the Vyl and 55° N—to observe the German patrols in the neighbourhood of Horn Reefs and Lister Deep. Thus they had not left Jutland Bank when the German scouting groups saw what they took for a submarine near the Vyl Lightship.

The submarine *E.41*, which it was intended to use for mine-laying, left in company with *E.23* to cruise between Horn Reefs and Sylt, while *E.23* and *E.16* were on Jutland Bank. She went to the bottom for the night of April 21–22 near Bovbjerg and remained in that neighbourhood well north of Horn Reefs all

¹ *Nordsee* V, pp. 119 to 128.

through the 22nd. It was not till the 24th that she came south of Horn Reefs¹ and it cannot, therefore, have been *E.41* which attacked the *Frankfurt*. It is impossible to avoid the conclusion that the *Frankfurt's* British submarine, like so many German ones seen by our fleet, was a product of the imagination.

152. **The Bombardment of Lowestoft, April 25.**—Scarcely had the ships which had returned from Operation L coaled and regained their usual state of readiness for sea before the German plan, temporarily disturbed by our movements, matured in the form of a bombardment of Lowestoft at dawn, April 25, coupled with airship raids on that district. German signals which conveyed warning of the intended enterprise were intercepted by us, and various measures to counter it were set in motion. The Harwich Force, which had gone to sea for exercises early on the 24th, was recalled in time to take part in these. In the course of them the *Penelope* was torpedoed, the *Conquest* and *Laertes* damaged by shell; none of the three was sunk, but all needed more or less extensive repair.²

CHAPTER XII.

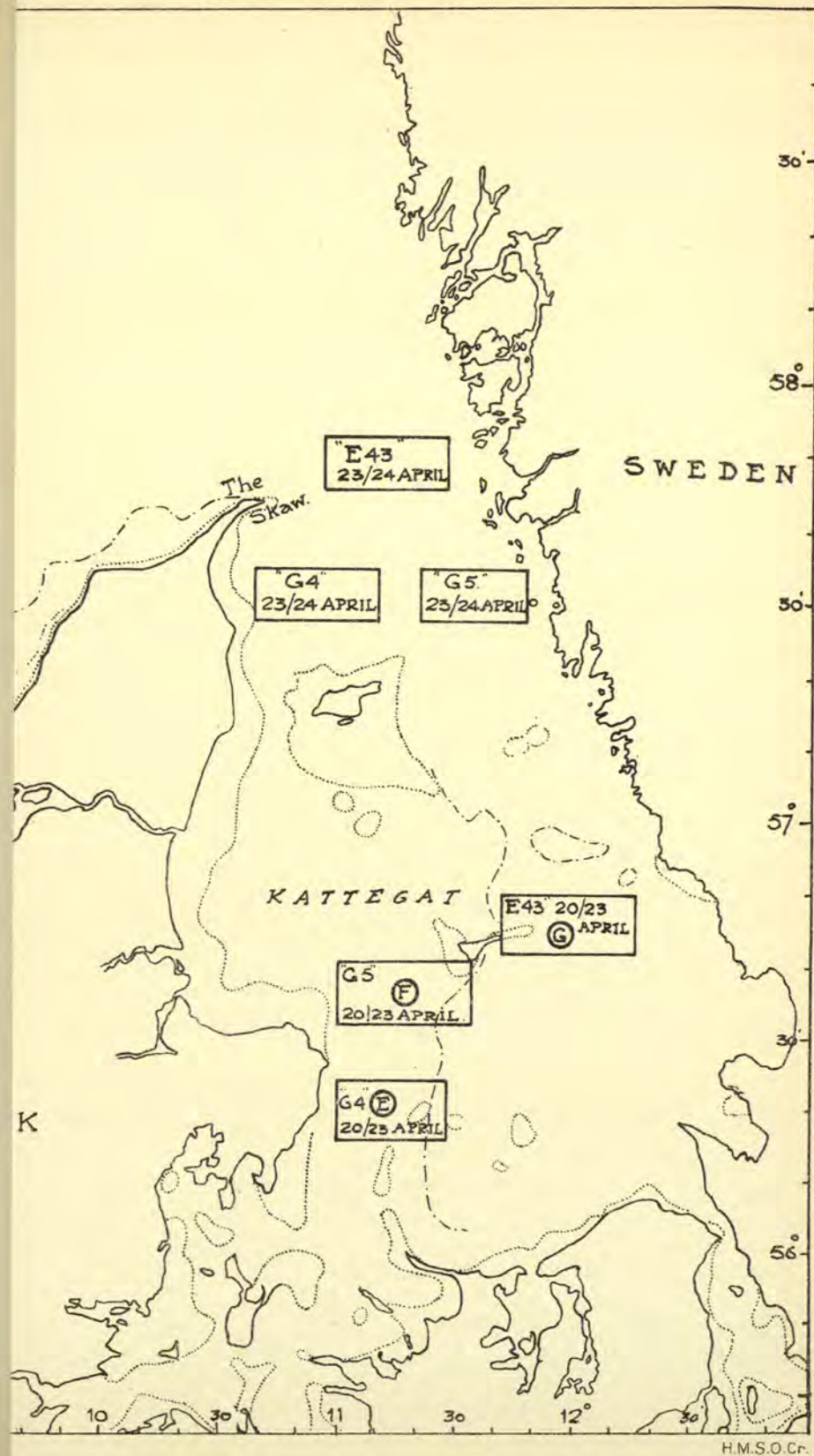
FROM THE BOMBARDMENT OF LOWESTOFT TO THE EVE OF THE BATTLE OF JUTLAND.

153. **Proposals to move the Battlefleet South.**—For more than a year there had been under consideration the question of basing the battle squadrons of the Grand Fleet at Rosyth instead of Scapa, with a view to their being in a more favourable strategical position for dealing with the enemy.

Among the objections to Rosyth as the main base of the whole fleet was the fact that whereas at Scapa the battle squadrons could be in the open sea in about 2½ hours from the first move, it would require six hours to get them past the gate in the outer boom at Oxcars if based at Rosyth; a further point was that Rosyth was very little nearer than Scapa in time to the probable site of a battle; and further, the available anchorage in the Forth was not sufficient to accommodate the whole fleet even if the whole of the harbour could be made submarine-proof. Admiral Jellicoe, in view of all these objections, wrote, in February 1915, "the conclusion is forced upon me that the present bases of the Grand

¹ Comm. (S) War Records, H.S.A. 271, pp. 320 to 337.

² Details of the Lowestoft bombardment and movements connected with it will form the subject of a separate monograph.



Fleet are more suitable than those which have been suggested.¹ His conclusion was accepted,² and for a year the idea of basing the Fleet elsewhere than at Scapa remained in abeyance.

One essential factor in the move, if it should take place, was that the 3rd Battle Squadron and 3rd Cruiser Squadron and perhaps the battle cruiser fleet as well would have to be based elsewhere than Rosyth, in order to make room for the battlefleet. The Humber was suggested as the new base for the ships other than the battlefleet; but that anchorage was so much beset with mines that the time taken in getting the ships into any useful position would be considerable.

Nevertheless, when Admiral Scheer succeeded Admiral von Pohl, there was always the possibility that the High Sea Fleet under its new Commander-in-Chief would revert to the bombarding raids which had been the marked feature of its earliest strategy; and the Admiralty concluded that this menace could only be met by basing battleships on the Humber and Forth, a disposition which should force the enemy to support a raid with his own battleships; this development should be to our advantage in that it would enable our submarines to act against them and would give our forces from the Forth and more northerly bases more time to intercept them on their return. Another consideration was that in the existing dispositions there was no force on the east coast adequate to prevent German flotillas from rounding up the patrols and shipping by a surprise sweep; indeed, it seemed remarkable that such had not yet been attempted. These conclusions were explained to the Commander-in-Chief in a letter dated April 15;³ the net result of them being that as soon as the base in the Forth had been rendered secure a part of the Dreadnought battlefleet was to be based there.

154. Removal of the 3rd Battle Squadron from the Forth.—The Admiralty's forecast of a repetition of coast raids was shown to be true only a week after the Commander-in-Chief received the letter quoted above. But, strangely enough, it was not the bombardment of Lowestoft that prompted the action they immediately took. It seems that they received information that besides the ships operating off Lowestoft the Germans had sent out a force of light cruisers and destroyers to sweep down the Belgian coast. As it happened, the warning given to us had enabled us to withdraw our patrols on that coast and station them in the Downs to protect shipping; consequently the German force had found nothing to attack. Our weakness being thus made manifest it was most probable the enemy would speedily undertake another offensive in those waters; to meet it there was nothing more formidable than the single light cruiser available at Harwich. The situation could only be redressed by calling on the Grand Fleet

¹ His letter 338/H.F. 007 of 15 February 1915, in M. 01321/15.

² M. 01321 of 5 March, 1915.

³ Given in full in Appendix O.

for vessels, and on April 26 the Admiralty asked Admiral Jellicoe for his proposals. He could not believe that the enemy had not earlier been well informed of our dispositions in the south; but he now suggested that the 3rd Battle Squadron, with the addition of the *Dreadnought*, which would make a sufficiently strong covering force to encounter the enemy battle cruisers at their present strength, should, with the 3rd Cruiser Squadron and half a Harwich flotilla, be based either at the Swin, Sheerness or Dover. The submarines in the Forth he thought would be more useful at Yarmouth.¹

Of the three proposed bases for the battle squadron the Admiralty chose Sheerness, with a war anchorage in the Swin. The 3rd Battle Squadron accordingly left Rosyth on April 29 with the 3rd Cruiser Squadron, screened by destroyers from the Forth.² The route of this considerable quantity of men-of-war, 17 ships in all, was by M Channel as far as 55° N, 0.20 E, whence they were to make direct to the Humber and so by the swept channel to Sheerness. They started from the Forth at dark on the 29th. At 9 next morning they reached the turning point in M Channel and they anchored in the Humber in the afternoon of April 30. It was not thought advisable for so large a force to navigate the east coast war channel in the dark, and they made the passage to Sheerness during the light hours of May 1, screened by Harwich destroyers. Beside the peril they ran from navigating so frequently mined a channel, they had been in some danger from a submarine.

155. **The Cruise of "U.B.27."**—Some of the later *U.B.* boats were attached to the High Sea Fleet command instead of being sent to Flanders. One of these, *U.B.27*, whose station for the Lowestoft raid had been off the Forth, was unable through minor defects to leave port till the night of April 23-24. After the movements caused by the raid had quieted down and it seemed no longer useful to remain off the Forth, she proceeded southward³ to the Farn Islands, where Scandinavian traffic entered and left the swept channel. Her purpose was to wage war on commercial ships.

Her first victim was the Danish schooner *Christian*, which she met at noon, April 28, 16 miles north-east of Sunderland. The vessel was laden with pit props for the coal mines, and *U.B.27* endeavoured to destroy her, using bombs and trying to set her on fire with some incendiary substance. This occupied about three hours, after which the submarine sent off the *Christian's* crew in

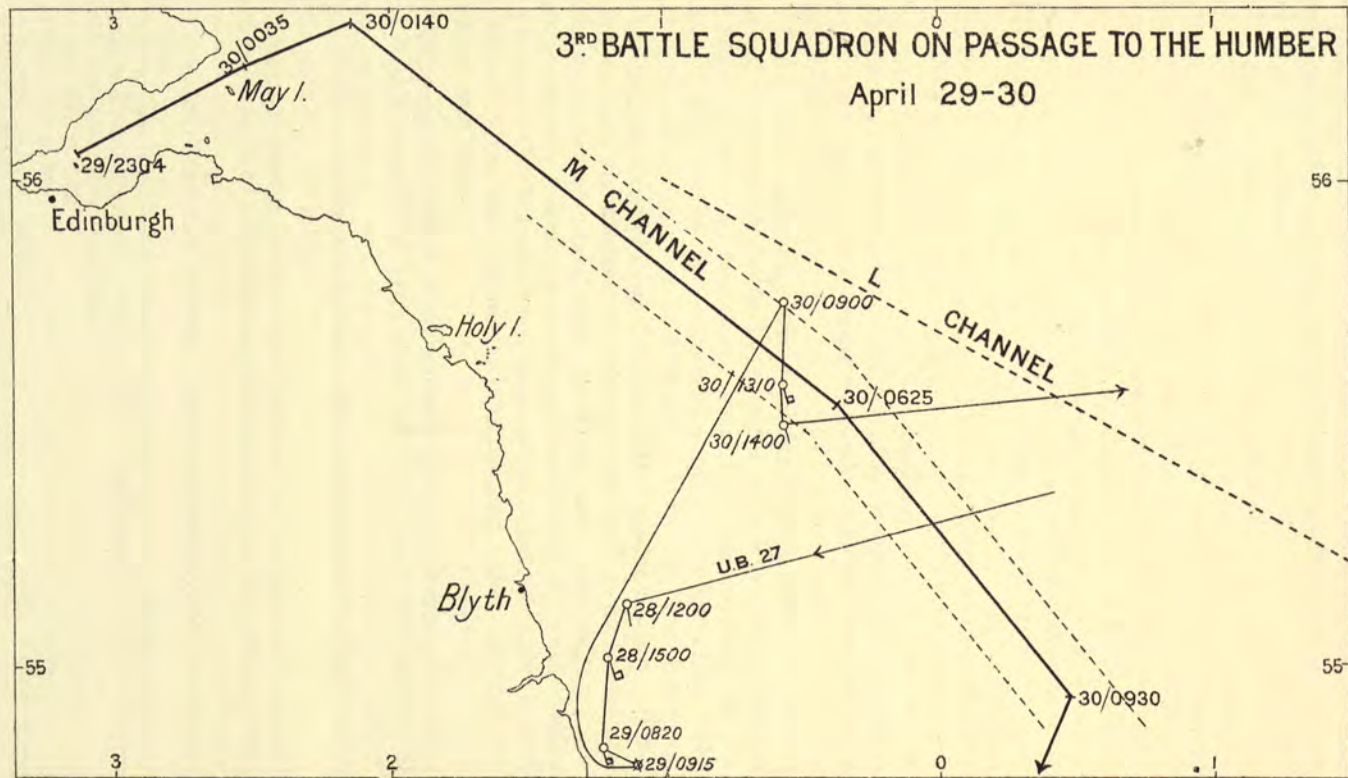
¹ A. 88, 89.

² The battleships were:—*Britannia*, *Africa*, *Dominion*, *Hibernia*, *Commonwealth*, *Zealandia*, with the *Diamond* as attached cruiser; the cruisers *Antrim*, *Devonshire*, the *Roxburgh* to join later; eight Rosyth destroyers as escort.

³ *Nordsee V*, p. 155.

3RD BATTLE SQUADRON ON PASSAGE TO THE HUMBER

April 29-30



their boat to the shore.¹ She then turned her attention to the British motor fishing boat *Blessing*, which she destroyed by a bomb.

That these leisurely proceedings could be carried on so close to the auxiliary patrol base in the Tyne was due, chiefly, to the fact that all auxiliary patrol vessels belonging to that base were in harbour. Intercepted German signals implied on the 27th that the High Sea Fleet was likely to make a move and the Admiralty ordered Admiral Stuart Nicholson, who had relieved Admiral Ballard in the command of the East Coast of England in April, to recall all the east coast auxiliary patrols and minesweepers and also the sloops.² The resulting immunity of *U.B.27* from the possibility of interference did not last long, for at 10.20 a.m., April 28, the Admiralty ordered the auxiliary patrols, minesweepers and sloops to go out again.³ They began to leave harbour about noon. Some two hours later firing was heard from shore and some destroyers went out to search, though owing to the difficulty of locating sound they operated too far north to find the submarine. The first intimation ashore of her presence was the arrival at 7.45 p.m. of the crew of the *Christian*. A sweep by all destroyers was at once ordered, but owing to thick fog it was not properly started until 2 a.m.

Three motor launches, armed fast craft of a new type, which had only recently joined the Tyne patrol, were sent south to search in wide zigzags. It was misty and they saw nothing of the enemy. And yet on two occasions they passed her close. She had gone southward and at 8.20 a.m., April 29, fired a torpedo at the British steamer *Teal*, 2 miles from shore at Seaham. Then using her gun, she stopped the steamer and sank it by bombs and another torpedo.⁴ Less than an hour later, she engaged the British steamer *Wandle*, which brings coal to the big power station at Chelsea. The *Wandle* was armed and gave such a good account of herself that the submarine disappeared, after hitting the steamer four times.⁵

Although the motor launches were passing within a few miles and within earshot of both these attacks, they saw nothing of them in the mist; and the excessive noise of their own engines, a great defect in the whole class, effectually prevented their crews from noticing the gunfire.⁶

Outward-bound traffic from ports in the Tyne area was held up for a couple of days, but was resumed on the 30th when it was

¹ H.S. 436, Tyne A.P. Reports. The *Christian* was later towed in to the Tyne.

² Adty. to R.A., East Coast, 4.13 p.m., 27.4.16:—Recall auxiliary patrols and minesweepers. Adty. to R.A., East Coast, 6 p.m., 27.4.16:—Recall sloops and *Sagitta* at once.

³ H.S. 231, p. 439.

⁴ H.S. 231, p. 846.

⁵ Papers titled X. 2796/16.

⁶ Tyne A.P. Reports.

clear the submarine had gone out to sea. She sank the Norwegian steamer *Mod*, 40 miles NE by E of the Tyne at 2 p.m. that day and made another Norwegian, the *Tore Jarl*, pick up the *Mod's* crew and throw part of her own cargo overboard.¹ After this, *U.B.27* moved further along the steamer track towards Norway. On May 1, after stopping and releasing two Swedish vessels, sank a Brazilian steamer, the *Rio Branco*, at noon in 55.45 N, 0.20 E.

On May 2, *U.B.27* was ordered by wireless (which we intercepted and read) to commence her return journey in time to be ready on May 15 for a new undertaking. She reached List next day, having set on fire two Norwegian sailing vessels, the *Memento* and the *Superb*, on her way home.

156. Plan for a Combined Air and Mining Raid on the Bight.—

The effect of the recent operation H.R.A. at the end of March, encouraged the idea that a similar operation might lead to good results.

In all the recent raids on the Bight, it had been the case that the light forces sent out by the Germans had been supported by battle cruisers and even battle squadrons. It seemed, therefore, probable that another air raid would have the same effect in attracting out important parts of the High Sea Fleet. Our submarines had so far scarcely ever been on the surface or in the right place when German battleships were at sea; and though submarines would be stationed in hopeful positions as part of the plan suggested it was now determined to supplement their efforts by laying minefields at the Amrum and Norderney exits from the Bight. The mines were to be laid during the night preceding the air raid, which would be carried out at dawn.²

The arrangements were settled by the Commander-in-Chief and embodied in his orders dated April 30. The Harwich Force, or what was left of it after the German raid on Lowestoft, was not to be used beyond providing a couple of destroyers³ as escort to the *Princess Margaret* which was to mine the Norderney end of the Bight. Six Harwich submarines also would be used. All the other participating forces were to come from the Grand Fleet. The fleet minelayer *Abdiel* was to lay the field at the Amrum end near the Vyl Light Vessel; it would be her first visit to the Bight. The mines were to be in position by 2 a.m., a few hours before the *Vindex* and *Engadine* with seaplanes arrived north of the Vyl Light Vessel to begin the air raid. The seaplanes' objective was to be not Hoyer, which was now known to be devoid of airship sheds, but Tondern to the north-east of Hoyer, where their existence was credibly reported.

Escorting the seaplane carriers would be the 1st Light Cruiser Squadron and 16 destroyers of the 1st Flotilla from Rosyth. In

¹ H.S. 231, p. 1220.

² Letter M. 00123 of 15 April 1916, to C.-in-C., H.F., copy in H.S. 381, pp. 180, 181.

³ *Lucifer* and *Lark*.

support would be the battle cruiser fleet cruising about 35 miles to the north-westward of Horn Reefs Light Vessel. As before, the battle cruisers were to proceed from Rosyth at first on a false course as if to sweep the trade routes to the Skagerrak, and were then to follow a track arranged so that if they were sighted during daylight by enemy vessels or neutrals in German employ their destination might not be apparent. A still heavier support would be provided by all available squadrons of the Grand Fleet from Scapa, which would be about two hours steaming behind the battle cruisers.

The number of submarines co-operating on this occasion was greater than had ever been used before in one operation. Four from Blyth and three from Harwich were to be at the Horn Reefs end of the Bight and three from Harwich off Terschelling.

The strictest wireless silence was enjoined on all the forces engaged, the only signals permitted, except for reporting enemy movements or in cases of great urgency, being certain pre-arranged groups to announce the abandonment of various parts of the scheme if the weather rendered this necessary. Thus, although the operation was undertaken mainly with the idea of attracting out the High Sea Fleet, the only form of bait offered was the proposed air raid by seaplanes.¹

A secondary object of the enterprise, to which the name of "Operation XX" was given, was to let the presence of the Grand Fleet in southern waters be known to the Germans in the hope that the intelligence would induce them to retain or recall High Sea Fleet vessels intended to operate in the Baltic against the Russians, who at this time were engaged in relaying their minefields which had been destroyed by the ice of winter.²

This particular reason for the operation is not mentioned in the orders issued by the Commander-in-Chief. They lay down four objects:—

- (a) To mine the northern exit of the German Fleet from the Amrum Channel in the neighbourhood of the Vyl Lightship.
- (b) To mine the southern exit of the German Fleet at the seaward end of the channel leading out of Heligoland Bight near the Borkum Riff.
- (c) To attack the Zeppelin sheds at Tondern with 12 to 14 seaplanes.
- (d) To draw the German Fleet over the minefields and bring it to action, if it appears.

157. A Zeppelin Raid expected.—The first part of the considerable force detailed for Operation XX to leave port was the

¹ Orders given in full in Appendix Q.

² Jellicoe: *The Grand Fleet*, pp. 286, 291. This reason for the operation is not stated in any official document seen.

submarine division from Harwich for Horn Reefs ; it sailed at 3.30 p.m., May 2, and was followed at 8 p.m. by the submarines from Blyth. At 9 p.m. the *Abdiel* left Scapa.

Meanwhile, intercepted German signals had warned us that seven or eight Zeppelins were approaching the coast of the north of England or south of Scotland. The Admirals of the coasts threatened were informed,¹ and Admirals Jellicoe and Beatty were instructed to have their ships at two hours' notice until required to sail for Operation XX in case any Zeppelin should be damaged and the enemy send out ships to rescue it.²

Admiral Jellicoe now suggested that the *Princess Margaret* might defer her part of the operations till the next night ; he seemed to think that a search for damaged Zeppelins would be more likely to be in the Terschelling than the Horn Reefs direction, and the German forces searching might come across her. Since she was not to sail until 6.45 a.m., May 3, there was no immediate necessity to alter the arrangements ; but the Admiralty informed him they would stop her if conditions were unfavourable.³ By that time the fleet had sailed and the Zeppelin raid was over.

158. Zeppelin Raid of May 2-3—The raid had been carried out by eight airships—*L.11*, *13*, *14*, *16*, *17*, *20*, *21* and *23*. Their orders were that they were to attack the northern area, with Rosyth and the Forth Bridge as the main objective. An adverse wind caused all but *L.11*, *L.14* and *L.20* to choose targets further south than the Forth ; and between 9.15 p.m. and midnight, May 2, five of them cruised over Yorkshire between Saltburn and Flamborough Head. It was very cold in the air and the Zeppelins found themselves in blizzards of snow and thick clouds. The five airships claimed to have bombed blast furnaces and other important objects at Blyth, Shields, Stockton, Middlesbrough and Hartlepool ; but it is clear from their reports that in the snow squalls and clouds they had little idea of their positions. A great many of their bombs were dropped on Darby High Moor, setting the heather on fire. Of collections of houses the old town of York suffered most damage ; there a hospital and 18 houses were wrecked and nine persons killed. None of the five airships passed over any land but Yorkshire, or flew over any of the towns they claim to have bombed.

L.11 crossed the coast of Northumberland at Holy Island and passed out to sea again at Amble. A couple of bombs dropped by her at Holy Island did no damage. The snow seems to have effectually blinded her, for she returned to Germany with the rest of her ammunition unexpended.

¹ Tels. 877 to R.A., East Coast ; 582 to Admiral, Rosyth, sent 5.40 p.m., May 2.

² Tels. 158 to Admiral Jellicoe : 734 to Admiral Beatty, sent 7.35 p.m., May 2.

³ Tels. timed 1847, 2237 from C.-in-C., May 2, and 0010, May 3, from Admiralty to C.-in-C.

Of the two airship commanders who had held to their main objective Bocker, in *L.14*, considered he had fought his way through the snowstorms into the Forth area. He saw two warships and dropped five bombs on them at 11.30 p.m. ; but he did not find the Forth Bridge or any other target. He was, in fact, looking in the wrong estuary ; he was over the Tay and the warships he had seen were either fishing vessels or lights ashore. His bombs fell in a potato field near Arbroath. Although two auxiliary patrol vessels fired 15 rounds between them at an airship near St. Abbs Head, this was at 8.45 p.m.,¹ and the Zeppelin they aimed at was more probably *L.11*.

The most northern of the airships on this occasion was *L.20*, also well out of her reckoning. She crossed the coast north of Arbroath and, proceeding through clouds and snow straight inland, reached the Caledonian Canal soon after midnight. Here a rift in the clouds showed *L.20* the Scottish Highlands. Thinking he must have been set off his course by the wind, her commander asked for a directional position ; but though at intervals he repeated his signals he could get no answer from Germany. He steered eastward and at 2 a.m., seeing a coal mine below him, he dropped some bombs on it. It was not till 2.40 that he found himself clear of Scotland, passing out at Buchan Ness, which he took for the northern shore of the Firth of Forth. His bombs had done no damage except to the windows of Craig Castle, Aberdeenshire.

The returning Zeppelins, most of them thickly coated with ice, had some difficulty in getting home. In particular, *L.11*, *L.14* and *L.21* suffered from a new and perhaps unforeseen source of damage. The ice from the envelope, wires, and stays fell on to the propellers and bits of it were hurled through the cells aft of the engines, gradually riddling them with small holes. So much gas was lost through this cause that the commanders reported they felt doubtful whether they could reach Germany. This intelligence caused light cruisers and destroyers to be sent out towards Norderney. At 4.25 a.m., May 3, *L.21*, 70 miles north-west of Terschelling, asked for immediate help, with the result that a battle squadron left the Jade to be able to intervene should British capital ships attack the German light forces. At 9 a.m., when it was clear the airships would make port, these forces were recalled.

L.20 was also in difficulties after her journey to the heart of Scotland. She was running out of petrol, knew her position only from a doubtful directional at 4.50 a.m., and realised the impossibility of reaching home again in face of the southerly wind. She eventually sighted Norway near Stavanger, where she descended and crumpled up. Her crew were interned, various cruisers and destroyers which had been sent north from the Jade to help her were recalled at 1.30 p.m., May 3.

¹ Papers titled X. 7468/16.

159. **Grand Fleet Sails for Operation XX.**—Meanwhile the force detailed for the mining and air raid and the squadrons covering them had sailed as follows :—

3.30 p.m., May 2.	From Harwich.	<i>Lurcher</i> , <i>E.53</i> , <i>E.31</i> , <i>E.37</i> .
8.0 p.m., May 2.	„ Blyth.	<i>Trident</i> , <i>G.2</i> , <i>G.1</i> , <i>G.4</i> , <i>G.5</i> .
9.0 p.m., May 2.	„ Scapa.	<i>Abdiel</i> .
2.45 a.m., May 3.	„ Rosyth.	1st Light Cruiser Squadron, <i>Vindex</i> , <i>Engadine</i> , 16 destroyers of 1st Flotilla.
3 to 4.30 a.m., May 3.	„ Scapa.	1st, 2nd, 4th and 5th Battle Squadrons; 1st, 2nd and 7th Cruiser Squadrons; 4th, 11th and 12th Flotillas; 4th Light Cruiser Squadron.
3.30 a.m., May 3.	„ Rosyth.	Battle Cruiser Fleet, 13th Flotilla.
8.30 a.m., May 3.	„ Humber.	<i>Princess Margaret</i> and two of 9th Flotilla.
9.0 a.m., May 3.	„ Harwich.	<i>E.55</i> , <i>D.4</i> and <i>D.6</i> for Terschelling.

Thus the whole available strength of the Grand Fleet and battle cruiser fleet had, by the gradual development of the defence, been drawn to take part in an operation consisting primarily, if circumstances permitted, in the flight of a few seaplanes over the extreme corner of German territory.

Not so long ago Admiral Jellicoe had written, "I do not think it judicious to base movements of Grand Fleet on so uncertain a factor as operation of seaplanes, nor do I consider aerial attack likely to bring out the fleet."¹ Yet, by what seems to be an inevitable law, the repetition of any type of raid leads ultimately to the employment of the maximum amount of force. On the German side, the "run-away knock" form of bombardment developed into a fleet operation; on our side, the dropping of a few bombs by seaplanes now involved the co-operation of the whole Grand Fleet. The only vessels of it which did not sail were two battleships, three battle cruisers, three cruisers, three light cruisers and twelve destroyers—all in dockyard hands.

160. **Laying of the Minefields at each end of the German Bight.**—The *Abdiel*, Commander B. Curtis, whose work it was to lay a minefield near the Vyl Light Vessel proceeded alone. Three times during the day she altered course to deceive passing steamers. At 12.42 a.m., May 4, she arrived at a point 8 miles 180 deg. from the Vyl Lightship; beginning from there she laid 80 mines in an irregular field to the southward. This was finished by 1.22 a.m. She saw no patrols. She had apparently been unobserved and she was not followed on her way to join the Commander-in-Chief.²

¹ His telegram 160 of 21 November 1914, printed as Appendix A. 170 in *Home Waters*, Vol. III.

² *Abdiel's* report in G.F.S.P., Vol. LXIV; H.S.A. 146, pp. 560, 561.

The *Princess Margaret* had as escort the destroyers *Lucifer* and *Lark*, the only vessels of the Harwich Force to take direct part in the operation. They left the Humber at 8.30 a.m., May 3, and reaching the open sea by H Channel in 54° N, steamed in company for the position north of Borkum where the mines were to be laid. When they were 60 miles west of this position the *Princess Margaret* went on alone. She commenced her field at 11.36 p.m., May 3, in 53.52.30 N, 5.55 E, and finished at 1.51 a.m., May 4, in 54.15 N, 6.5 E, depositing 530 British Elia mines in an irregular zigzag line, running roughly NNE.¹ As can be seen from the plan this field was partly in the area prohibited to German men-of-war; it was also well clear of the passage used by vessels of the High Sea Fleet. But part of the field would be dangerous to any ships which might attempt to steam across the Bight from Norderney to Amrum Bank, if they kept close to the edge of the prohibited area.

The *Princess Margaret* rejoined her two escorting destroyers and returned to the Humber with them. They had seen nothing except some Dutch trawlers.

This was the ninth occasion on which the German Bight had been mined. A noticeable feature of the operation is that the minelayers, in the case of the *Abdiel*, had no escort, and in the case of the *Princess Margaret* left the escort well outside the waters where enemy vessels might be met; it is further to be remarked that the minelayers were left to find their own positions, a light cruiser as guide being no longer considered indispensable. The *Abdiel* used an enemy light vessel as her mark; the *Princess Margaret* had been fitted with the "Taut wire measuring gear" and was apparently the first vessel to use it in an operation. It enabled her to measure her run very accurately.²

161. **The Seaplane Raid.**—The seaplane carriers *Vindex* and *Engadine*, escorted by the 1st Light Cruiser Squadron, Commodore E. S. Alexander-Sinclair, and 16 destroyers of the 1st Flotilla, sighted Horn Reefs light at 1.15 a.m., May 4, having passed the previous afternoon the burning wrecks of the *Memento* and *Superb*, set on fire by *U.B.27*. One of the cruisers reported that she could see a submarine close to one of the wrecks; but this must have been a mistake, for *U.B.27* had left them 24 hours before. Since the squadron was following the track of shipping to the Skagerrak, they sighted and examined several neutral steamers, the destroyers doing the boarding.

The squadron continued on to 55.39 N, 7.40 E, the releasing position for the seaplanes, and arriving there at 3.8 a.m., May 4, hoisted out the planes. Conditions seemed admirable; there was very little wind and the sea appeared remarkably calm. As soon, however, as the seaplanes were afloat a swell was apparent;

¹ *Princess Margaret's* report, M. 00126/16.

² Lockhart Leith: *History of British Minefields*, Chapter VIII.

it proved sufficient to prevent all but one of the 11 aircraft hoisted out from getting satisfactorily away. One machine struck the wireless aerial of a destroyer and was reduced to a mass of wreckage.¹ The machine² which had flown away dropped its bombs on what seemed a suitable target, and returning was picked up by the *Vindex*.

162. **Destruction of a Zeppelin.**—Although the objective of the seaplane raid had been the Zeppelin sheds at Tondern, there seemed no reason to suppose these had been reached or that any damage had been done to Germany's airship organisation. Better luck than had befallen the seaplanes was to come to the light cruisers. They joined the battle cruiser fleet about 7.30 a.m. Two hours later they observed a Zeppelin ahead, nearly stationary. "The first range obtained of it," reports Commodore Alexander-Sinclair,³ "was 24,000 yards; soon after this was taken the Zeppelin altered course towards *Galatea* and then turned broadside on again, when the range was found to be 12,000 yards. The course of *Galatea* and *Phaeton* was not altered up to this as the range was steadily decreasing, but at 9.56 a.m. the Zeppelin appeared to be going ahead and rising. *Galatea* and *Phaeton* then altered course by blue pendant towards it and opened fire with the foremost 6-in. gun in each ship at 9.58 a.m. *Galatea* firing three and *Phaeton* four shrapnel with time fuzes. About the third shot, what appeared to be sand dropped or was thrown out in large quantities from the Zeppelin, which canted nose up at an angle of about 20 deg. or 30 deg. and appeared to be getting out of range, but it did not seem to rise as quickly as the angle it pointed at would indicate. At 10.20 a.m. *Galatea* and *Phaeton* turned to resume station."

"About ten minutes after the last shot was fired, the Zeppelin, which was then parallel 'on the beam,' was seen suddenly to assume a perpendicular position nose up, topple over backwards and break in half, doubling up and falling quickly into the water, ends first. Course was immediately altered for it, as it could clearly be seen on the surface, at first apparently flat, but a little later with one end pointed right up in the air—probably as the damaged end sank all the gas was forced into the other end."⁴

While the *Galatea* was still about 15 miles off she sighted a submarine steering towards the wrecked Zeppelin; the submarine submerged after a few minutes. Commodore Alexander-Sinclair thereupon turned back to rejoin the battle cruisers to the westward. He had been approaching the new minefield and did

¹ *Engadine's* report, H.S.A. 146, pp. 558, 659. *Vindex's* report, H.S.A. 146, pp. 570, 571.

² No. 8179, Flight-Lieut. Openshaw.

³ H.S.A. 146, pp. 554, 555.

⁴ In view of the method of construction of airships it appears to be impossible for gas to be forced from one compartment to the other (T.S.D.D.).

not desire to get close to the submarine, since if it were German it would be dangerous to him, and if it were British it would undoubtedly destroy the Zeppelin. This last supposition was borne out by his sighting a burst of flames and a large quantity of smoke coming from the wrecked airship.

163. **Movements of Grand Fleet and Battle Cruisers.**—Before sailing, Admiral Jellicoe informed Admiral Beatty that the battlefleet would cruise during the forenoon of May 4 in the area between the parallels of 57.15 and 56.30 N, and the meridians of 7.15 E and 6° E, the cruisers being to the southward; the battle cruiser fleet should obtain visual touch with the Grand Fleet cruisers at 2 p.m., May 2, in 56.15 N, 6.40 E.¹ The Grand Fleet left Scapa before dawn, May 3, and throughout the day steered a false course of nearly due east as if the neighbourhood of Bergen were the objective.

Before Admiral Jellicoe had been many hours at sea it was clear that the Zeppelin raid was to be followed by its customary sequel of a search by German light forces for damaged airships. Intercepted signals informed the Admiralty that two flotillas were to proceed to 54 N, 3.50 E for this purpose, and the Commander-in-Chief was so informed.² This was near the Swarte Bank, a long way south of any Grand Fleet or battle cruiser fleet vessels; but it was close to the track of the *Princess Margaret*, which was just about to leave the Humber. She does not seem to have been informed that two German destroyer flotillas might meet her in the middle of the North Sea.

Further calls from airships in distress were intercepted; by 7.50 a.m. one was known to be in difficulties in 58.10 N, 3.40 E.³ By 9 a.m. signals from two crippled airships had been read; the northern one was in 57.54 N, 3.45 E at 7.40 a.m., the southern at 6.25 a.m. in 54.25 N, 4.55 E with two motors broken down; a light cruiser and two flotillas were off the Jade steaming westerly, with the 2nd Scouting Group under orders to support them and the 1st Scouting Group preparing to leave the Jade.⁴

A third airship reported herself in 58.8 N, 5.15 E at 8.57 a.m., and at 9.30 a.m. a battle cruiser and other cruisers were ordered to the northward from the Jade to cover the return of the airships making for Horn Reefs. By noon intercepts informed us that the two flotillas which had been coming west had now turned back. All this was telegraphed to Admiral Jellicoe.⁵

By this time he was in 59° N, 0°; at noon he detached the 4th Light Cruiser Squadron to spread to the southward of his line and search for the first of the two northern airships. The

¹ Letter 1069/H.F. 0022 from Admiral Jellicoe, dated 10.5.16.

² Tel. 165 to C.-in-C., H.F., by I method, 7.5 a.m., 3.5.16.

³ Tel. 166 to C.-in-C., H.F., 7.50 a.m.

⁴ Tel. 167 to C.-in-C., H.F., 9.5 a.m.

⁵ Tels. 168 (11 a.m.) and 169 (11.57 a.m.).

search continued without result till 6.30 p.m., when the light cruisers rejoined the Grand Fleet.

The German movements prompted by the damaged airships died down during the day, and at 8.27 p.m., May 3, the Admiralty telegraphed: "Situation at 7.30 p.m. Enemy ships returning to bases, no indication of any ships having remained at sea or of any operations during night. One submarine believed to be in lat. 55.21 N, long. 6.35 E, and another in lat. 56.3 N, long. 7.5 E on lookout."¹

The presence of these two submarines uncomfortably near the area in which the Grand Fleet intended to cruise in the forenoon made Admiral Jellicoe shift his cruising ground to one between the meridians of 5° and 6.30 E. The fleet was keeping wireless silence and he sent the 2nd Cruiser Squadron on ahead to get visual contact with Admiral Beatty's force, and inform him by signal of the change. The *Hampshire* passed the signal at 6 a.m., May 4; and the two fleets cruised separately, but occasionally in touch, the battle squadrons to the north of 56 deg. and the battle cruisers to the southward of that parallel.

At noon, May 4, the Admiralty signalled that the enemy seemed quite unaware of the presence of the British Fleet.² Two hours later, when the battle cruiser fleet was in visual touch, Admiral Jellicoe altered course for his bases, with the battle cruiser fleet on a parallel course but to the southward and astern of him.

About 4 o'clock fog came down. At this point Admiral Jellicoe altered his course of NW by N to W by N. The battle cruiser fleet, to the southward, did not get this signal and Admiral Beatty was not aware of the alteration of course till he learned it at 5.8 by an intercepted signal. He immediately conformed to the same course, hoping to avert collision. In this he was successful, though two of the battle squadrons crossed the bows of the battle cruiser fleet in the fog.³ The whole fleet reached port without accident.

164. The Enemy Discover the Presence of our Fleet.—It was not till 1.10 p.m. that the Germans discovered the presence of our forces. The High Sea Fleet was at once ordered to raise steam for full speed and one flotilla was ordered out by the Amrum Bank channel at once, two more flotillas following later. The ships detached to Kiel were recalled to the North Sea. So much we intercepted; and it was sent to Admiral Jellicoe⁴ as well as details of various destroyer sweeps which it seemed were all to conclude by the destroyers turning back before midnight.⁵

¹ Tel. 174 to C.-in-C., H.F.

² Tel. 177, sent 12.5 p.m., May 4.

³ Beatty's letter of 8.5.16 in H.S.A. 146, p. 551.

⁴ Tel. 178 to C.-in-C., H.F., 4.30 p.m.

⁵ Tels. 180 at 7.50 p.m. and 181 at 8.30 p.m.

Although the final object of the whole enterprise, the attracting out of the High Sea Fleet, had been attained it had been achieved too late for the enemy to be brought to action. "No purpose would be served," writes Admiral Jellicoe, "by our forces returning to the vicinity of the Horn Reefs at daylight on May 5. In view of the possibility of a movement on the part of the enemy on the night of the 5th, similar to that carried out on the night subsequent to the previous visit of our forces to the south, when we were known to be short of fuel, I deemed it advisable to replenish as quickly as possible, sent the 5th Battle Squadron on ahead and moved north with the remainder of the battlefleet at a good speed."¹

So well had Admiral Jellicoe hidden the hook and so meagre was the bait provided by him that the Germans for a long time were unaware that any attempt was being made to give them an object for a cruise. Their agents had informed them that a British advance into the German Bight would take place on May 5, and arrangements were being made to meet this. Any appearance of the Grand Fleet near Horn Reefs on May 4 was, therefore, quite unexpected.

The report that a hostile seaplane had been seen flying towards Tondern, and later that a bomb had been dropped on Danish territory, produced no further action than the despatch of such flying machines as were ready at List. There had been so much delay in passing the report that they were not in the air till 4.30 a.m. They were at Horn Reefs at 7.30 a.m., but saw nothing suspicious. The airship *L.9* went up from Hage and returned with nothing to report. *L.7* proceeded from Tondern to scout to north and west; she made no report and was expected back at 1 p.m.

Before then, some part of the British fleet had been sighted; but not by the reconnoitring forces of the High Sea Fleet. Two submarines, *U.24* and *U.70*, had left the Ems on May 3 for the neighbourhood of the Forth and Peterhead, whence they were to scout towards the Skagerrak for a British patrol reported to be guarding the trade routes across the North Sea. It was *U.24* which saw our ships at 9.30 a.m., May 4; she sighted two armoured cruisers and attempted to attack them. In the course of her manoeuvres to get into a favourable position two of her bearings began to burn, filling the boat with suffocating fumes, and she had to stop, watching the cruisers pass out of sight to the southward. She saw nothing of the battlefleet on whose right wing the two cruisers were stationed. She reported what she had seen, the intelligence reaching Admiral Scheer at 11.16 a.m.

He could see no clear connection between a seaplane over Danish territory at 4 a.m. and two cruisers steaming south at 10 a.m., but he ordered all the available submarines—*U.B.27*,

¹ C.-in-C.'s letter 1069/H.F. 0022 of 10 May 1916, H.S. 381, p. 186.

U.B.21, U.B.22, U.51 and U.70—to make for the ships sighted, and seems to have dismissed the matter from his mind.

In readiness for the fleet attack expected next morning he recalled the 3rd Battle Squadron and its attendant vessels from the Baltic and ordered the remainder of the High Sea Fleet to go out into Schillig Roads and remain at short notice. Destroyer sweeps during the night along the probable lines of advance might produce good results, and a sweep from the Horn Reefs area towards Scotland was ordered to begin at dusk, the destroyers being met near Horn Reefs Light Vessel at dawn, May 5, by the 1st and 2nd Scouting Groups, with the rest of the High Sea Fleet in support south of Amrum Bank. He did not intend to go further to sea till the 3rd Squadron had rejoined him from the Baltic, which could not be till late on the 5th.

The next sight of the British fleet was obtained also by *U.24*, which was now on the way home for repairs. She sighted 10 large men-of-war at 12.40 p.m. about 60 miles west of Bovbjerg; they must have been part of the battlefleet. The news she reported at 1.10 p.m.; but it did not affect the movements of Admiral Scheer, who was still at anchor in the Jade, and made no alteration in his orders. The destroyers for the night sweep proceeded from Heligoland and the Jade at 2.48 p.m., by which time Admiral Jellicoe had already retired.

The German movement proceeded as arranged. In the course of the destroyer sweep, the *Rostock* attempted, but failed, to ram *E.31*, though she hit the submarine's conning tower with a round from the after guns. The flotilla seems to have passed over the *Abdiel's* minefield on the way out, but did not explode any mines. As it happened, the rendezvous where the destroyers were met at dawn was a few miles to the eastward of the *Abdiel's* field, and both they and the 2nd Scouting Group, which met them, again escaped. The battle cruisers and battle squadrons did not come so far north, and the German movement concluded without loss or damage.¹

165. British Submarines Watching the Bight.—During the operations we had seven submarines—*E.53, E.37 and E.31* from Harwich; *G.1, G.2, G.4, G.5* from Blyth—watching the Horn Reefs end of the German Bight. *E.53's* station was to the eastward of the Vyl Light Vessel; *E.37* was to remain 8 miles west of the same light vessel, with *E.31* 7 miles further west. The Blyth boats watched at Horn Reefs Light Vessel: *G.1* to the east of it, and *G.5, G.4 and G.2* to the westward in that order.

E.53 sighted no enemy vessels except a seaplane and a Zeppelin; she left her station after dark on May 5 and returned to Harwich. *E.37* developed a leak and had to return on account of chlorine gas.

To *E.31*, Lieutenant-Commander Ferdinand E. B. Feilman, fell most of the adventures of the day. At 9.30 a.m., May 4, he sighted

¹ *Nordsee V*, pp. 168 to 173.

a Zeppelin patrolling and approached it to attack. Before he could reach it, he saw two ships coming up, and hoping they were enemy vessels, dived towards them. When he came to the surface again they had disappeared, and the Zeppelin had come down to the water. "I opened fire with my 12-pounder," he writes in his report,¹ "at 4,000 yards. When at a range of 3,000 yards Zeppelin was hit three times, burst into flames as result of shell fire and disappeared under half a minute. I proceeded to the spot where Zeppelin sank and picked up seven survivors. I then sighted a ship approaching and had to dive at once, having to leave one man in the water some distance off."

"From information gained from prisoners it was learnt that the Zeppelin destroyed by me was *L.7*, and carried a crew of 30 men. She was armed with four machine guns, 32 bombs of 50 lb. each, and had proceeded from Tondern, where five Zeppelins of the older type are based. It was ascertained that the first shell hitting the Zeppelin killed the two officers and bomb throwers, the second and third (hit) the petrol tanks, thereby setting the whole of it ablaze."

It appeared also from the remarks of the prisoners that she had been hit once by one of the two light cruisers, and was on her way back to Tondern when she had to descend. Lieutenant-Commander Feilman remained close to where the Zeppelin had sunk in the hope that some ships would come out to search the spot. Nothing appeared, and at dusk he decided he ought to go home, since he could hardly continue to patrol with seven Germans on board. But his adventures were not ended. "At midnight," he continues in his report, "a German four-funnel cruiser was observed, approaching from the starboard . . . within 200 yards of us . . . The officer of the watch, Lieutenant Love, R.N.R., showed great presence of mind, and immediately put his helm over to hard-a-starboard, also making the usual signals to the men below to dive instantly. I was on deck as soon as cruiser was sighted, and I observed she put her helm hard over to ram us, but owing to her turning circle being greater than ours, and that our helm had been put over before hers, she failed to ram and passed about 50 yards off."

It was the *Rostock*. She fired, making only one hit, a shell which went through the conning tower but did not explode. *E.31* remained on the bottom till daylight, and then returned to Harwich.

The three Harwich boats—*E.55, D.4 and D.6*—stationed near Terschelling Light Vessel, saw nothing of interest, except a periscope at 4.40 a.m. on the 4th, steering south-east.²

The four "G" boats from Blyth saw *L.7* blown up, and at 12.45 p.m., May 4, *G.1* sighted an enemy submarine out of range proceeding ESE on the surface. Apart from these, they saw

¹ H.S.A. 271, pp. 349, 350.

² H.S.A. 271, p. 360.

no enemy vessels, though they remained on the surface during the dark hours. The chief incident of their cruise was what was, till then, a unique experience. *G.5*, at a depth of 55 ft., collided with *G.4*, also under water at 30 ft. Though the collision was scarcely noticed by the upper submarine, *G.5* was driven down about 10 ft., the other submarine sliding up her jumping wire and damaging her foremost periscope and periscope pedestal.¹

Between May 8 and 14 four submarines—*V.1*, *E.55*, *E.26* and *D.1*—were stationed on a line roughly north-east from Terschelling on the lookout for enemy destroyers. Only one was seen, by *D.1*, which fired two torpedoes and missed, being attacked herself with three depth charges; they did no damage, except to three or four lights.²

On the 14th *E.4*, armed with two 3-in. anti-aircraft guns, proceeded to a station near Horn Reefs, specially to attack patrolling airships. She saw none till the 20th, and could not then get within range, though the Zeppelin dropped two bombs very close to her. The two guns were quite unaffected by their six days' immersion. Four other submarines—*E.53*, *D.6*, *D.4* and *H.5*—took up stations off Terschelling from the 17th to the 23rd without sighting any destroyers.³

166. The Watch on the Scandinavian Coasts, May.—Efforts to stop the import into Germany of iron ore were not relaxed. After the conclusion of Operation XX the 4th Light Cruiser Squadron proceeded from Scapa on May 9 and swept the Norwegian coast, two ships steaming northward from the Naze and two south from Udsire. They found that commercial vessels were utilising territorial waters in a marked manner, while a Norwegian destroyer was on watch to see that those waters were not violated. Steamers with no reason to avoid examination kept well outside, while those with a guilty conscience either hugged the coast or made for the 3-mile limit immediately they sighted a war vessel. One such steamer was stopped by the *Calliope* before she could reach the shelter of Norwegian territory. She proved to be the *Lokken*, Norwegian, whose owners were on our "black list." On examination she was found to be carrying 3,300 tons of iron ore from Thamshavn for Lübeck, and was sent in to Kirkwall under an armed guard. The squadron after the cruise proceeded to Rosyth, arriving there in the afternoon of the 11th.⁴ Meanwhile the 2nd Light Cruiser Squadron proceeded from Rosyth to Scapa, making a sweep of the central part of the North Sea *en route*.⁵ The 4th Light Cruiser Squadron had orders to remain at Rosyth until the 2nd Light Cruiser Squadron returned.⁶

¹ H.S. 381, p. 218.

² H.S.A. 271, pp. 361 to 378.

³ H.S.A. 271, pp. 379 to 399.

⁴ Papers titled X. 9424/16.

⁵ G.F.N.

⁶ G.F.O. and M., Various, 8 May 1916.

During the sweep of the southern part of the Norwegian coast by the 4th Light Cruiser Squadron, the northern patrol which had been instituted off the Shetlands to deal with any "raider" of the *Moewe* type which might attempt to pass into the Atlantic, was ordered to Stadlandet, on the Norwegian coast, in lat. 62° N, to cruise off there from the 10th to the 13th. At this time the northern patrol consisted of the *Black Prince* and an armed boarding steamer. The operation had no result in intercepting contraband for Germany.¹

A report was received that German torpedo boats were watching Goteborg to intercept a British steamer, and on May 18 *G.2* from Blyth was sent to operate against them. The rumour was apparently unfounded, for she saw nothing of the German torpedo boats.²

The next visit to Norwegian waters was made by the *Donegal* and two destroyers which left on May 21 to intercept a steamer. The vessel, however, called voluntarily at Kirkwall and the *Donegal* was recalled.

On May 24 there was a repetition of the double watch on the Norwegian coast. The *Donegal* and a boarding steamer patrolled off Stadlandet to intercept the iron ore traffic from Narvik, while the 4th Light Cruiser Squadron and five destroyers from Rosyth swept from Naze to Udsire.³ Neither force met any merchant ships which could be sent in. The light cruisers returned to Scapa on the 26th and the *Donegal* to the Shetlands on the 29th.

The watch for contraband was thought to have attracted the attention of German submarines, and two of ours, *G.10* and *E.30*, proceeded from Blyth at night on the 26th to be in wait for them, one near Stavanger and the other near Stadlandet. Both saw a good many merchant vessels, but neither observed an enemy submarine. *E.30* on passage was fired on, but not hit, by a flotilla of British armed trawlers sent out to look for a hostile boat.⁴

167. Submarine Watch in the Kattegat.—The Blyth submarines were attached to the Grand Fleet for various purposes, and sometimes operated near Horn Reefs in close proximity to the Harwich submarines. In order to avoid the possibility of their mistaking each other for enemy boats, the line of demarcation of their respective areas of operation was reconsidered, and on May 14 it was fixed as from Flamborough Head along the parallel of 54° N to 4° E, thence to 55.30 N, 6° E, thence to Horn Reefs. By this means the Harwich submarines could approach Horn Reefs from the southward without any risk of attack from their Blyth colleagues.

¹ G.F.N.

² G.F.S.P., Vol. XLIV, p. 84.

³ M. 05084/16.

⁴ G.F.S.P., Vol. XLIV, pp. 86 to 90.

The Kattegat was, of course, free of any possibility of mistake, and operations there were the peculiar privilege of the northern submarine flotilla. At the end of April it was reported that enemy destroyers and submarines were shadowing the shipping which passed through the Sound northward. On May 2 Admiral Jellicoe issued orders for two Blyth boats to go to the Kattegat: one to operate near the Kullen at the northern exit from the Sound, and the other to the eastward of Anholt. Both were to avoid being seen by neutral merchant vessels, though the boat near Anholt was to sink German merchant ships after ordering their crews to their boats.¹

No submarines were available for this operation till May 15, when *D.7* proceeded for the Anholt position and *E.30* for the Kullen. Both remained on the stations till May 21. *D.7* saw no German steamers or men-of-war; but *E.30* had better luck. On the 18th, at 6.45 p.m., she sighted a steamer coming northward out of the Sound and following it submerged till it was outside territorial waters. She then stopped it at 7.15 p.m. by firing one round. It hoisted the German flag, and the crew began to abandon the ship, which was later ascertained to be the German s.s. *Trave* of Lübeck. By 7.50 p.m. the crew were all clear. As seas were washing over the submarine's guns, the commander of *E.30* thought it impracticable to sink the *Trave* and attempted to torpedo her. "Owing to the gathering darkness," he reports,² "sights for firing torpedoes could not be taken through periscope and, consequently, two torpedoes were fired from the deck. The motion of the submarine prevented accurate sighting and both torpedoes missed. Finally the steamer was closed to within 10 to 20 yards to leeward, and it was then found possible to work the gun with difficulty." He fired for half an hour, and at 10.10 p.m. the *Trave* sank.

Before she had gone down he observed three torpedo craft in line ahead coming out of the Sound. He fired both bow tubes at them, but neither torpedo took effect. After this, shipping ceased till the 20th, when northbound vessels were observed to hug the coast.

A Swedish destroyer appeared that day, and in the evening *E.30* proceeded for home, having successfully achieved what our submarines so rarely had an opportunity of effecting, the destruction of a merchant vessel flying the German flag.

The Swedish Government raised some objections on the score that the *Trave* was sunk in territorial waters; but after some correspondence the matter was considered settled.³

168. Defensive Minefields laid off Lowestoft and in the Moray Firth.—The various obstructions on the east coast of England

¹ H.F.S.O. 89, copy in G.F.S.P., Vol. XLIV, pp. 73 to 75.

² H.S. 626.

³ Papers titled *Foreign Office*, 5 June 1916.

had not succeeded in preventing the recent bombarding raid on the east coast. The two minefields laid off Lowestoft, the first on 21 October 1914, and the second, of mined nets, on 16 April 1916, had inflicted no damage on the enemy, so far as could be ascertained; and it was decided that to protect Lowestoft from another raid more minefields must be laid.

On May 18 the *Princess Margaret*, *Biarritz* and *Paris* laid two lines of mines, without nets, set to 12 ft. below L.W.O.S.¹ They ran parallel to the coast from Lowestoft to Caister, about 14 miles from shore. Neither of the fields was satisfactory owing to the bad depth-taking of the B.E. mines used. In the eastern line 37 out of 480, and in the western line 13 out of 300, remained on the surface and had to be sunk by gunfire from motor launches.² The Lowestoft field was directed principally against above-water raiders and was therefore near the surface.

Late on the same day, May 18, two of Captain Ellison's armed smacks had a promising encounter with a submarine. The *Hobbyhawk*, late *Telesia*, carrying a gun and mine nets, was apparently fishing near Smith's Knoll pillar buoy, in company with the smack *Revenge*, late *Fame*, which had a gun. The *Hobbyhawk* carried also a hydrophone. At 7.45 p.m. a submarine appeared. She approached the *Hobbyhawk* within 500 yards, and at 8.15 began to fire at the decoy with a Maxim gun. On her deck was the man at the Maxim and four men in the conning tower.

After receiving a few shots on his smack, Lieutenant W. L. Scott, R.N.R., commanding the *Hobbyhawk*, opened fire himself with his 3-pdr., creating consternation among the men on the submarine's deck. They endeavoured, yelling loudly the while, to get back into the submarine; but she submerged with them struggling to get down. After a few seconds she reappeared; the men were still plainly visible and were still yelling when she disappeared the second time; they could not possibly have got inside the submarine. No bodies came to the surface; and for half an hour no sound of engines could be heard on the hydrophone.

At 8.45, when it was practically dark, the men in the *Hobbyhawk* saw a flash and the splash of a shell quite close to them. For 20 minutes the new enemy shelled the smack without hitting her. Lieutenant Scott endeavoured by manœuvring to make his enemy, which was out of range, either run on a shoal or foul his nets; but hampered by them and by want of wind, did not succeed in that object. At 10.15 the white wakes of two torpedoes could be clearly seen passing the *Hobbyhawk's* bows, and the sound of the submarine's engines continued audible in the hydrophone, though nothing could be seen. Although Lieutenant Scott

¹ Eastern line in the area 52.29.40, 2.7.10; 52.39.10, 2.12; 52.39.10, 2.8; 52.29.40, 2.11.20. Western line in the area 52.29.10, 2.2.50; 52.37.10, 2.7.20; 52.29.10, 2.7.

² Lockhart Leith: *History of British Minefields*; M. 00127, 04699/16.

put overboard a tin of burning cotton waste soaked in kerosene, it failed to draw the enemy on to his nets; and by 1.30 a.m. it was obvious that she had departed.

The Admiralty assumed that the first submarine had been sunk and awarded a D.S.C. to Lieutenant Scott, his crew getting £1,000, the lowest share, to each of the two deck hands, being £62.¹ Nevertheless, later information failed to confirm the loss of any submarine on that occasion; the boat apparently sunk was probably a minelaying *U.C.* boat.

The Commander-in-Chief also wanted minefields to protect his bases against the submarine minelayers. He had proposed these on 23 December 1915 as defensive measures against minelaying by enemy submarines; for though at that time the *U.C.* boats had not come beyond the coast of Norfolk he anticipated that they would certainly extend their activities to Scotland. He also suggested that, as the fields laid by these boats were mostly in the vicinity of light vessels or buoys, special light buoys should be placed close to the new minefields in order to attract submarines on to the mined areas.

The first of these new deep anti-submarine fields for Scotland was laid on May 23 off Lybster in the Moray Firth. One hundred and forty-three B.E. mines were laid by the *Biarritz* 120 ft. apart and 48 below L.W.O.S.² No light buoy appears to have been placed near this field.

169. The Belgian Coast in May.—The zarefa enclosing the Belgian coast with a double line of mined nets and mines could only be kept efficient in its purpose of bottling up the Flanders submarines if it were continuously patrolled by a force which would make submarines dive into it, and which could defeat any attempts by the enemy to destroy the nets and mines. Minesweepers had to be continually at work to keep the patrol lines safe and required themselves to be protected. The 3rd Battle Squadron and 3rd Cruiser Squadron in the Thames provided heavy support to the lighter forces actually patrolling; these consisted not only of the Dover Patrol but of destroyers and light cruisers from the Harwich Force. *E.41* arrived on May 7 to act as a submarine minelayer.³

There was a small engagement on May 8 between our patrolling destroyers and two destroyers which came out of Zeebrugge. The latter reported on return that they had heavily damaged one of our boats, but the engagement had been limited to the exchange of a few misses and no injury seems to have been incurred.⁴

The maintenance of two divisions of Harwich destroyers to work from Dover under Admiral Bacon's orders was a serious

¹ M. 04789/16.

² From 58.18.50 N, 3.8.10 W, to 58.19.30 N, 3.5.20 W (Lockhart Leith).

³ A. 94 to 96, 98.

⁴ H.S. 234, p. 143.

reduction of Commodore Tyrwhitt's forces. On May 12 it was arranged that eight destroyers of the 1st Flotilla which were to act with the 3rd Battle Squadron should be based on Harwich, but they would not come under Commodore Tyrwhitt. On the 14th, by Admiralty orders, he sent an extra division and the *Cleopatra* for the day to help in the protection of a netlaying expedition off Zeebrugge, which it was expected would draw out an attacking force;¹ they got no further than the Downs, since the operation was deferred, and the *Cleopatra* was back at Harwich that night with the division. Next day, the *Princess Margaret* laid another line of mines off the Belgian coast, the Harwich Force providing escort for her.²

The maintenance of eight Harwich destroyers on patrol off the zarefa necessitated their frequent relief, one division at a time. On May 16 six or eight German destroyers made a raid on the patrolling destroyers; as soon as this was known at Dover two monitors were despatched in support, but the British destroyers seem to have driven off their assailants unaided and without damage to themselves. Admiral Bacon had frequently asked for a light cruiser or two to strengthen his patrol. After this incident the Admiralty ordered Commodore (T) to send two light cruisers and a destroyer escort to protect the patrol on the following day in case the enemy should repeat his attack.³ He sent the *Undaunted* (now repaired), *Cleopatra* and four "L" class destroyers at 3 a.m., May 17; they returned to Harwich in the afternoon of the 20th.

Measures for strengthening the Belgian patrol line were discussed on May 17 between the First Sea Lord, Admiral Bacon and Commodore Tyrwhitt, who was becoming more and more concerned in the operations of the Dover Patrol. It was decided that the Commodore should normally lend eight destroyers; cruisers were not to be used on the patrol line, at any rate until the "paravane" minesweep had been developed from its present experimental stage to a practical implement. Should news be received that a German force was at sea, the 3rd Battle Squadron, the 3rd Cruiser Squadron and the Harwich Force were to endeavour to cut them off before they reached the Belgian coast, or if the news was received too late they would then try to cut them off on their return.⁴

170. The Folkestone-Grisnez Boom Dismantled.—The "zarefa," in making it difficult for submarines to emerge from Zeebrugge, to a certain extent supplemented the Folkestone-Grisnez boom which had been commenced in the hope that it would prevent submarines from entering the Channel. Work on it had not progressed with the rapidity that the somewhat sanguine estimate had anticipated. Little or nothing had been done on

¹ A. 99.

² M. 04538/16.

³ A. 100.

⁴ M. 04569/16.

it during the winter, and in April, when the question of recommencing work arose, only 30 out of the 200 mooring buoys required were in place and no nets or other form of obstruction existed between them. Although it was thought that so much of the boom as was in place had created a deterrent effect on enemy submarines, there was no evidence that any single one had been entangled in it.

It was clear that the more the work progressed the greater would be the difficulty of maintenance and upkeep. The cost would be very great; and the Chief of Staff thought we should get more value for the money if it were spent instead on largely increasing the number of drifters and their mine nets. He realised that the ordinary sources of supply of drifters were exhausted, but they might be built, the motors being obtained from neutral countries. He thought that if there were 100 more net drifters at Dover it was very doubtful whether any submarines would get through the Straits. The matter was discussed by the Board, which on April 7 decided that further work on the construction and maintenance of the Folkestone-Grisnez boom should be discontinued.¹

By May 19 all the boom defence had been removed for use elsewhere, and the ambitious project from which so much had been hoped was recognised as completely impracticable. Only the light vessels marking the Folkestone Gate were left, although it was realised that they were used as marks by minelaying submarines; Admiral Bacon considered them invaluable aids in directing the traffic. No public announcement of the non-existence of the boom was made and in official confidential publications there still remained the paragraphs prohibiting the crossing of what had always been the imaginary line of the obstruction.²

171. Indications of a German Sortie.—In the last fortnight of May submarines in the North Sea became more in evidence than had been the case for some weeks. There was the *Hobbyhawk's* encounter on May 18; on that same day vessels of Peterhead Auxiliary Patrol exchanged shots with another enemy boat.³

Intercepted German signals conveyed the information that a large number of submarines had put to sea; and as it was not known where they were going the *Albemarle* in the White Sea was warned to take every precaution, lest they should make their appearance there.⁴

Nothing very definite was discovered of the movements of these submarines. One of them, *U.74*, was destroyed by Peterhead Auxiliary Patrol on May 27.⁵ On the 23rd four British submarines

¹ M. 02966/16, titled *Admiralty*, 30 March 1916.

² Papers titled X. 6876/16.

³ Peterhead A.P. Reports.

⁴ Tel. sent 1855, May 21.

⁵ M. 05082, 05087/16.

were sent to cruise for a week in certain positions near Terschelling over which it was now known Germans ships had passed during the Lowestoft raid.¹

It was not till the 30th that any approaching movement of the High Sea Fleet revealed itself; at first it was thought to be a small sortie for the support of Zeppelins returning from a raid. By that time it was known that 16 German submarines were out in the North Sea. At 5.40 p.m., May 30, the Grand Fleet was ordered to the Long Forties "to be ready for eventualities."²

And thus was set on foot the movement which ended in the Battle of Jutland Bank, the first and only encounter between the battle-fleets of Germany and England in the whole war.

¹ Tel. 393 to Capt. (S), sent 1300, May 23.

² Tel. 434 to C.-in-C., H.F., sent 1740, May 30.

APPENDIX A.

SELECTION OF TELEGRAPHIC ORDERS AND SIGNALS,
GENERAL, SEPTEMBER 1915 TO MAY 1916.

Tuesday, 28th September 1915.

A 1. Comm. (T) to Adty.

618 Request permission to sail with light cruisers only at noon to-morrow Wednesday evening, arriving vicinity of Vyl Shoal Light Vessel at daylight on 30th September, then to sweep to northward as far as Jutland Bank, returning to base to the westward of Area I. (2220.) (Recd. 10.39 p.m.)

Reply. Sent 8.25 a.m., 29th September.
Approved.

Wednesday, 20th October.

A 2. Adty. to V.A., Dover.

159 The trawler *Erin II* having been blown up off the Nab is a sign that submarines are getting through the Dover Straits. Do all you can to extend the net drifters to the French coast, so as to catch one if possible. In the ship channel nets may be floated 30 ft below the surface. (1435.)

Reply.
168 Your 159. Will use every endeavour to stop submarines, but it is impossible to keep drift nets in ship channel on French coast in SW and E winds, as they drift at once into net area. (Recd. 9.8 p.m., 20th October.)

23rd October.

A 3. C.-in-C., H.F., to Adty.

233 For C.O.S., Home Fleets.¹ Am very anxious that cruisers shall be used during winter for sweeping in North Sea as well as light cruisers. If the latter only used bad weather will strain them and limit activity. Constant sweeping very necessary during long nights. Please represent this strongly to First Sea Lord, and ask if embargo against using cruisers for purpose may be withdrawn. Danger from submarines during short days much lessened. (Recd. 9.20 a.m.)

Reply. Sent 2.25 p.m., 24th October.
412 There is no objection to armoured cruisers being used at your discretion for sweep operations now that wintry weather and long nights are setting in.

26th October.

A 4. Comm. (T) to Adty.

667 Weather is improving. I am sending destroyers to search for floating mines; many reported in vicinity. Request permission 5th Light Cruiser Squadron and available destroyers to sail Friday, 29th October, arriving at lat. 54.45 N, long. 5.55 E, at 6 a.m., 30th October, sweeping to northward and passing through 56.45 N, 6.30 E, returning to base east of Area I. (0930.) (Recd. 10.30 a.m., 26th October 1915.)

Reply: 6.35 p.m.
Your 667 approved. One division destroyers should be left at Harwich in your absence for any service required.

¹ The Chief of Staff, Home Fleets, was then at the Admiralty for a conference.

A 5. C.-in-C., H.F., to Adty.

272 Submit for consideration whether it would not be desirable for Commodore (T) to return to west of Area I as otherwise he will meet any superior force that may be sent out if he is reported on 30th.

Reply.
442 Your 272. It is not proposed to change the programme.

Tuesday, 2nd November.

A 6. C.-in-C., H.F., to Adty.

333 If circumstances are favourable propose that 1st Light Cruiser Squadron and 2nd Light Cruiser Squadron carry out sweep to Skagerrak at end of the week accompanied by six destroyers from Scapa. Squadrons to leave bases, night, 5th-6th November, and meet in 58.6 N, 9.50 E, at 6.45 a.m. on 7th November. Spread and sweep towards Little Fisher Bank till 3 p.m., then 1st Light Cruiser Squadron to Rosyth, 2nd Light Cruiser Squadron to Scapa. *Lion* and two battle cruiser squadrons, screened by three divisions of 1st Destroyer Flotilla supporting, being in 57.0 N, 5.0 E, at 6.30 a.m., 7th November.

Reply. Sent 6.30 p.m.
492 Your 333 approved.

5th November.

A 7. Adty. to C.-in-C., H.F.

507 Owing to the uncertain and critical state of affairs in the Mediterranean, it has been decided to send out a detached squadron to be held in reserve. We may be involved in hostilities with Greece, of which the Austrian Navy may take advantage, or more decisive naval action may be necessary at the Dardanelles. Detached squadron will consist of *Zealandia*, *Albemarle* and *Russell*, under the orders of the Rear-Admiral in *Hibernia*. They should complete with as much reserve ammunition as they can stow before leaving their base and proceed via north of Scotland to Milford Haven for orders. (0905.)

A 8. Adty. to Capt. (S).

268 Two "E" class submarines are required for service in Mediterranean and should be sent to Devonport escorted by a destroyer. . . . Report which vessels are selected. (1611.)

Reply.
247 Your message 268. Submarines *E.21* and *E.25* selected.

7th November.

A 9. C.-in-C., H.F., to Adty.

359 Submit that decision received this morning that the three "C" class submarines are to return to Rosyth may be reconsidered. The object of them being at Invergordon that they might be used for the attack of enemy submarines which might operate in the neighbourhood. It was not proposed to continue the system of using them with trawlers during winter, but there is every probability of enemy submarines operating off our bases since they appear to have abandoned the attack on trade. . . .

Reply.
553 Your 359. Regret decision cannot be changed as the important coast towns near the Forth are included in the area of operations where the submarine flotillas based there would act, and the five now remaining are not considered sufficient. They are primarily for defence against raids, not against enemy submarines. (Sent 10th November 1915.)

14th November.

A 10. Adty. to Capt. (S).

275 A submarine should be sent to Heligoland Bight when weather permits, to cruise inside Heligoland. Commanding officer should have full discretion to return whenever he chooses, and should not stay more than five days. The mines laid by *Princess Margaret* on 10th September 1915 are apparently about 3 miles to eastward of charted positions. The German mines between lat. 53.39 N and 54.15 N, and long. 6.10 E and 6.20 E, are apparently laid deep to catch submerged submarines. Destroyers are known to have passed over southern part of this minefield. A submarine may also be sent to operate off Ems mouth with full discretion to return at will. She should not remain longer than seven days.

Wednesday, 8th December.

A 11. Adty. to C.-in-C., H.F.

782 Sixty-six armed trawlers are being withdrawn from Home Waters for special service as follows:—

Stornoway 12, Orkneys 12, Yarmouth 6, Milford 6, Kingstown 6, Lough Swilly 6, Holyhead 6, Falmouth 12.

12th December.

A 12. Adty. to Naval Base, Falmouth.

The three yachts and sixty-six trawlers are to proceed to Gibraltar as they are ready in groups or singly at your discretion. At Gibraltar they will receive further orders.

25th December.

A 13. Adty. to Comm. (T).

640 Two enemy submarines 20 miles south of Smalls at 1.45 p.m. firing at steamer. One submarine reported off Culver at 2.30 p.m. Send two divisions of destroyers and a flotilla leader down Channel to hunt the submarine reported off Culver, and instruct leader to look out for further information en route. They will afterwards proceed to west of England if required. (1615.)

Saturday, 1st January 1916.

A 14. Adty. to all Ships via Cleethorpes, 1Q, and to all Bases. (By Cypher F.)

IQ Moored mines are suspected in the Hewitt Channel entrance to Yarmouth Roads. Repeated to all ships and bases. (1430.)

Cancelled by 3Q, sent 11.45 p.m., 1st January.

6th January.

A 15. Adty. to all Ships via Cleethorpes, 10Q, and to all Bases.

Until further orders locality between 3.40 W and Cape Wrath is to be avoided. (1440.)

8th January.

A 16. C.-in-C., H.F., to Adty.

777 A Norwegian ship has struck mine near position where *King Edward VII* was struck. The fact of a minefield being established, submit news of *King Edward VII* loss be not published at once, but be delayed for as long as possible. A week's delay would be of great use. It would greatly

encourage enemy to know that the minefield met with success so early, and would lead undoubtedly to further mines. This is by far the most dangerous menace to Fleet and Mercantile Marine that we have to encounter. (Recd. 5.12 p.m.)

12th January.

A 17. Adty. to Comm. (T).

673 Unless you are going out for A.R.H. it seems advisable to send a strong destroyer patrol to North Hinder locality to-morrow. A German aeroplane was sighted there this afternoon, and destroyers have been in that direction from Zeebrugge and may go out again to-morrow. (1845.)

17th January.

A 18. Adty. to C.-in-C., H.F.

151 1st Scouting Group and 1st and 3rd Battle Squadrons came out at some time after 4.15 a.m. and are now returning to harbour. (1110.)

25th January.

A 19. C.-in-C., H.F., to Adty.

916 Secret. Regret to report that the bad weather has largely destroyed submarine obstructions at this base. Present condition as follows: "H" and "M" obstructions are non-existent, some portions salvaged and repairable. Eastern half of the "K" and "L" obstructions non-existent. Three sections of "D" obstruction gone, only six sections of "Q" laid. "B" obstruction has two gaps in it. Switha obstruction fairly efficient. It will be seen that the condition is most serious as both Hoxa and Hoy entrances are open as is Holm entrance except for blocking ships. Fleet is rendering all possible assistance. No self-propelling mooring lighters have yet arrived—*Limpet* was promised last week (?) in November. *Holdfast* is delayed by desertion of crew. *Fidget* is at Peterhead; am trying to get her here. Work of renewing obstructions is entirely dependent on arrival of these lighters. Destruction of obstructions is largely due to employment of drifters in lieu of trawlers. There have been no cases of trawlers leaving their post, all those driven have been (?) drifters. Present state of base emphasises imperative necessity for laying the E.C. minefield recommended in my submission 23rd January, at once. Request I may be informed of steps taken. I am considering moving Fleet to Loch Ewe temporarily, but will not do so if possible to remain here. (1240.)

A 20. Adty. to C.-in-C., H.F.

233 Your 916. Mooring and salvage vessel *Dapper* has been ordered to proceed forthwith to Scapa from Sheerness. *Fidget* has been ordered to proceed forthwith to Scapa, moorings at Peterhead to be completed later. *Holdfast* defects and crew now completed. S.N.O., Tyne, has been directed to despatch her forthwith under escort. Endeavours are being made to obtain trawlers to replace drifters for boom defence, but no trawlers are at present available. *Ardgarth*, store carrier 53, leaves Harwich to-morrow, 26th January, with greater part of "L" boom on board and mooring buoy for *Iron Duke*. Your submission re laying of E.C. mines will receive careful consideration immediately it is received. (2039.)

A 21. Adty. to C.-in-C., H.F., and Comm. (T).

232 A fleet auxiliary whose description we have not got sails from Kiel to-morrow for some special job which we suspect may be minelaying, and is apparently going to be out about a week. From the time she is going to be out she can hardly be going to cruise in Baltic, and it would be advisable to send some cruisers to sweep in North Sea. Commodore (T) can co-operate with 5th Light Cruiser Squadron, and you should give him orders if you require his assistance. This ship may have torpedo tubes. This is positively all the information we have. (1935.)

26th January.**A 22.** C.-in-C., H.F., to Adty.

926 Your 232. Following orders sent to V.A.C., 3rd Battle Squadron, and V.A.C., Battle Cruiser Fleet. (Begins.)

Secret. An armed enemy auxiliary, possibly minelayer, may be coming westward through Skagerrak any time after 6 a.m., Thursday, 27th January. 1st Light Cruiser Squadron and destroyers to be spread on meridian of 7° E by 10 a.m., 27th January. Northern vessel to sight the Naze. Sweep to eastward towards the Skaw as far as long. 10° E. If the enemy is not then sighted, return to the westward and spread on a line 210 deg. from lat. 58.52 N, long. 3.45 E, by 7 a.m., Friday, 28th January. 4th Light Cruiser Squadron will at that time be spread between that position and Udsire Lighthouse. Combined force to sweep to the south-eastward, parallel to Norwegian coast, as far as long. 7° E, and if no result then return to bases. 2nd Battle Cruiser Squadron or 3rd Battle Cruiser Squadron with destroyer screen to be within supporting distance of 1st Light Cruiser Squadron during 27th January, keeping to the southward on 28th January. Discretion to be used as to sending destroyers back if the weather necessitates. If unable to keep up on 27th January they might be sent to a rendezvous for 28th January. Acknowledge. (Ends.) 5th Light Cruiser Squadron not required.

31st January.**A 23.** Adty. to Capt.-in-Charge, Lowestoft.

46 Be ready for Zeppelins this evening, and keep this information as secret as you can for as long as you are able consistently with being prepared. (1335.)

A 24. Adty. to Comm. (T).

705 If weather is clear on our coast Zeppelin patrol should be carried out this evening, sailing as soon as possible.

A 25. Adty. to V.A., Dover.

924 Monitors should be secretly warned to be ready for aircraft to-night. (1335.)

A 26. Cromer W.S.S. to Adty.

545 Following received from Trimmingham. (Begins.) One Zeppelin passing overhead steering towards Cromer. (Ends.) (1640.)

546 Following received from Mundesley. (Begins.) Some more Zeppelins passing over Mundesley coming towards Cromer. (Ends.) (1640.)

Wednesday, 2nd February.**A 27.** Adty. to Comm. (T).

708 One Zeppelin has apparently not yet returned to Germany. You should send out some vessels to look for her. There was a report of a Zeppelin being seen off Cromer at dusk with her engines apparently broken down. Vessels should search in vicinity of our coast. (1230.)

709 Return—no chance now. (1650.)

3rd February.**A 28.** Adty. to C.-in-C., H.F.

312 *Secret.* Zeppelin was seen last night at dusk off Cromer, apparently with engine trouble. Commodore (T) went to look for it off English coast this morning, and has been recalled this afternoon. Dutch coastguards fired at Zeppelin to-day off Ameland, apparently hitting it; and during to-day German flotillas have been searching near German coast for it. To-morrow morning Germans intend an air reconnaissance to look for it, but have ordered 1st and 3rd Battle Squadrons and all scouting groups

and destroyers to be ready for sea. This appears to be only a precaution in case any small ships sent to salve the Zeppelin when located by aircraft are attacked by weak British forces. Wind in German Bight has been SW or SSW to-day, and if able to remain in the air Zeppelins will be in Denmark to-morrow. While the Germans are in a state of unrest steam will be kept at two hours' notice. We have a submarine off Horn Reefs and also one off Norderney and another inside Heligoland. (0045.)

A 29. Adty. to C.-in-C., H.F.

313 Owing to bad weather Germans have abandoned air reconnaissance and search for Zeppelin. Their fleet has returned to normal conditions of readiness. (1143.)

A 30. Naval Centre, Hull, to Adty.

625 7.40 p.m. Following from N.I.O., Grimsby:—Reported Zeppelin L.19 wrecked in North Sea; skipper of *King Stephen*, Gy 1174, reports in lat. 54.24 N, long. 3.6 E, on 2nd February, about 7 in the morning noticed large white object in water, bearing about 10 miles east. He came alongside after one and half hours. The Zeppelin was three parts under water, all the cars being submerged and only about 40 ft. of bows showing, pointing NE. This painted with three iron crosses; no trace of wireless visible; about 20 men were on the top, where a sort of shelter has been constructed, and skipper, from hearing knocking within Zeppelin, concluded that other members of crew were inside trying to caulk. Skipper examined Zeppelin carefully; no trace gunfire detected. The commander addressed skipper in good English; offered pounds for the trawler's boats, and subsequently plenty of money for all to be taken off. Skipper replied "No. If I take you on board you will take charge." Commander replied "No; we shall certainly not." Gy 1174 then left Zeppelin, the crew of which kept shouting to be saved. The Zeppelin still visible 15 miles away. Nothing said by Germans as to where Zeppelin had been. Skipper judged Zeppelin had been in water a long time, as canvas dangling from framework. When he left there was strong head wind blowing, and he thought he could not float many hours, as seemed gradually going down. Skipper looked for patrol boat to report, but did not sight one. Reported this morning in Humber to a destroyer and to examination vessel. (Ends.)

7th February.**A 31.** C.-in-C., H.F., to R.A., 10th C.S.

Do you consider it desirable to alter patrols of 10th Cruiser Squadron, as there has been no change for some time. In view of probability of enemy sending out more disguised and armed merchant ships similar to the one described in A.L. M.01013 of 4th February, it seems desirable to keep two ships on "G" patrol for mutual support when boarding westbound ships. This menace will probably necessitate a cruiser squadron being kept northward of Shetlands, and when weather permits of t.b.ds. being used more freely, of constant cruiser sweeps towards Skagerrak. In case we receive information leading to expectation of disguised vessel breaking out, I propose to place 10th Cruiser Squadron across from Muckle Flugga to Utvoer Lighthouse; also to strengthen Fair Island patrol with small vessels, and to get cruiser squadrons out to southward of lat. 59°. 10th Cruiser Squadron and Cruiser Squadrons to sweep to southward by day and back by night. Will you be prepared for this? I shall be glad of any remarks from you. (1355.)

Reply.

Your 1355 of 7th February. Concur generally, and consider "C" patrol might be shifted to a line Sudero to North Rona until submarines become more active. "A" patrol cannot be improved, but more ships are required for efficiency. "G" patrol should be two or if possible three ships. Shall be prepared to place 10th Cruiser Squadron across from Muckle Flugga to Utvoer Light as soon as your signal is received.

8th February.

A 32. Adty. to Capt. (S).

302 Submarines should not sink merchant vessels unless carrying war flag or clearly acting as fleet auxiliaries. (1950.)

9th February.

A 33. Adty. to C.-in-C., H.F. (377).
V.A., B.C.F. (607).

There are strong reasons to think the High Sea Fleet may leave to-morrow morning for some operations to the west and south. You should therefore move the whole fleet to the southward, concentrating as necessary without further orders. Further information will be sent when obtained. Commodore (T) is exercising outside Harwich. His destroyers are being recalled to refuel; the light cruisers will watch off the Texel. (2300.)

A 34. Adty. to Comm. (T).

720 Send destroyers back to refuel at once. Light cruisers patrol NW from Texel Island, according to visibility. (2305.)

A 35. Adty. to Capt. (S).

303 Three submarines already detailed for German coast should proceed there, looking out for our light cruisers patrolling NW of Texel. All available submarines and attendant destroyers are to be ready for sea at half an hour's notice for 6 a.m. onwards. (2325.)

A 36. Adty. to R.A., East Coast.

500 *Orviato*. Raise steam and be ready for sea at one hour's notice. (2330.)

A 37. Adty. to C.-in-C., Nore.

51 Minelayers raise steam and be ready for sea at one hour's notice. (2330.)

10th February.

A 38. Adty. to C.-in-C., H.F. (378).
V.A., B.C.F. (608).
V.A., 2nd B.S. (158).

Urgent. Remain in harbour at two hours' notice. (0400.)

A 39. Adty. to C.-in-C., Nore.

53 Minelayers revert to usual notice for steam. (0800.)

A 40. Adty. to R.A., East Coast.

501 *Orviato* revert to usual notice for steam. (0800.)

A 41. Adty. to Capt. (S).

304 Submarines and attendant destroyers revert to usual condition of readiness. (0805.)

A 42. Adty. to Comm. (T).

721 Patrol ordered no longer required. (0805.)

A 43. Adty. to C.-in-C., H.F.

387 German battle squadrons and battle cruisers are apparently remaining in a state of instant readiness. 2nd Scouting Group and three destroyer flotillas are apparently outside the rivers. It is advisable to keep steam at two hours' notice until more is known, as Germans seem restless. (1715.)

A 44. Adty. to C.-in-C., H.F. (393).
V.A., B.C.F. (613).

Not to be repeated by W/T. Absolutely secret. 2nd Scouting Group and three destroyer flotillas apparently proceeded west from Jade River this afternoon, and 2nd Scouting Group anchored off East Ems about 4.30 p.m. G.M.T., owing to fog. We think a raid on our coast is intended, and may yet take place if fog lifts soon enough. Battle Cruiser Fleet and 1st Flotilla should sail and proceed southward to endeavour to cut off enemy on their return towards Ems. If use of wireless is avoided there is little chance of enemy battleships coming out in time. Commodore (T) will be in readiness to leave Harwich after midnight as soon as refuelled, but will not be sent out unless more definite information of enemy movements becomes known, as his force is too weak unsupported. (2010.)

A 45. Adty. to R.A., East Coast.

504 Secretly warn S.N.O.s of ports in your command to exercise great vigilance to-night because we believe a considerable force of enemy destroyers are at sea. Do not make wireless signals in G.S. Code. Destroyers and submarines should be ready for instant action close to their ports. Vessels at a distance from their ports must take their chance. Any unusual scare will destroy our information for the future. Great discretion should be used. (2224.)

A 46. Adty. to Comm. (T).

724 Thirty-three German destroyers are at sea supported by 2nd Scouting Group of eight light cruisers; they were off East Ems at 4.30 p.m., and light cruisers had anchored on account of fog. We expect a destroyer raid somewhere. Battle Cruiser Fleet has been ordered to southward to endeavour to intercept enemy returning towards Ems to-morrow. You should proceed to sea and remain in the vicinity to act as necessary should attack be made on your part of the coast. You are not expected to attack very superior forces unsupported. (2252.)

A 47. Adty. to C.-in-C., Nore (62).
V.A., Dover (12).
S.N.O., Harwich.
S.N.O., Lowestoft (89).

Secret. A considerable force of about three flotillas of German destroyers and some light cruisers went to sea this afternoon to the westward, and a raid somewhere on our coast may be intended. Take precautions, using as much care as possible to avoid unusual alarm, as it may destroy source of our information. Unusual signals in G.S. Code should not be made, as it is probably known to the enemy. Submarines should be in position to act at dawn, and aircraft should scout. (2315.)

A 48. Adty. to Capt. (S).

305 There may possibly be a raid on our coast in the early morning, enemy force about three destroyer flotillas and eight light cruisers. (A) Give Commodore (T) any submarines he may require to act with his force, and have remainder outside the port ready to act at dawn. Arrange so that communication with submarines can be maintained. (B). (2329.)

A 49. Adty. to Comm. (T).

725 Following telegram sent to Captain (S). (Begins.) (A) to (B) above. (2329.) (Ends.)

A 50. Adty. to V.A., Dover.

13 My 12. Warn the French Admiral Marliave discreetly. (2330.)

11th February.

- A 51.** Adty. to C.-in-C., H.F. (396).
V.A., 3rd B.S. (501).
V.A., 2nd B.S. (161).

Grand Fleet proceed to sea, concentrating as ordered by Commander-in-Chief. (0045.)

- A 52.** Adty. to all Ships.

Enemy destroyer engaged by sloop *Poppy*, lat. 54.30 N, long. 3.30 E, at 11.21 p.m. (0100.)

- A 53.** Adty. to C.-in-C., H.F.

397 At 11.21 p.m. minesweeping sloops engaged an enemy destroyer in lat. 54.30 N, long. 3.30 E. 1st Scouting Group leaving Jade at midnight. Position of *Pillau* at 11.50 p.m., lat. 54.27 N, long. 4.5 E. Course S by W. Grand Fleet should proceed to southward, concentrating as necessary. (0114.)

- A 54.** Adty. to V.A., B.C.F.

614 Six enemy destroyers in lat. 54.26 N, long. 3.10 E chasing *Buttercup* to SW at 11.55 p.m. Position of *Pillau* at 11.50 p.m., lat. 54.27 N, long. 4.5 E. Course S by W. 1st Scouting Group leaving Jade at midnight. Grand Fleet ordered to sail. (0140.)

- A 55.** Adty. to Capt. (S).

306 Send four submarines independently to cruise between Ameland and lat. 54° N, to remain there four days after arrival. Caution them that two German submarines are probably working from Ems towards Dogger Bank. (0802.)

- A 56.** Adty. to V.A., B.C.F. (617).
C.-in-C., H.F. (399).

All enemy forces returning to their bases, no object in Battle Cruiser Fleet coming further south at present. Remain at sea, further orders follow later. Addressed to V.A., Battle Cruiser Fleet, repeated to Commander-in-Chief, Home Fleet. (0815.)

- A 57.** Adty. to R.A., East Coast (505).
S.N.O., Lowestoft (90).
S.N.O., Harwich.
C.-in-C., Nore (63).
V.A., Dover (14).

Resume normal conditions for to-day, enemy returning to their bases. (0824.)

- A 58.** Adty. to Comm. (T).

727 All enemy forces returning to bases. You should return and be ready to go out to-night. (0820.)

- A 59.** Adty. to C.-in-C., H.F. (400).
V.A., B.C.F. (618).

Enemy forces have apparently all returned to rivers, except submarines, and appear to be staying in a state of readiness. Two enemy submarines are stationed in lat. 54.40 N, long. 3.30 E. We think discovery of enemy by sloops last night caused abandonment of some intended enterprise. Fleet should remain at sea until to-morrow. (1640.)

- A 60.** Adty. to C.-in-C., H.F. (401).
V.A., B.C.F. (619).

Affairs have settled down to normal, but we do not anticipate this continuing for many days. Fleet should return to bases at your discretion. 1950.)

19th February.

- A 61.** Adty. to Comm. (T).

739 You should proceed for cruise, arranging to be in the vicinity of lat. 54.15 N, long. 3.30 E by noon, Monday, 21st. Destroyers should be sent on to lat. 54.30 N, long. 3.0 E, to see if any submarines are about there as A.M.S. will be in that vicinity sweeping during afternoon of Monday. It is not desired that light cruisers should go to lat. 54.30 N, long. 3.30 E in case of mines. Return at nightfall. (1400.)

21st February.

- A 62.** Adty. to V.A., Dover (82).
C.-in-C., Nore (156).
Comm. (T) (746).

It is desired to carry out an air raid on Ostend and Zeebrugge as soon as it can be brought off. It will be carried out under orders issued by V.A., Dover. *Vindex* will leave Harwich for Dunkirk on Wednesday, reporting herself off Dover. *Riviera* should proceed to Sheerness as soon as convenient to embark additional seaplanes and pilots to be drawn from Nore command. *Vindex* should be escorted to and from Dunkirk by Harwich destroyers and one division of destroyers from Harwich should be sent to co-operate with Dover destroyers on the day of the raid, which will be settled by V.A., Dover, and communicated by him to Commodore (T). (2330.)

22nd February.

- A 63.** Adty. to C.-in-C., Devonport.

349 Owing to increased activity on Belgian coast, more destroyers are required temporarily at Dover. The four "L" class should be sent to Dover, and escort work at Devonport should be reduced, the less important ships going without escort. (2035.)

23rd February.

- A 64.** Adty. to A.C., Scotland.

233 Considerable activity is apparent on the Belgian coast, which renders it necessary to increase the force at Dover, and two "C" class submarines should accordingly be sent from the 7th Flotilla to join the 4th Flotilla at Dover. The formation of the 11th Flotilla at Blyth renders it less necessary to maintain submarines in the Forth. The submarines should be escorted to the Tyne, whence the R.A., East Coast, will provide a destroyer to escort them to Yarmouth where Commodore (T) will provide further escort. Report numbers of the boats detailed. (1515.)

Reply.

700 Your 233. Submarines detailed for service with 4th Submarine Flotilla are submarines *C.26* and *C.27*. Propose they should sail immediately weather moderates.

25th February.

- A 65.** Adty. to C.-in-C., H.F.

516 Norwegian Government on 12th February notified H.M. Government that they regard it as duty of submarines when they find themselves in or pass through Norwegian territorial waters to be on the surface and show their national colours. Submarines should be cautioned not to interfere with vessels in neutral waters. (0420.)

28th February.

A 66. S.O., 10th C.S., to C.-in-C., H.F. (extract).
Disposition of squadron:— "G" *Alcantara*, *Andes*. (0830.)
(Timed 1000 of 27th February.)

A 67. Adty. to C.-in-C., H.F.

547 A German mercantile auxiliary which was recently working in Baltic as a decoy ship in conjunction with a German submarine was off the Skaw at 7 a.m. G.M.T. to-day, Monday, proceeding to the west. Speed apparently about 10 knots. (1120.)

A 68. C.-in-C., H.F., to V.A., 3rd B.S.

V.A., B.C.F.

Two light cruisers and four destroyers to have steam for 20 knots by 8 p.m. to-day, Monday. (1435.)

A 69. C.-in-C., H.F., to V.A., B.C.F.

V.A., 3rd B.S.

Two light cruisers and four t.b.ds. ordered in my 1435 are to sail 8 p.m. to-day, 28th, to endeavour to intercept a German mercantile auxiliary fitted as a decoy, which may be accompanied by a submarine. She is reported to have left the Kattegat about 7 a.m. to-day, 28th, steering west, and if accompanied by a submarine will not average more than 10 knots. Patrol area covering the Farn Island-Skaw and May Island-Naze trade routes being in about long. 1.30 E at 7 a.m., 29th, thence work to eastward, one light cruiser and two t.b.ds. taking the northern route, the others the southern. Turn west about 3 p.m. and cruise in area lat. 56.0 N, 56.50 N, long. 0.0 and 1.0 W during the night, 29th February-1st March, to prevent minelaying. Further orders will be sent. Submarines D.7 and E.30 may be returning to Blyth from coast of Norway on 29th February-1st March. Great precautions are essential when boarding steamers in view of possible nature of attack from decoy ship or submarine. (1630.)

A 70. C.-in-C., H.F., to Adty.

204 Your 547. Three light cruisers from Scapa accompanied by destroyers search during daylight to-morrow, between lat. 57.20 N and 60.0 N, and meridians of 2.0 E and 4.0 E, then patrol meridian of Greenwich, returning to base daylight, Wednesday, 1st March. Two light cruisers and four t.b.ds. from Rosyth patrol the Naze-May Island and Skaw-Farn Island routes as far as meridian 5.0 E, during daylight to-morrow, Tuesday, then patrol west of meridian of Greenwich after dark to prevent minelaying. (1845.)

A 71. A.C., Rosyth, to C.-in-C., H.F.

Inconstant, *Cordelia* and four destroyers sailed. (2105.)

29th February.**A 72.** Adty. to C.-in-C., H.F.

555 My 547 and your 204. Directional bearings from Murcar and Lerwick place suspicious steamer in 58.17 N, 5.47 E, at 8.20 p.m. (0005.) (Recd. 0026.)

A 73. C.-in-C., H.F., to *Blanche*.

Steer for lat. 61.30 N, long. 0, 18 knots weather permitting. *Blanche's* destroyer return to base. (0145.)

A 74. C.-in-C., H.F., to *Calliope*, *Comus* and *Blanche*.

Enemy may cross circle radius of 200 miles from lat. 58.20 N, long. 5.50 E, at 10 a.m. Adjust search accordingly to watch line, *Comus* 40 miles long. 50° from lat. 61 N, long. 1.10 E, *Calliope* 40 miles 230 deg. from same point. (0150.)

A 75. C.-in-C., H.F., to S.O., 10th C.S.

Columbella.

Patia.

Gibraltar.

Columbella and *Patia*, if available, patrol line 60 miles long. 50° from lat. 61.30 N, long. 0, between 3 p.m. and dark to-day, 29th February. (0200.)

A 76. S.O., 10th C.S., to C.-in-C., H.F.

Your 0200. *Columbella* and *Patia* will patrol as ordered. (0430.)

A 77. C.-in-C., H.F., to *Patia*.

Columbella.

S.O., 10th C.S.

... Armed disguised enemy merchant auxiliary from the southward may pass patrol line. "G" patrol extend line to north-east if possible. (0705.)

A 78. C.-in-C., H.F., to *Calliope*.

Calliope or *Comus* proceed immediately to reinforce *Andes*. Position of *Andes* 62.0 N, 1.0 E, 52° 15, chasing vessel painted black, two masts, one funnel. Ship detailed is to communicate with *Andes*, Q wave-length. (1020.) (Intercepted at Stockton and received Admiralty 10.48 a.m.)

A 79. C.-in-C., H.F., to *Blanche*.

Proceed immediately to reinforce *Andes* at full speed 62.10 N, 2.0 E. (1050.)

A 80. C.-in-C., H.F., to Adty.

211 Raider out of action. *Alcantara* sinking. *Andes* in company. *Comus* close to. Submit most important news should be published or reach Germany of destruction of raider. (1116.)

A 81. S.O., 10th C.S., to C.-in-C., H.F.

Your 0715 and 0740. Am arranging patrols in compliance with your 1355 of 7th February, to Rear-Admiral, 10th Cruiser Squadron, abandoning "A" and "C" patrols. Ships will be in position by 6 a.m. to-morrow, Wednesday. (1100.) (Recd. 1120.)

A 82. Adty. to C.-in-C., H.F.

568 My 547. Steamer is going back to the Sound. (Recd. 1135.)

A 83. C.-in-C., H.F., to Adty.

213 *Andes* reports name on sunken raider is *Greif*. *Alcantara* sunk at 11.18 a.m., 62.0 N, 1.45 E. (1715.)

A 84. Adty. to C.-in-C., Portsmouth.

C.-in-C., Devonport.

Urgent. Two steamers are reported to have passed Dover Patrol in darkness, second was fired on and did not stop. Stop all transport sailings and hold up all Allied merchant shipping in port. All available destroyers should be disposed on suitable lines to intercept steamers in daylight to-morrow. Portsmouth inform Cherbourg and Devonport inform Brest of what you are doing. (2340.)

A 85. Adty. to Transport Officer, Boulogne.

Dieppe.

Havre.

Southampton.

Newhaven.

Folkestone.

Stop sailings of all transports and take steps with the authorities to keep all Allied merchant shipping in port until further orders. (2340.)

Wednesday, 1st March.**A 86.** Adty. to Transport Officers above.

Transport and ordinary traffic to east of Portsmouth-Cherbourg line can be resumed. (0915.)

A 87. Adty. to C.-in-C., Portsmouth.

Devonport.

Transports, Havre.

Southampton.

Restrictions on cross-channel transport sailings imposed by my 2340 are now removed. (1703.)

Wednesday, 26th April.

A 88. Adty. to C.-in-C., H.F.

81 Besides bombarding Lowestoft and Yarmouth on Tuesday morning a force of light cruisers and destroyers swept down Belgian coast in search of our patrols which had been withdrawn to protect shipping in the Downs. The enemy have practically tested our weakness in southern waters and will probably again act on the offensive in those waters shortly. The 5th Light Cruiser Squadron is reduced to one ship till the others are repaired, plus *Aurora* shortly. Until we are in a better position to meet these attacks in the south, we must call on your resources to safeguard southern waters. What do you propose? (1900.)

27th April.

A 89. C.-in-C., H.F., to Adty.

676 Your 81. Enemy must for long have been fully aware of our dispositions in the south from the reports of their submarines working there and reports from neutral vessels. I propose that 3rd Battle Squadron and 3rd Cruiser Squadron with *Hampshire* should proceed south at once and be based either in the Swin Channel at Sheerness or Dover. They should have a half-flotilla from Harwich as screen until 13th Destroyer Flotilla will be sent instead. The position of the base must depend on facilities for exit with comparative safety from mines as to which my information is not good. 3rd Battle Squadron will be sufficiently strong covering force to encounter enemy battle cruisers at present strength. I propose H.M.S. *Dreadnought* join when refitted. I propose that 7th Submarine Flotilla which in my opinion is not required in Firth of Forth should be based on Yarmouth. These with submarines of 8th Flotilla already based there should be ample defence against bombarding raids on that part of the coast, but defences would be strengthened if minefields were laid to the eastward of coast, and I recommend this step, neutrals being informed of very wide area to be avoided otherwise enemy will know position of mines. Our own fishing craft must be prevented at all costs from using the same wide area. The defence minefield would enable our submarines to work at the end of safe channel through which enemy force must come. Submarines would need a destroyer to direct their movements. Propose that a patrol of three or four submarines of 8th Submarine Flotilla be constantly kept in area enclosed between line drawn 35 miles 300 deg. from Terschelling Bank Light Vessel and Haaks Light Vessel, being on former line during daylight and back to latter line before dark. It would be of advantage if these submarines could be fitted with Poulsen system of wireless when available. Propose that dividing line between 8th Submarine Flotilla and 11th Submarine Flotilla be a line direct from the Wash to 55.23 N, 6.50 E, thence along parallel of lat. 55.23 N to Danish coast. Propose that alterations to Rosyth and Humber obstructions be pressed with the greatest energy so that 4th Battle Squadron and 1st Cruiser Squadron can be moved Humber and remainder of battlefleet to Firth of Forth—as proposed in my letter of 26th April, No. 958, which left by messenger this morning. (Recd. 2.38 p.m.)

28th April.

A 90. Adty. to C.-in-C., H.F.

113 Your 676. Concur as regards the disposition of 3rd Battle Squadron, 3rd Cruiser Squadron and 7th Submarine Flotilla, except two boats to remain at Forth. Other points will be considered and work on obstructions pushed on with. Direct 3rd Battle Squadron and 3rd Cruiser Squadron to proceed to Sheerness (which will be their base with Swin as war anchorage) at earliest opportunity that t.b.ds. can escort them to Humber, when Harwich t.b.ds. will take over the escort. (1945.)

29th April.

A 91. C.-in-C., H.F., to Adty.

702 Your 113. Following message sent to V.A.C., 3rd Battle Squadron, 28th April. (Begins.) Admiralty direct that 3rd Battle Squadron and 3rd Cruiser Squadron are to proceed to Sheerness, which will be your future base, being escorted to Humber by t.b.ds. from Rosyth, after which Harwich t.b.ds. will escort. Leave as convenient p.m. to-morrow, 29th April, proceed by M Channel until in lat. 55 N, long. 0.20 E, thence to Humber. Take sufficient escort from 1st Destroyer Flotilla, they are to return direct from Humber. *Roxburgh* to carry out previous orders and to join you at Sheerness on completion. (Ends.) Submitted that information may be sent to V.A.C., 3rd Battle Squadron, and to me when Harwich destroyers will be available to screen 3rd Battle Squadron from Humber to Sheerness. Is *Hampshire* to join 3rd Cruiser Squadron? (Recd. 1.52 a.m., 29th April.)

A 92. Adty. to C.-in-C., H.F.

122 Your 702. *Hampshire* should remain in 7th Cruiser Squadron and not come south. (1220.)

A 93. Adty. to C.-in-C., Nore (864).
V.A., 3rd B.S. (586).
C.-in-C., H.F. (124).

It has been decided to base 3rd Battle Squadron and 3rd Cruiser Squadron at Sheerness and they leave the Forth to-day. They are to act as supporting force to Dover and Harwich squadrons working under Admiralty directions. Their war anchorage will be in the Swin. Report if the whole squadron can be berthed at Sheerness for coaling on arrival. The V.A.C., 3rd Battle Squadron, should consult you as to future arrangement for supplies. Addressed to C.-in-C., Nore, repeated to V.A.C., 3rd Battle Squadron, and Commander-in-Chief, Home Forces. (1300.)

A 94. Adty. to Comm. (T) (959).
V.A., Dover (635).

When possible you should detach eight destroyers to Dover to work off Belgian coast, making arrangements to relieve them as necessary. It is recognised that it may be difficult to provide them at the present moment owing to escorts for *Princess Margaret*, *Vindex* and 3rd Battle Squadron. All previous orders to provide destroyers for Dover area or for minelayers when working in Dover area are cancelled. Order for two destroyers to escort *Princess Margaret* to Hull and during Operation XX holds good, and two destroyers will be required at the Humber to escort *Australia* to Devonport on Monday. (2255.)

30th April.

A 95. Comm. (T) to Adty.

219 Your 959. There are no destroyers available at present. Are the eight destroyers mentioned in your message to be in addition to the division of 10th Destroyer Flotilla now with Vice-Admiral, Dover? (0935.)

A 96. Comm. (T) to Adty.

220 Cancel my 219. *Laforey* and three destroyers now with minelayers have been ordered to Dover. This gives Vice-Admiral six destroyers. Two more will be sent when available. Two destroyers for *Australia* have been detailed. (1020.)

Saturday, 6th May.

A 97. Admiral, Dover, to Adty.

920 Minelaying on Belgian coast completed. Services of *Biarritz* and *Paris* no longer required.

A 98. Adty. to Capt. (S), *Maidstone* (377).
V.A., Dover (695).

E.41 should proceed to Dover to follow the orders of Vice-Admiral, Dover, temporarily for minelaying on Belgian coast. She should be escorted to Dover. (1915.)

13th May.

A 99. Adty. to Comm. (T) (936).
Admiral, Dover (733).

Urgent. Vice-Admiral, Dover, is laying nets off Zeebrugge to-morrow and expects it will draw out enemy destroyers. You should send one light cruiser with such escort for her as may be necessary to work under orders of Vice-Admiral, Dover, to-morrow, returning on Monday. Addressed to Commodore (T), repeated to Vice-Admiral, Dover. (1925.)

16th May.

A 100. Adty. to V.A., Dover (749).
Comm. (T) (994).

Vice-Admiral, Dover, reports that six enemy destroyers and two larger vessels were in action with our destroyers off Belgian coast this evening. You should send two light cruisers and destroyer escort as soon as possible in case enemy vessels come out to-morrow. They should call in Downs for orders from Vice-Admiral, Dover. Addressed to Commodore (T), repeated to Vice-Admiral, Dover. (2232.)

APPENDIX B.

SELECTION OF TELEGRAMS CONNECTED WITH THE SECOND SUBMARINE ATTACK IN THE SOUTH-WEST APPROACH.

Wednesday, 1st March, 1916.

B 1. C-in-C., H.F., to Adty.

225 Urgent. In view of German intention of sinking at sight merchant ships defensively armed, submit orders be given to screen their guns until used and to paint out ships names at once. Have ordered this at Grand Fleet bases. (Recd. 9.29 a.m.)

Reply.

674 Your 225. This is being done. (Sent 14th March.)

4th March.

B 2. Admiral, Queenstown, to Adty.

734 4.50 p.m. Oiler *Teutonian* sunk by submarine about 20 miles south-west Brow Head at 9.20 a.m. No casualties. Forty survivors being taken to Berehaven. When last seen submarine was going south-west. Particulars are being obtained. (Recd. 5.5 p.m.)

B 3. Adty. to Admiral, Portsmouth.

868 *Moldavia* should proceed to join 10th Cruiser Squadron and should join patrol as directed by Vice-Admiral, 10th Cruiser Squadron. She should be directed to proceed down Channel in mid-channel then pass through lat. 48.30 N, long. 8° W, then keep 120 miles from Ireland and Hebrides. Every precaution should be taken against submarine attack. Destroyer escort will be provided from Devonport, and Commander-in-Chief, Devonport, will inform you of names of vessels. Escort will accompany *Moldavia* to meridian 8° W, but if they are unable to keep up she may proceed alone. (Sent 8.30 p.m.)

B 4. Adty. to S.N.O.s, West Coast of United Kingdom.

With reference to M.O. 590/15 and C.M.O. 53/16. Shipping Intelligence Officer, Cardiff, is being instructed to hold up all British and Allied vessels in his area for the present. Shipping Intelligence Officers, Glasgow and Liverpool, are being instructed to hold up all British and Allied vessels from ports in their areas bound for ports in the Atlantic, Mediterranean, North Coast of France, or Bristol or English Channels with the exception of vessels bound for North American ports, which latter are to be sent northabout. (Sent to S.N.O.s, West Coast. 2100.)

5th March.

B 5. Devonport to Adty.

50 Message, 5th, 9.10 a.m. Intercepted from s.s. *Arracan*. (Begins. S.O.S. lat. 49.42, long. 7.10 W, submarine. (Ends.) (Recd. 9.21 a.m.)

B 6. Devonport to Adty.

54 Message, 5th, 11.30 a.m. Armed trawler No. 1191 reports conning tower of submarine seen 10 miles WSW of the Bishop at 11 a.m. (Recd. 11.38 a.m.)

B 7. Admiral, Devonport, to Adty.

21 I have given orders for all sailings from here to the westward to be held up for the present. (Recd. 12.28 p.m.)

B 8. Devonport to Adty.

56 Message, 5th, 12.40 p.m. Refer my 54 message, armed trawler 1191 reports. (Begins.) All trawlers fired on submarine dived south-west. 11.45 a.m. (Ends.) (Recd. 12.48 p.m.)

B 9. Admiral, Devonport, to Adty.

25 *Hope* has picked up complete crew of steamship *Rothsay* of Cardiff sunk this morning, 8 a.m. (Recd. 3.26 p.m.)

B 10. Adty. to V.A., Dover.

177 In view of submarine off Scilly, Customs, London, are being asked to hold up any specially valuable British or Allied vessels bound to the Atlantic for the present. S.N.O., Ramsgate, should hold and report names of any such vessels which may arrive in the Downs, but in order to avoid congestion it seems desirable to hold vessels in London where possible. (Sent 6.30 p.m.)

B 11. F.N.A. to Marine, Paris.

1744 By reason of the presence of a submarine near the Scilly Islands, Admiralty have suspended sailings from Irish Sea for the Channel and ports of Western Europe of all British and Allied merchant vessels, and also sailings from the Downs of ships of importance bound for the Atlantic. Another submarine reported near St. Kilda, 4th March, a.m., is probably on its way south so that there may be by to-morrow two submarines operating at the mouth of the Channel and St. George's Channel. (Sent 7.20 p.m.)

B 12. Adty. to Transport Officers, French Channel Ports.

Stop transports sailing to west coast ports including Bristol Channel till further notice. (Sent 9.40 p.m.)

B 13. Adty. to Divisional Transports, Avonmouth.

Belfast.
Manchester.

No transports to sail for French ports till further orders. (2245.) (Sent 10.45 p.m.)

6th March.

B 14. Adty. to Divisional Transports, Glasgow.

Liverpool.
Cardiff.

Consult Shipping Intelligence Officer before sailing any transports to southward. (Sent 12 10 p.m.)

B 15. Intercept. Crookhaven to all British Merchant Ships.

216 Submarine sunk a ship in lat. 49.42 N, long. 7.28 W, a.m. on 5th, another probably S or SW of Fastnet on 6th. Keep sharp lookout and zigzag at full speed during daylight. (Recd. 9.26 p.m.)

B 16. Adty. to Transport Officers, French Channel Ports.

My 2140/5 March. Transports may proceed, calling at Portland for orders. (2150.)

B 17. Adty. to V.A., Queenstown (114).
V.A., Old Milford.

Fishguard-Rosslare mail steamers may resume service, and instructions have been issued accordingly. You should, however, stop their sailings at any moment should you consider it advisable to do so, informing Admiralty at the same time. (Sent 10.40 p.m.)

B 18. Adty. to S.N.O.s, West Coast.

Sailings of transports between ports in the Bristol Channel and west coast ports north of Bristol Channel may be resumed. No transports may leave Irish Channel or Bristol Channel for the English Channel or for the Atlantic but the usual northabout traffic may be resumed. (2340.)

7th March.**B 19.** Adty. to S.N.O.s, Channel.

Cross-channel passages of transports may be resumed, but no transports are to proceed west of the Channel to Atlantic, Bristol or Irish Channels. (0005.)

B 20. Adty. to V.A., Queenstown (118).
V.A., Old Milford.

Cross-channel services between Fishguard and Rosslare, Fishguard and Cork, and Fishguard and Waterford are to be controlled by V.A., Queenstown, who will order their cessation or resumption at his discretion, keeping Admiralty and V.A., Milford, informed. Customs authorities Fishguard, Rosslare, Cork and Waterford have been informed accordingly. (Sent 2.55 p.m.)

B 21. Adty. to Divisional Transports, London.

Transports for west coast ports should call Portland for orders. (Sent 3.20 p.m.)

B 22. F.N.A. to Marine, Paris.

Sent 4 p.m.

Transports crossing to-night:—

<i>From</i>	<i>To</i>	<i>With</i>
3 Southampton	.. Havre	Troops and horses.
5 Southampton	.. Havre	Troops.
1 Southampton	.. Rouen	Troops.
1 Southampton	.. Dieppe	Hay.
1 Folkestone	.. Boulogne	Troops.
*1 Fleetwood ..	.. Calais	Hay.
*1 Avonmouth	.. Boulogne	Wood.
1 Newhaven ..	.. Calais	Ordnance stores.
1 Newhaven ..	.. Boulogne	Ammunition.
1 Newhaven ..	.. Boulogne	Food supplies.
1 Newhaven ..	.. Havre	Food supplies.
1 Newhaven ..	.. Dieppe	Forage.
3 Littlehampton	.. Havre	Ordnance stores.
1 London ..	.. Calais	Stores.
1 London ..	.. Dieppe	Hay and oats.
1 London ..	.. Dunkirk	Stores.

* If restrictions are removed.

B 23. Adty. to V.A., Dover.

My 177. Sailings of British and Allied vessels bound to the Atlantic may be resumed. S.N.O., Ramsgate, has been so informed. (Sent 8 p.m.)

B 24. Adty. to S.N.O.s, West Coast.

Shipping Intelligence Officers, Glasgow, Liverpool and Cardiff have been instructed that sailings of British and Allied vessels may be resumed. (Sent 9.37 p.m.)

B 25. Adty. to Divisional Transports, West Coast.

Transports may now proceed normally to French ports and southward. (Sent 9.37 p.m.)

B 26. Adty. to Transport Officers, French Channel Ports.

My 2150/6 March. Transports may now proceed normally to west coast and Bristol Channel ports. (Sent 10.25 p.m.)

B 27. Adty. to S.N.O.s, West Coast.

My 2340/6 March. Normal sailings may be resumed. (2330.)

8th March.**B 28.** Adty. to Admiral, Devonport.

478 Normal sailings may be resumed. (Sent 1.5 a.m.)

B 29. F.N.A. to Marine, Paris.

1783 Transports crossing to-night:—

<i>From</i>	<i>To</i>	<i>With</i>
3 Southampton	.. Havre	Men and horses.
1 Southampton	.. Havre	Men.
1 Southampton	.. Havre	Firewood.
1 Southampton	.. Havre and Rouen	Men.
1 Southampton	.. Dieppe	Hay.
2 Folkestone	.. Boulogne (if open)	Men.
2 Avonmouth	.. Boulogne	Batteries.
1 Avonmouth	.. Havre	Ordnance stores.
1 Manchester	.. Calais	Hay.
1 Avonmouth	.. Boulogne	Wood.
1 Portsmouth	.. Havre	Forage.
1 London ..	.. Dieppe	Stores.
1 London ..	.. Bordeaux	Stores.
1 London ..	.. Dunkirk	Stores.
1 Newhaven ..	.. Boulogne	Ammunition.
1 Newhaven ..	.. Rouen	Ammunition.
1 Newhaven ..	.. Rouen	Food supplies.
1 Newhaven ..	.. Calais	Food supplies.
1 Newhaven ..	.. Rouen	Forage.
1 Newhaven ..	.. Rouen	Oil.

12th March.**B 30.** Adty. to all Bases.

Reference C.I.O. 331 of 1916. New system for Traffic Instructions for Merchant Vessels will be brought into force at 10 p.m. on Wednesday, 15th March. (0054.)

13th March.**B 31.** Queenstown to Adty.

84 A.B.M.V. (Begins.) No reports of enemy submarines in Irish waters, but vessels should keep a sharp lookout and zigzag at full speed during daylight. (Recd. 12.6 a.m.)

(C8899)

R

14th March.

B 32. Queenstown to Adty.

83 A.B.M.V. (Begins.) No reports of enemy submarines in Irish waters, but vessels should keep a sharp lookout especially for possible raiders, and should zigzag at full speed during daylight. (Recd. 12.10 a.m.)

15th March.

B 33. Queenstown to Adty.

86 A.B.M.V. (Begins.) No reports of enemy submarines in Irish waters, but vessels should keep a good lookout and zigzag at full speed during daylight. (Recd. 12.8 a.m.)

B 34. Aultbea to Adty.

426 Message, 15th, 7.50 p.m. Following has been intercepted from *Crescent* to all ships. Urgent. Fired at by submarine and missed in 56.12 N, 7.32 W. (1920.) (Recd. 8.46 p.m.)

B 35. Adty. to S.N.O., Larne.

All vessels bound north through North Channel should be intercepted and sent into harbour.

B 36. Adty. to Malin Head.

Send following message *en clair* every hour till further orders. (Begins.) Enemy submarine operating off Skerryvore. (Ends.) (Sent 11.52 p.m.)

B 37. Adty. to S.N.O.s, West Coast.

Shipping Intelligence Officers, Liverpool, Glasgow and Cardiff are being instructed that no British or Allied vessels from ports in their areas are to be allowed to proceed through North Channel for the present. (2355.)

16th March.

B 38. Queenstown to Adty.

87 A.B.M.V. (Begins.) Enemy submarine in lat. 56.12 N, long. 7.32 W, at 7.15 p.m. on 15th. Possibly coming south. Keep sharp lookout and zigzag at full speed during daylight. (Recd. 12.14 a.m.)

B 39. Adty. to Malin Head.

Cancel my message of yesterday *re* enemy submarine operating off Skerryvore. (Sent 7.33 a.m.)

B 40. S.N.O., Buncrana, to Adty.

For A.M.S. Propose subject to your approval to postpone sweeping the Stanton Bank on account of submarines. (Recd. 4.20 p.m.)

B 41. Queenstown to Adty.

738 10.40 p.m. S.O.S., am being attacked, made from s.s. *Bervindale*, lat. 51.12, long. 10.20 W. Patrols informed. (Recd. 10.45 p.m.)

17th March.

B 42. Admiral, Queenstown, to Adty.

344 I have suspended cross-channel services between Fishguard and Cork, Waterford and Rosslare. (Recd. 10.39 a.m.)

B 43. Adty. to S.N.O.s, West Coast.

Shipping Intelligence Officers, Liverpool, Glasgow and Cardiff have been instructed as follows. (Begins.) British and Allied merchant vessels bound for Atlantic and Mediterranean ports should be held up for the present, except vessels from Liverpool and Glasgow for North American ports which may be sent northabout, their names and times of sailing being telegraphed to S.N.O., Larne. (Ends.) (Sent 11.50 a.m.)

B 44. Queenstown to Adty.

742 1.50 p.m. *Safeguard* reports having picked up crew of vessel sunk by gunfire from submarine, 6.30 p.m., 16th, 20 miles WSW Great Skellig, approximately lat. 51.33 N, long. 10.58 W. Name of ship and further particulars being inquired. (Recd. 2.4 p.m.)

B 45. Adty. to S.N.O.s, English Channel.

In view of submarine reported off Fastnet British and Allied merchant vessels leaving the Downs for Mediterranean, Atlantic, Irish or West Coast ports should be ordered to proceed to Spithead until further orders. This does not apply to British vessels defensively armed with 12-pdr. guns or above. These may be allowed to proceed, being instructed to steer a mid-channel course, zigzag during day and extinguish all lights at night. (1530.)

B 46. Adty. to S.N.O.s, Dover and Westward.

No transports or Government vessels should be allowed to sail from ports in English Channel for Bristol or Irish Channels or from Irish Channel and bound south. All southbound sailings from Bristol Channel should be held up. (1625.)

B 47. Admiral, Devonport, to Adty.

155 Following order has been given. No ships are to sail for the south or westward until further orders, except that coastal sailings may be allowed as far as Penzance. Ships may proceed to Channel Islands and eastward. (Recd. 7.16 p.m.)

B 48. Admiral, Larne, to Adty.

832 Your 1625. Should Government vessels passing North Channel to the southward be ordered into harbour accordingly? (Recd. 8.50 p.m.)

Reply.

899 Your 832. Yes. (Sent 11.16 p.m.)

B 49. Buncrana to Adty.

860 9 p.m. Fanad Head reports Auxiliary Patrol Vessel No. 1149 sighted submarine at 4 p.m., 10 miles north of Fanad, lat. 55.27 N, long. 7.45 W, steered for it but submerged before I could get range; not afterwards seen. (Recd. 10.23 p.m.)

18th March.

B 50. Adty. to S.N.O.s, West Coast.

Stop all outward bound traffic of every description through North Channel. (Sent 12.15 a.m.)

B 51. Admiral, Queenstown, to Adty.

352 My 344/17 March. Cross-channel services have been resumed. All concerned informed. (Recd. 10.48 a.m.)

B 52. Admiral, Queenstown, to Adty.

353 Following Government ships will be despatched from Queenstown at 1300, 18th March, unless instructions to the contrary are received. *Politania* with oleum for Maryport under convoy of two armed trawlers. *Rio Pallaresa* with sugar for London and *Penolver* with timber for Southampton, one armed trawler will escort until off Falmouth. *Corby* with sugar for Liverpool. Collier *Glenisla* with armed trawler to Barry. (Sent 12.39 p.m.)

B 53. C.-in-C., H.F., to Adty.

364 Captain Superintendent at Glasgow informs me that *Mounsey* and *Mons* are delayed sailing as all traffic is stopped in North Channel. Does this apply to destroyers? *Marksmen* is ready to proceed to Glasgow and this order will delay refit. (Recd. 5.26 p.m.)

Reply.

717 Your 364. Captain Superintendent, Clyde, and S.N.O., Larne, have been informed that destroyers may pass through North Channel. *Marksmen* may proceed to Glasgow.

B 54. Adty. to S.N.O.s, Clyde and Larne.

Destroyers may be permitted to pass through North Channel. *Mounsey* and *Mons* may leave Clyde to join Grand Fleet. (2200.)

19th March.**B 55.** C-in-C., H.F., to Adty.

371 My 364 and your 717. Is it to be understood that ships are not to use North Channel? No orders to this effect have been given to 10th Cruiser Squadron. (Recd. 10.23 a.m.)

Reply.

723 Your 371. No objection to men-of-war using North Channel. (Sent 4.43 p.m.)

B 56. Adty. to S.N.O.s, West Coast.

Shipping Intelligence Officers, Glasgow, Liverpool and Cardiff have been informed that sailings of British and Allied vessels may be resumed. North Channel may be used. (1200.)

B 57. Adty. to S.N.O.s, English Channel.

My 1530/17 March. Normal sailings may be resumed. (1237.)

B 58. S.N.O., Larne, to Adty.

835 Your 1200/19 March and 1625/17 March. Information is requested whether Government vessels passing North Channel for the south should now complete their voyage. (Recd. 5.14 p.m.)

Reply.

905. Your 835, Yes. (Sent 6.28 p.m.)

B 59. Adty. to S.N.O.s, Channel.

West Coast.

French Channel Ports.

Cancel my 1625/17 March. Resume normal sailings. (Sent 7.40 p.m.)

20th March.**B 60.** S.N.O., Buncrana, to Adty.

No further news of submarines. Am starting sweeping Stanton Bank. (Recd. 10.58 a.m.)

21st March.**B 61.** Queenstown to Adty.

96 A.B.M.V. (Begins.) Vessels should take every precaution against submarines which are reported in vicinity of south-west of Ireland, zigzag at high speed. (Recd. 12.8 a.m.)

B 62. Blacksod Point to Adty.

54 A Message, 21st, 12.45 p.m. Following received from Coastguard Ballyglass—C.O., armed trawler No. 1218 reports engaged submarine from 9.10 a.m. to 9.40 a.m., 8 miles WNW of Stags, which sunk steamer *Arranmore*. Submarine submerged, not seen again; crew of steamer proceeded to Killybegs, three of steamer's crew injured. (Recd. 2.6 p.m.)

B 63. Adty. to S.N.O.s, West Coast.

Shipping Intelligence Officers, Glasgow, Liverpool and Cardiff have been instructed as follows (Begins.) British and Allied merchant vessels bound for Atlantic and Mediterranean ports should be held up for the present. (1730.)

B 64. Hartland Point W.S.S. to Adty.

666 A Message, 5.10 p.m. Armed trawler 1624 passed following. (Begins.) At 2.15 p.m. the Belgian trawler *Neptune*, Ostend No. 126, reported to me that he had sighted a submarine submerged with periscope and conning

tower showing. The trawler left Milford Haven this morning, and at time of sighting was bearing 10 or 12 miles north-west of Hartland Point. Inform S.N.O., Swansea. (Ends.) 1624. Could give no further particulars. (Recd. 6.17 p.m.)

B 65. Adty. to Shipping Officers, Queenstown.

Devonport.

Buncrana.

Ref. M.O. 590/15. Use your own discretion as to holding British and Allied merchant vessels at ports in your area whose course might lead them into danger.

22nd March.**B 66.** Queenstown to Adty.

747 7.30 a.m. s.s. *Farnborough* reports. (Begins.) Ship being fired at by submarine, lat. 51.45, long. 10.50 W, at 7.45 a.m. (Ends.) (Recd. 7.48 a.m.)

B 67. Queenstown to Adty.

748 8.10 a.m. Steamer *Farnborough* reports as follows:—Have sunk enemy's submarine, 7.45 a.m. (Recd. 8.40 a.m.)

B 68. Adty. to S.N.O.s, West Coast.

Shipping Intelligence Officers, Glasgow, Liverpool and Cardiff have been instructed that British and Allied merchant vessels bound for North American ports may proceed via North Channel. (1030.)

B 69. Queenstown to Adty.

749 8.15 p.m. Dunmore W.S.S. reports Norwegian barque *Silas* making harbour with 30 of crew of Norwegian vessel *Lindfield* torpedoed off Smalls, 2 p.m., 17th March. (Recd. 8.35 p.m.)

23rd March.**B 70.** Queenstown to Adty.

98 A.B.M.V. (Begins.) Report of submarines on south coast of Ireland. Take every precaution and zigzag at high speed. (Recd. 12.5 a.m.)

B 71. Adty. to S.N.O.s, West Coast.

Shipping Intelligence Officers, Liverpool and Glasgow have been instructed as follows. (Begins.) Detain all British and Allied merchant vessels in ports in your area, except those bound for ports in Irish Channel north of line Tuskar-Strumble Head. (Ends.) Shipping Intelligence Officers, Cardiff and Devonport have been instructed as follows. (Begins.) Detain all British and Allied merchant vessels in ports in your area. (Ends.) The same applies to transports and all auxiliaries and to H.M. ships other than those on patrol service. (Sent 12.30 p.m.)

B 72. Havre W/T.

Intercepted 12.47 a.m.

Attention! Sousmarin ennemi devant Le Havre.

B 73. Adty. to C-in-C., Portsmouth (81).

S.N.O., Newhaven.

C-in-C., Nore (485).

Sent 1.50 a.m.

Urgent. Submarine reported off Havre. Stop all sailings for Seine ports until matter has been investigated.

B 74. Queenstown to Adty.

99 Ships in our area bound for ports south of Milford Haven have been stopped. (Recd. 3.30 p.m.)

B 75. Pembroke Dock to Adty.

322 4.45 p.m. Norwegian barque *Chacma* stopped and examined by German submarine, 6 p.m., 22nd. Approx. lat. and long. 51.40 N, 7.15 W. Submarine dark grey, 200 ft. long, 2 guns aft, 2 periscopes, no wireless; dived direction unknown. (Recd. 4.56 p.m.)

B 76. Adty. to Transport Officers, French Channel Ports.

Stop any sailings for vessels bound west of meridian of Ushant. Port of Havre is closed. (Sent 5.25 p.m.)

B 77. Adty. to S.N.O., Newhaven.

C.-in-C., Portsmouth (86). Sent 9.20 p.m.

No transports should sail for Havre or Rouen until further orders. (2120.)

B 78. Adty. to Captain-in-Charge, Falmouth. Sent 11.55 p.m.

Ten good net drifters are to be sailed forthwith for Havre . . . Instructions as to their use will be received on arrival. Hasten their departure.

B 79. Adty. to C.-in-C., Portsmouth. Sent 11.55 p.m.

89 Instruct S.N.O., Poole Base, to despatch 10 drifters to-morrow to Havre . . . Instructions as to their use will be received on arrival. Hasten their departure.

24th March.

B 80. F.N.A. to Marine, Paris.

1966 Twenty drifters with nets have received orders to proceed to Havre and will possibly arrive there this evening. Please give instructions for them to be utilised immediately.

B 81. Blacksod Point to Adty.

55 Noon. Coastguard, Eagle I., reports large submarine 2 miles west of Eagle I. at 10 a.m., steering south. (Recd. 12.51 p.m.)

B 82. Blacksod Point to Adty.

56 1.50 p.m. Following received by signal from Blackrock Lighthouse. (Begins.) Submarine observed 6 miles WNW of Blackrock at 11.15 a.m. going out (Ends.) (Recd. 2.35 p.m.)

B 83. Aultbea to Adty.

433 2 p.m. Following intercepted. (Begins.) To British man-of-war from *Englishman*. Chased by submarine off Islay. (Ends.) (Recd. 2.35 p.m.)

B 84. S.N.O., Larne, to Adty.

842 In view of submarine reported off Islay, have directed patrols to stop British and Allied vessels bound north through North Channel and order them to proceed into harbour.

Reply.

923 Your 842. Approved.

B 85. Adsupt., Glasgow, to Adty.

Urgent. Are *Revenge* and escorting ships *Cameleon*, *Ruby* to be detained pending further orders? (1630.)

Reply.

Your 1630. *Revenge* is to be detained at tail of the Bank until further orders. Acknowledge. (Sent 7.15 p.m.)

B 86. Adty. to Malin Head.

Send following by W/T *en clair*. (Begins.) Enemy submarine operating off Islay, 2 p.m., 24th March. (Ends.) Repeat message every half-hour until further orders. (Sent 5.15 p.m.)

B 87. Adty. to S.N.O.s, West Coast.

Following has been sent to Shipping Intelligence Officers, Glasgow, Liverpool, Cardiff and Devonport. (Begins.) British and Allied vessels may resume sailings, but no vessels are to be sent through the North Channel, and no vessels are to sail for Havre or Dieppe. Traffic will probably be again held up shortly. (Ends.) (Sent 9.27 p.m.)

25th March.

B 88. Adty. to Admiral, Queenstown.

224 Instruction to Malin Head has been cancelled. (Sent 11.12 a.m.)

B 89. C.-in-C., H.F., to Adty.

423 Submitted for favourable consideration that our merchant ships should fly neutral colours and have neutral colours on their sides for use in dangerous waters. They might be on boards. Under present conditions the absence of these marks clearly indicates British vessels and adds greatly to submarine menace. We should be only following German example, and I submit it is essential to adopt any device that will lessen the risk. It will be necessary to give the vessels neutral names also. I made this proposal a year ago and it was not approved. I submit it again as being now a necessity. The only alternative is for neutral vessels to cease painting their colours in such a conspicuous manner as to clearly indicate their nationality at great distances, observing that German raiders disguise themselves similarly. (Recd. 2.50 p.m.)

B 90. Fishguard to Adty.

80 6.30 p.m. Distress call from s.s. *Duendes*, fired on by submarine in lat. 49.59 N, long. 8.10 W. (Recd. 7 p.m.)

B 91. Adty. to S.N.O.s, West Coast.

Shipping Intelligence Officers, Liverpool and Glasgow have been instructed as follows. (Begins.) British and Allied merchant vessels at ports in your area are to be detained for the present, except those proceeding to ports in Irish Channel to northward of line Tuskar-Strumble Head. (Ends.) Shipping Intelligence Officer, Cardiff, has been instructed as follows. (Begins.) British and Allied merchant vessels at ports in your area are to be detained for the present. (Ends.) Shipping Intelligence Officers, Devonport and Queenstown have been instructed as follows. (Begins.) Use your discretion as to holding up British and Allied merchant vessels in your area. (Ends.) (2000.)

B 92. Adty. to C.-in-C., Portsmouth.

Sent 8.9 p.m.

113 Sailings for Havre and Rouen may be resumed, care being taken that no more vessels are despatched than can be received.

B 93. Adty. to Admiral, Plymouth.

670 Reference Admiralty Instructions M. 03269 of 24th May 1915, as amended by M. 06515 of 28th August 1915. Revised instructions regarding W/T between merchant ships and shore stations. Are you sending out warnings in accordance with para. (b) last clause? (Sent 9.30 p.m.)

B 94. Adty. to S.N.O.s, Channel and Queenstown.

British and Allied merchant vessels leaving the Downs for Mediterranean, Atlantic, Irish or West Coast ports should be ordered to proceed to Spithead until further orders. This does not apply to British vessels defensively armed with 12-pdr. guns or above. These may be allowed to proceed, being instructed to steer a mid-channel course, zigzag during day and extinguish all lights at night. (Sent 9.47 p.m.)

B 95. Adty. to S.N.O.s, West Coast.

Sailings of transport and fleet auxiliaries from ports in the Bristol Channel are to be suspended until further orders. (Sent 10.1 p.m.)

B 96. Adty. to S.N.O.s, Channel.

Transport Officers, French Channel Ports.

Sailings of transports, fleet auxiliaries and men-of-war other than destroyers and patrol vessels for ports west of line joining Ushant and Lizard are suspended until further orders. Vessels from ports east of Portland may be sent to Portland to await resumption of sailings. (2215.)

B 97. Adty. to S.N.O.s, West Coast.

Sailings of transports, fleet auxiliaries and men-of-war other than destroyers and patrol vessels from Irish Sea to the southward are suspended until further orders. (2220.)

26th March.**B 98.** Adty. to S.N.O.s, Channel and West Coast.

Shipping Intelligence Officers, Liverpool and Glasgow, have been instructed as follows. (Begins.) British and Allied merchant vessels at ports on your area bound for North American ports may be permitted to sail through North Channel.

B 99. Adty. to S.N.O.s, West Coast.

Sailings may be resumed through North Channel. (Sent 3 p.m.)

B 100. Fishguard to Adty.

81 8.30 p.m. Following intercepted from s.s. *Musician*. (Begins.) Enemy submarine seen 52.17 N, 5.30 W. (Recd. 9.14 p.m.)

B 101. Adty. to Transports, Avonmouth.

Vessels are not permitted to sail from Bristol Channel ports at present wherever bound. (Sent 10.5 p.m.)

27th March.**B 102.** Queenstown to Adty.

108 A.B.M.V. (Begins.) Enemy submarines reported operating in St. George's Channel, 9 p.m., 26th March. Take all precautions, zigzag at high speed. (Recd. 12.5 a.m.)

B 103. Adty. to S.N.O., Swansea.
V.A., Old Milford.

It is reported from Cardiff that some vessels sailed from that port on the evening of the 26th. They should be intercepted by patrols if possible and ordered into nearest port. (Sent 1.48 a.m.)

B 104. Queenstown to Adty.

765 10.15 a.m. Sloop *Laburnum* reports s.s. *Manchester Engineer* torpedoed lat. 51.53 N, 7.5 W, 7.30 a.m. (Recd. 10.44 a.m.)

B 105. Admiral, Queenstown, to Adty.

399 I have suspended steam packet service between Cork and Fishguard, Rosslare and Fishguard, and Waterford and Fishguard in both directions. (Recd. 10.51 a.m.)

B 106. Adty. to C.-in-C., North America.

430 Following secret sailing orders should be given to *Carnarvon* and convoy, those for the convoy not to be opened until after passing meridian of 62 W. Orders for *Carnarvon*. When in long. 62 W direct *Olympic* to proceed independently in accordance with her sealed orders. *Carnarvon* and remainder of convoy should proceed in company, passing through a position W in lat. 51.15 N, long. 12.30 W. When within wireless range *Carnarvon* should inform Vice-Admiral, Queenstown, probable time and date of arrival at W, when if weather permits destroyers will be sent to escort vessels. *Carnarvon* and one destroyer will proceed to Queenstown. Convoy will proceed to Liverpool independently, escorted by remaining destroyers. If weather does not admit of destroyers joining, vessels must proceed independently to above destinations. Convoy should be directed in case of separation to follow foregoing instructions. *Olympic* should be directed when detached by *Carnarvon* to proceed to Liverpool, passing through W and reporting to Vice-Admiral, Queenstown, when in wireless touch probable time of arrival at W, when escort will be sent to meet her. *Olympic* should be directed when proceeding independently to give all

vessels a wide berth and avoid passing any vessels within 6 miles. All vessels should refer to rendezvous as W and not by latitude and longitude. After passing W vessels should proceed at their highest speed and take all precautions against submarine attack. (Sent 6.45 p.m.)

28th March.**B 107.** Queenstown to Adty.

770 6.10 p.m. Sloop *Zinnia* in action with submarine 34 nil. (1745.) Submarine dived. Position 63 miles ESE of Fastnet, *Zinnia* fired two shots at submarine which fell short.

29th March.**B 108.** Admiral, Portsmouth, to Adty.

441 Request information as to whether British and Allied merchant vessels are still to be held up at Spithead in accordance with Admiralty message 2147, 25th March. There are now 29 vessels detained at Spithead and when permission is given them to proceed in view of submarine menace they will sail at intervals. (1157.) (Recd. 12.6 p.m.)

B 109. S.N.O., Ardrossan, to Adty.

Phrygia arrived at Ardrossan to-day and reports having sunk a submarine in lat. 50.31 N, long. 12.06 W, on 24th March. Master has been interviewed, and his report is considered undoubtedly correct. Report under Confidential Admiralty Monthly Order 95, 1916, is being forwarded to-day. (1320.) (Recd. 2.40 p.m.)

B 110. Carnsore Point to Adty.

132 4.15 p.m. Following received from W/T station, Carnsore. (Begins.) Following intercepted. SOS, position 50.50 N, 7.5 W, submarine still circling round. (1600.) (Recd. 5.19 p.m.)

B 111. Adty. to S.N.O.s, Channel.

My 2147/25 March. As a temporary measure vessels bound for Mediterranean which are now held up at your ports may be allowed to proceed. They should be directed to keep as close to Ushant as safe navigation permits, and should endeavour not to be 40 miles either side of Ushant during daylight, that probably being the most dangerous area through which they would have to pass. They should navigate round Ushant without lights if possible. This refers both to merchant vessels and transports. (1950.)

B 112. Intercept. C.Q. to all ships.

89 SOS, position lat. 57.8 N, long. 7.3 W. (Received at 8.55 p.m.) (Recd. 8.58 p.m.)

B 113. Intercepted. Admiral, Queenstown, to *Snowdrop*, *Zinnia*.

Urgent. Proceed to assistance of H.M.S. *Begonia* at once. Position 51.8 N, 7.3 W. (2115.) (Intercepted at Adty., 9.36 p.m.)

B 114. Adty. to S.N.O.s, East Coast.

Stop all sailings through North Channel. All concerned informed. (2318.)

30th March.**B 115.** Admiral, Queenstown, to Adty.

421 *Begonia* struck by torpedo in foremost boiler-room, 8.45 p.m., 29th March, 51.7 N, 7.3 W. *Snowdrop*, *Zinnia* are proceeding to her assistance. (Recd. 12.35 a.m.)

B 116. Admiral, Queenstown, to Adty.

422 Packet services to and from Fishguard and Rosslare, Cork and Waterford have been suspended. All concerned informed. (Recd. 12.38 a.m.)

B 117. Adty. to S.N.O.s, East Coast.
Cancel my 2318. All concerned informed. (0025.)

B 118. Queenstown to Adty.
116 Sailings stopped from Cork, Waterford and Limerick. (Recd. 9.12 a.m.)

B 119. Adty. to S.N.O.s, East Coast.
Transport Officers, Cardiff, Swansea and Avonmouth have been instructed as follows. (Begins.) Transports and fleet auxiliaries at your ports bound for ports in the west coast of France, Mediterranean, and South Atlantic may be permitted to sail. They should be instructed to pass between Scilly and Land's End, and should keep as close to Ushant as safe navigation permits. They should pass Trevoise Head at night. Vessels should if possible navigate without lights until well to the southward of Ushant. Vessels under your orders bound for English Channel ports may also be permitted to sail, passing Trevoise Head at night and passing between Scilly and Land's End. They should if possible navigate without lights. Similar orders have been sent to S.I.O., Cardiff, as regards British and Allied merchant vessels at ports in his area, excluding those at Pembroke and Milford, which are still to be held up. (1530.)

B 120. Pembroke Dock to Adty.
With reference to Admiralty message timed 1530 addressed to Admiral-in-Charge, Milford (Old), instructions are requested whether exclusion of Pembroke and Milford Haven applied to all ships or if men-of-war, transports and fleet auxiliaries may be allowed to sail from these ports under the precautions stated in first part of message. (2025.) (Recd. 8.31 p.m.)

31st March.

B 121. Adty. to Pembroke Dock.
Your 2025/30 March. Inadvisable any vessels should sail from Pembroke or Milford Haven other than H.M. ships and patrol vessels engaged in patrol services. (Sent 12.10 a.m.)

B 122. Queenstown to Adty.
118 Traffic in our area resumed. (Recd. 11.3 a.m.)

B 123. Portsmouth to Adty.
588 1.55 p.m. Following from St. Catherine's, intercepted from British men-of-war. (Begins.) S.O.S. from s.s. *Goldmouth* chased in lat. 48.34 N, 7.01 W, steering N 55 W. (Ends.)

B 124. Transports, Avonmouth, to Adty.
Are transports to sail from Avonmouth so that they may pass Trevoise Head during the dark hours, *vide* Admiralty message 1530 of 30th March?

Reply.

Yes. As directed by Admiralty telegram 1530 of 30th March. (2325.)

Saturday, 1st April.

B 125. Adty. to S.N.O.s, West Coast.
As a temporary measure, and in order to relieve congestion at Liverpool, S.N.O., Liverpool, has been authorised to release vessels from his port bound for British Channel ports. S.N.O., Liverpool, is to communicate direct with S.N.O.s of patrol areas affected as to times of sailing and routes vessels will follow. This applies to transports, fleet auxiliaries, and British and Allied merchant vessels. S.N.O., Liverpool, should inform D.T.O., Liverpool, and Admiralty as to transports permitted to sail under this order. (1130.)

B 126. Admiral, Portsmouth, to Adty.
458 My 441/29 March. There are now over 50 vessels held up at Spithead. Request information if sailings may be resumed, some already require coal and water to continue voyage, and if detained longer the number will increase and there is difficulty in supplying them here. (1230.) (Recd. 12.43 p.m.)

B 127. Adty. to S.N.O.s, Channel.
West Coast.
D.N.T.O., Boulogne.

Sailings may be resumed along south coast of England and west coast of England and Scotland, also between Irish and British ports. Vessels should hug the coast as much as reasonably possible, and vessels passing between English and Irish Channels or between English Channel and Irish ports should keep to the eastward of the Scillys, Lundy and Smalls. Vessels in Bristol Channel bound for North Atlantic ports and for the northern bases may also sail, passing through North Channel. This applies to transports, fleet auxiliaries, and British and Allied merchant vessels. (1820.)

2nd April.

B 128. Adty. to S.N.O.s, Channel.
West Coast.
D.N.T.O., Boulogne.

In continuation my 1820, 1st April. Sailing of transports, fleet auxiliaries and British and Allied merchant vessels may be resumed to all destinations. Instructions contained in my 1820, 1st April, continue in force. Vessels from Irish Channel and Bristol Channel bound for ports on west coast of France, Mediterranean and South Atlantic should also keep to eastward of Scilly Islands, Lundy and Smalls, and should pass as close to Ushant as safe navigation permits. (1540.)

B 129. Admiral, Dover, to Adty.
691 Port of Havre closed. (1720.) (Recd. 5.25 p.m.)

3rd April.

B 130. Div. Transports, Havre, to Adty.
N 998 Urgent. Havre open to traffic. (Recd. 9.34 a.m.)

B 131. Marine, Paris, to Adty.
412 A torpedo boat claims to have seen periscope to-day at 9.45 a.m., 2 miles north-east of the Havre Whistle Buoy. Departures prohibited. Information also given by other vessels. (Recd. 2.55 p.m.)

B 132. F.N.A. to Marine, Paris.
2108 Transports crossing to-night:—

	<i>From</i>	<i>To</i>	<i>With</i>
3	Southampton	.. Havre	Troops and horses.
4	Southampton	.. Havre	Troops.
1	Southampton	.. Rouen	Troops.
3	Folkestone	.. Boulogne	Troops.
1	Avonmouth	.. Havre and Rouen	Mechanical transport and stores.
1	London	.. Calais	Hay and oats.
2	Newhaven	.. Boulogne	Ammunition.
1	Newhaven	.. Boulogne	Food supplies.
2	Newhaven	.. Rouen	Ammunition.
1	Newhaven	.. Rouen	Food supplies.
1	Newhaven	.. St. Valery	Stores.

4th April.

B 133. Div. Transports, Havre, to Adty.
N 15 Havre open to traffic. (Recd. noon.)

B 134. Admiral, Dover, to Adty.
707 The Port of Calais is closed. Necessary authorities informed. (Recd. 3.50 p.m.)

B 135. Adty. to S.N.O.s, Channel.
Transports, Channel, Cardiff and Boulogne.
Port of Havre reopened. Sailings may be resumed to Havre and Rouen. (1725.)

5th April.

B 136. St. Catherine's Point to Adty.
48 4.53 a.m. Intercepted from Havre to all Ships. (Begins.) Attention !
Sousmarin en vue. (Ends.) (0430.) (Recd. 5.11 a.m.)

B 137. Adty. to S.N.O.s, Chatham.
Devonport.
Transports, London, Deptford, Cardiff, Avonmouth.
Port of Havre is closed. (Sent 9 a.m.)

B 138. St. Catherine's Point to Adty.
49 9.20 a.m. Intercepted from Havre to all Ships. (Begins.) Attention !
Sousmarin dans ouest la severas eve. (Ends.) (Recd. 10.17 a.m.)

B 139. Div. Transports, Havre, to Adty.
N 51 Urgent. Havre open to traffic. (Recd. 4.10 p.m.)

B 140. F.N.A. to Marine, Paris.
2138 Transports crossing to-night :—

From	To	With
4 Southampton	.. Havre.. ..	.. Troops and horses.
1 Southampton	.. Havre and Rouen ..	.. Troops and horses.
1 Southampton	.. Havre.. ..	.. Troops and horses.
1 Southampton	.. Havre.. ..	.. Guns.
3 Folkestone	.. Boulogne .. ..	.. Troops.
1 Avonmouth	.. Rouen .. ..	.. Mechanical transport.
1 London .. ..	.. Calais .. ..	.. Hay and oats.
1 London .. ..	.. Dieppe .. ..	.. Hay and oats.
1 London .. ..	.. Dunkirk .. ..	.. Frozen meat.
1 London .. ..	.. Havre.. ..	.. Stores.
1 London .. ..	.. Havre.. ..	.. Engineers' stores.
1 London .. ..	.. Havre.. ..	.. Ordnance stores.
3 Newhaven .. ..	.. Boulogne .. ..	.. Ammunition.
1 Newhaven .. ..	.. Calais.. ..	.. Ordnance stores.
1 Newhaven .. ..	.. Rouen .. ..	.. Food supplies.
1 Liverpool .. ..	.. Dunkirk .. ..	.. Rails.

(Sent 5 p.m.)

B 141. Intercept. Press Bureau to Adty. (Chief Censor).
A message from Havre states Norwegian s.s. *Baus* torpedoed by submarine four hands missing. (Passed.) (5.40 p.m.)

B 142. D.N.T.O., Calais, to Adty.
511 Calais open to traffic. (Recd. 5.57 p.m.)

B 143. Adty. to S.N.O.s, Channel.
Transports, London, Channel, Cardiff, Boulogne.
Havre is open to traffic—sailings may be resumed. (1945.) (Sent 7.45 p.m.)

6th April.

B 144. Adty. to S.N.O.s, Channel.
West Coast.
D.N.T.O., Boulogne.

Immediate. My 1820/1 April and 1540/2 April are cancelled. Detain in ports vessels bound for Atlantic and Mediterranean ports and northern bases, except those vessels in Bristol Channel, Irish Channel and Clyde ports which are bound for North Atlantic ports and northern bases which may be allowed to proceed through North Channel, S.N.O., Larne, being informed of names and times of sailing. This applies to all transports, fleet auxiliaries and British and Allied merchant vessels. (1105.)

B 145. Adty. to D.N.T.O., Boulogne.
Commodore, Portland.
C.-in-C., Portsmouth.

My 1105/6 April. Transports from French northern ports bound to ports west of Lizard may be sent to Portland to await resumption of sailings. (1138.)

B 146. Adty. to S.N.O.s, Portsmouth.
Dover.
Ramsgate.
Commodore, Portland.

My 1105/6 April. Vessels arriving in Downs bound for Mediterranean and Atlantic ports are to be sent to Spithead or Portland as C.-in-C., Portsmouth, may direct. V.A., Dover, should communicate direct with C.-in-C., Portsmouth, on the subject. This applies to all transports, fleet auxiliaries and British and Allied merchant vessels. (1143.)

B 147. Instructor, Glasgow, to Adty.
Steamer has been torpedoed off north of Ireland about 6 p.m. to-day. I have closed North Channel to all Clyde traffic meanwhile. (Recd. 9.45 p.m.)

B 148. Adty. to S.N.O.s, West Coast and Northern Ports.
Submarine off north of Ireland. Suspend all sailings for North Channel. (2220.)

7th April.

B 149. Adty. to Admiral, Queenstown.
316 It is desirable that Malin Head should always be used to issue *en clair* warnings when enemy submarines or cruisers are known to be operating north of Ireland. It would seem best that Malin Head should receive instructions from you as to wording of message and times of sending out. Do you concur? (Sent 5.20 p.m.)

8th April.

B 150. Adty. to S.N.O.s, Channel.
West Coast.
Northern Ports.
D.N.T.O., Boulogne.

Traffic may be resumed in Irish Channel. Traffic may be resumed through North Channel from and to all United Kingdom ports, except those in English Channel. (1235.)

B 151. Admiral, Dover, to Adty.
746 Port of Calais closed. (Recd. 1.48 p.m.)

B 152. D.N.T.O., Calais, to Adty.
528 C Calais is open to traffic. (Recd. 5.4 p.m.)

B 153. Calais to Adty.
587 Calais closed on account of mines.

B 154. Calais to F.N.A. (at Embassy).
593 3.45 p.m. Port of Calais opened under usual conditions.
599 6.22. Port of Calais closed again.

B 155. F.N.A. to Marine, Paris.

2175 Transports crossing to-night:—

From	To	With
1 Southampton	Havre	Troops and horses.
1 Southampton	Havre	Troops.
1 Southampton	Rouen	Horses.
2 Southampton	Dieppe	Horses.
1 Southampton	Boulogne	Frozen meat.
3 Folkestone	Boulogne	Troops.
1 Avonmouth	Boulogne	Siege battery.
1 Devonport	Havre	Stores.
1 Devonport	Destination not known	Stores.
1 London	Dunkirk	Timber.
1 Liverpool	Rouen	Frozen meat.
1 Manchester	Boulogne	Hay.
1 Newhaven	Calais	Barbed wire.
2 Newhaven	Boulogne	Ammunition.
1 Newhaven	Havre	Food supplies.
1 Newhaven	Rouen	Food supplies.
1 Newhaven	Rouen	Ammunition.
3 Littlehampton	Havre	Ordnance stores.
1 Liverpool	Dunkirk	Rails.
2 Cork	Calais	Hay.
1 London	Dunkirk	Railway coaches.

No transport that will have to round Land's End will be allowed to proceed until permission is given. (F.N.A.)

B 156. Adty. to S.N.O., Larne.

976 Urgent. Submarine reported to have sunk steamer *Adamton* off Skerryvore this morning. Stop all vessels except neutrals from passing out of Irish Channel through North Channel and send them into port. Have your patrols any information? (Sent 7.18 p.m.)

B 157. Adty. to S.N.O.s, Channel.

West Coast.
Northern Ports.

D.N.T.O., Boulogne.

Submarine off north of Ireland. Suspend all sailings for North Channel. (2040.)

9th April.**B 158.** F.N.A. to Marine, Paris.

2185 Transports crossing to-night:—

From	To	With
1 Southampton	Rouen	Horses.
1 Southampton	Rouen	Troops.
2 Southampton	Havre	Troops.
2 Folkestone	Boulogne	Troops.
1 Avonmouth	Boulogne	Siege battery.
1 Avonmouth	Rouen	Mechanical transport.
1 Devonport	Havre	Stores.
2 Newhaven	Boulogne	Ammunition.
2 Newhaven	Rouen	Ammunition.
1 Newhaven	Boulogne	Food supplies.
1 Newhaven	Calais	Barbed wire.
1 Liverpool	Rouen	Frozen meat.
1 Liverpool	Dunkirk	Rails.
1 London	Calais	Frozen meat.
1 Manchester	Boulogne	Hay, to await further orders at Eastham.

Sailings for Calais only if that port is open. Sailings from west coast ports and round Land's End only if permission is given. (Sent 4.30 p.m.)

B.159. D.N.T.O., Calais, to Adty.

529 C French authorities declare that ships may leave Calais, but port is not yet open for ships to enter. (1540.) (Recd. 4.44 p.m.)

B 160. Adty. to S.N.O.s, Liverpool.

Larne.
Clyde.

Orders directing traffic through North Channel to be stopped are not to apply to vessels of Grand Fleet unless C.-in-C., Grand Fleet, requests to that effect. (Sent 9.11 p.m.)

10th April.**B 161.** D.N.T.O., Calais, to Adty.

531 Urgent. Following message despatch 6.15 p.m., 9th April. (Begins.) Calais open to traffic. (0935.) (Recd. 10.56 a.m.)

11th April.**B 162.** Queenstown to Adty.

132 A.B.M.V. (Begins.) Submarine seen south of Waterford on 10th April and at entrance to English Channel same day. Take all precautions, zigzag at high speed, show no unnecessary lights. (Second begins.) Safest course at present close to South Irish coast. M.V.3. Most safe route is to hug south coast of Ireland. (Recd. 12.7 a.m.)

B 163. Adty. to S.N.O.s., Queenstown.

Swansea.
Patrols Old Milford.

S.I.O., Cardiff.

Shipping Intelligence Officer, Cardiff, reports docks acutely congested. He has been instructed to communicate with you as to sailings of merchant vessels at your discretion, passing vessels close along south coasts of Wales and Ireland. (Sent 1.10 a.m.)

B 164. Adty. to S.N.O.s, Channel.

West Coast.
Northern Ports.

Transports, Boulogne.

All telegrams as to holding up traffic are cancelled. Sailings of transports, fleet auxiliaries and British and Allied merchant vessels may be resumed to all destinations. Vessels from English Channel ports to Mediterranean and Atlantic ports should be directed to pass as close to Ushant as safe navigation permits, and show no lights until well south of Ushant. Vessels crossing Bristol Channel should keep to eastward of Scillys, Lundy and Smalls. Names of vessels proceeding northward through North Channel should be telegraphed to S.N.O., Larne, giving probable times of arrival at Rathlin Island. Vessels from Clyde, Irish Sea and Bristol Channel ports proceeding to North Atlantic ports should pass close along south coast of Ireland, and names of vessels should be telegraphed to V.A.C., Queenstown, with probable times of arrival at Tuskar. Tuskar should be made at, or soon after, daylight where possible. Vessels from Clyde, Irish Sea and Bristol Channel ports bound for Mediterranean and Bay ports and for South Atlantic, should keep close to Scillys and Ushant as indicated above. Vessels should zigzag during daylight and wherever possible hug the land as close as safe navigation permits. (1300.)

13th April.**B 165.** Adty. to all Bases.

Following route instructions should be given to fleet auxiliaries proceeding N or S on west coast of Scotland. Proceed by North Minch, Kyle Rhea, Sound of Mull and Sound of Islay or through the Minches, west of Skye, north of Rum Island through the Sound of Mull and Sound of Islay,

Narrow channels should not be attempted at night or in thick weather. Convenient anchorages in which to wait are Broadford Bay, Loch Bracadale, Oban, Loch Tarbert in the Isle of Jura. Submarines are rendering the route west of Skerryvore dangerous and this track should be avoided. (0415.)

14th April.

B 166. Adty. to Admiral, Queenstown.

382 In view of fact that traffic is at present being diverted close along South Irish coast and inside Lundy and Scillies, it is not at present proposed to hold up traffic on account of sinking of *Chic*. (Sent 8.10 p.m.)

B 167. Boulogne to F.N.A.

614 Port of Boulogne closed until further orders on account of mines. (Recd. 5.40 p.m.)

B 168. D.N.T.O., Boulogne, to Adty.

Urgent. Boulogne port open from two hours before until two hours after high water. (1830.)

16th April.

B 169. Queenstown to Adty.

784 7 p.m. Armed trawler 798 *Indian Empire* reports having picked up crew of sailing ship *Cardonia* torpedoed off Fastnet, 10 a.m. Position will be sent when known. (Recd. 7.17 p.m.)

17th April.

B 170. Scilly to Adty.

From S.N.O., Scilly Islands. Captain and eleven men of Norwegian sailing vessel *Glendoon* have just landed here, vessel sunk by gunfire 60 miles WSW Bishop Light, 11 a.m., 16th April. Boat with nine men missing. Sending out search for them. (0715.) (Recd. 8.2 a.m.)

B 171. S.N.O., Scilly Islands, to Adty.

Drifter *Justice* brought in 12 men belonging to steamer *Harrovian* sunk by gunfire yesterday, 9.45 a.m., 60 miles west of Bishop's Light. (0945.) (Recd. 11 a.m.)

B 172. Adty. to S.N.O.s, Channel and West Coast.

Reference Admiralty telegram timed 1300 of 11th April. Suspend all sailings out of English Channel. Suspend all sailings from Clyde, Irish Sea and Bristol Channel ports for English Channel ports, Mediterranean ports, Bay ports and South Atlantic. Patrols should intercept and send into port any vessel proceeding down English Channel or proceeding to southward across Bristol Channel. This applies to all British and Allied merchant vessels, transports and fleet auxiliaries, except vessels with defensive armament 12-pdr. or above. (1155.)

B 173. Admiral, Queenstown, to Adty.

547 Your 1155. Does this include transports that are escorted by one or two trawlers? (Recd. 1.46 p.m.)

B 174. Adty. to Admiral, Queenstown.

400 Your 547. Transports escorted by one or two trawlers can be permitted to sail at your discretion. (Sent 11.30 p.m.)

19th April.

B 175. Queenstown to Adty.

144 A.B.M.V. (Begins.) No reports of submarines off south coast of Ireland, take all precautions, zigzag at high speed. Show no unnecessary lights. (Second begins.) Best course at present close along south coast to Tuskar. (Recd. 12.2 a.m.)

B 176. Adty. to S.N.O.s, Channel and West Coast.

Not to be repeated by wireless. Cancel Admiralty telegram 1155/17 April. Sailings may be resumed as laid down in Admiralty telegram 1300/11 April. (Sent 7.35 p.m.)

21st April.

B 177. Adty. to S.N.O.s, West Coast.

Devonport.
Stornoway.

When British or Allied merchant vessels bound to or from the Atlantic are sent through Rathlin Sound they will be instructed confidentially as follows:—

(1) When proceeding to the Atlantic via Rathlin Sound they should after passing Rathlin Island hug the North Irish coast as closely as safe navigation permits, passing inside Inistrahull and reaching Tory Island at or just before dark. Pass to northward of Tory Island and then steer due west (true) at high speed during the night, showing no lights of any kind, navigational or otherwise.

(2) When entering Irish Sea from the Atlantic via Rathlin Sound they should approach Tory Island on an east by north (true) course. They should show no lights of any kind, navigational or otherwise, during that night and should endeavour to make Tory Island at or just before daylight. Pass to southward of Tory Island and hug the North Irish coast as closely as safe navigation permits, passing inside Inistrahull. (Sent 5.40 p.m.)

23rd April.

B 178. Queenstown to Adty.

153 A.B.M.V. (Begins.) Submarine operating off Fastnet at 3 p.m., 21st April. Take all precautions, zigzag at high speed, show no unnecessary lights. (Second begins.) Best course north of lat. 51.30 N to Irish coast, then close to headlands and close to south coast as far as Tuskar.

B 179. Adty. to Transports, Cardiff.

If no further news is received of submarines in vicinity of Bristol Channel vessels may sail on morning tide. (Sent 1.20 a.m.)

B 180. Intercept. Land's End to Adty.

108 9.12 a.m. *Parisiana* chased by submarine 9.20, reports captured by submarine, position 48.0 N, 6.50 W. Z.A.A.W., Y.Z.X., A.B.M.V. and six Naval Centres informed.

B 181. Adty. to S.N.O.s, Channel and West Coast.

Suspend all sailings out of English Channel. Suspend all sailings from Clyde, Irish Sea and Bristol Channel ports for English Channel ports, Mediterranean ports, Bay ports and South Atlantic. Patrols should intercept and send into port any vessel proceeding down English Channel or proceeding to southward across Bristol Channel. This applies to all British and Allied merchant vessels, transports and fleet auxiliaries, except vessels with defensive armament 12-pdr. or above. (1100.)

24th April.

B 182. Queenstown to Adty.

157 A.B.M.V. (Begins.) Submarine operating at 9.30 a.m., 23rd April, in lat. 48, long. 6.50 W. Submarines also reported off Fastnet and Scillies on 23rd April. Take all precautions, zigzag at high speed, show no unnecessary lights. (Second begins.) Best course north of lat. 51.30 N to Irish coast, then close to headlands and close to south coast as far as Tuskar. (Recd. 12.9 a.m.)

25th April.

B 183. Queenstown to Adty.

159 A.B.M.V. (Begins.) No recent reports of submarines off South Irish coast. Take all precautions, zigzag at high speed, show no unnecessary lights. (Second begins.) Best course north of lat. 51.30 N to Irish coast, then close to headlands and close to south coast as far as Tuskar. (Recd. 12.20 a.m.)

B 184. Adty. to S.N.O.s, Channel.
West Coast.
Transports, Boulogne.

Cancel Admiralty telegram 1100/23 April. Resume sailings as given in Admiralty telegram 1300/11 April. Attention is called to C.I.O. 595. Stations which did not receive telegrams mentioned above should obtain them from nearest S.N.O. Sent to 3 to 39 and 63 to 72. (1310.)

29th April.

B 185. Queenstown to Adty.

166 A.B.M.V. (Begins.) No reports of submarines off South Irish coast. Take all precautions, zigzag at high speed, show no unnecessary lights. (Second begins.) Best course north of lat. 51.30 N to Irish coast, then close to headlands and close to south coast as far as Tuskar. (Recd. 12.5 a.m.)

B 186. Admiral, Devonport, to Adty.

589 *Larne* reports fired on submarine at long range in 49.27 N, 10.0 W, and forced her to dive at 7.35 p.m. yesterday. (Recd. 8.34 a.m.)

B 187. Adty. to S.N.O.s, Channel and West Coast.

Reference C.I.O. 595. Suspend all sailings out of English Channel. Suspend all sailings from Clyde, Irish Sea and Bristol Channel ports for English Channel ports, Mediterranean ports, Bay ports and South Atlantic. Patrols should intercept and send into port any vessel proceeding down English Channel or proceeding to southward across Bristol Channel. This does not apply to vessels with defensive armament 12-pdr. and above. To V.A.D.P., Commander-in-Chief, Portsmouth, and Commodore, Portland :—Arrange as necessary to pass vessels on from Downs to Spithead or Portland as Commander-in-Chief, Portsmouth, may direct. (1430.)

Monday, 1st May.

B 188. Dockyard, Portland, to Adty.

Reference paras. 2 and 3 of C.I.O. 595 and Admiralty message 1430/29 April. Is the word "all" in "suspend all sailings" intended to include neutral vessels please? (1135.) (Recd. 11.50 a.m.)

2nd May.

B 189. Adty. to S.N.O.s, Channel.
West Coast.
Transports, Boulogne.

Cancel Admiralty telegram 1430/29 April. Resume sailings. (1945.)

B 190. Queenstown to Adty.

171 Cancel my Government War Warning A.B.M.V. and substitute following. (Begins.) Submarine sighted in lat. 51.45 N, long. 10.40 W at 5 p.m., 2nd May, take all precautions, zigzag at high speed and show no unnecessary lights. (Second begins.) Best course for Liverpool and Bristol Channel round north of Ireland through North Channel and Irish Sea, remainder keep on parallel of 50 N. (1920.)

3rd May.

B 191. Adty. to S.N.O.s, Channel.
West Coast.
Transports, Boulogne.

Cancel Admiralty telegram 1945/2 May. Orders contained in Admiralty telegram 1430/29 April are to continue in force. (0040.)

B 192. Adty. to S.N.O.s, Channel.
West Coast.
Transports, Boulogne.

Cancel Admiralty telegram 0040/3 May. Resume sailings. (1245.)

B 193. Queenstown to Adty.

173 A.B.M.V. (Begins.) No reports of submarines off South Irish coast. Take all precautions, zigzag at high speed, show no unnecessary lights. (Second begins.) Best course north of lat. 51.30 N to Irish coast, then close to headlands and close to south coast as far as Tuskar. (Recd. 11.5 p.m.)

8th May.

B 194. Queenstown to Adty.

812 4.20 p.m. Following from s.s. *Cymric*. (Begins.) Torpedoed lat. 50.38 N, long. 13.2 W, 4.12 p.m., 8th May. Ship sinking. (Recd. 4.38 p.m.)

B 195. Queenstown to Adty.

179 A.B.M.V. (Begins.) Submarine operating 138 miles west of Fastnet at 4 p.m., 8th May. No reports of submarines off South Irish coast. Take all precautions, zigzag at high speed, show no unnecessary lights. (Second begins.) Best course well north of 51.30 N to Irish coast, then close to headlands and close to south coast as far as Tuskar. (Recd. 11.9 p.m.)

APPENDIX C.

SELECTION OF TELEGRAMS AND SIGNALS CONNECTED WITH OPERATION H.R.A., 24 TO 26 MARCH 1916.

Monday, 20th March 1916.

C 1. C-in-C., H.F., to Adty.

377 Propose to send a light cruiser squadron from Rosyth and two divisions of destroyers from Scapa to rendezvous at East Laeso (Channel) Island, the Kattegat, 6 a.m., Thursday, 23rd March, and sweep northwards as far as 58.30 N, thence west, returning to base at dark. 3rd Battle Cruiser Squadron to be on meridian of 10 E at 6 a.m., Thursday, 23rd March, and work to the westward during day. Is this approved? (Recd. 12.49 p.m.)

C 2. Adty. to C-in-C., H.F.

731 It is proposed to carry out the Operation H.R.A., see A.L. M.00111/16 of 11th January 1916, towards the end of this week as it appears probable that the 1st Scouting Group will still be in the Baltic. You should report the earliest date when the co-operation of the battle cruiser fleet can be arranged for, and also communicate direct with Commodore (T). Commodore (T) will be absent from Harwich until to-morrow morning. (Sent 6.25 p.m.)

C 3. Adty. to C.-in-C., H.F.

733 Your 377. No objection if it does not interfere with Operation H.R.A. (Sent 6.40 p.m.)

C 4. Adty. to Comm. (T).

820 It is proposed to carry out H.R.A. towards the end of this week. C.-in-C., Home Fleets, has been informed and will communicate with you direct. (Sent 8.40 p.m.)

C 5. C.-in-C., H.F., to Adty.

382 Re your 731 and 733. Propose deferring operation submitted in my telegram 377; its execution might cause unrest. Battle cruiser fleet will be available on and after Wednesday, 22nd March, for Operation H.R.A. Submit defer execution until end of week on account of moon. (Recd. 10.37 p.m.)

21st March.**C 6.** C.-in-C. to V.A., B.C.F.

Operation H.R.A. is contemplated at the end of this week. (1010.)

C 7. Adty. to Comm. (T).

822 Battle cruiser fleet will be ready to leave from to-morrow onwards for H.R.A. Report whether you can be ready to sail in time to execute it on Saturday.

22nd March.**C 8.** Comm. (T) to Adty.

92 Your 822. I shall be ready to sail Friday, 24th March, to carry out Operation H.R.A. on the morning of Saturday, 25th March, weather permitting. Times of arrival at positions A and B are altered to 3 a.m. and 5 a.m. respectively. If the moon is very favourable I propose to arrive at A and B 2 a.m. and 4 a.m. respectively. This will not affect battle cruisers. I presume you do not intend me to leave base unless weather is favourable. If revised orders do not arrive in time there are no radical alterations, and except as regards times the old orders hold good. (1120.) (Recd. 1.42 p.m.)

C 9. C.-in-C., H.F., to Adty.

399 Is Saturday morning, 25th March, decided on for Operation H.R.A., weather permitting? (Recd. 5.9 p.m.)

Reply.

Your 399. Yes, weather permitting. Commodore (T) will decide on Friday whether to start or not and inform you and V.A., B.C.F., direct.

C 10. Adty. to Comm. (T).

171 Reference your letter 20th instant. The necessity for sweeping K Channel is considered urgent. Is there any reason why *Erin's Isle* and *Cambridge* should not carry this out with a submarine screen of armed trawlers? (Sent 5.15 p.m.)

C 11. Comm. (T) to Adty.

315 Your 171. K Channel was swept on Sunday, 19th March. Have been obliged to divert *Cambridge* and *Erin's Isle* to Harwich sweeps, as *St. Seiriol* has fouled propeller. (Recd. 7.46 p.m.)

23rd March.**C 12.** C.-in-C., to V.A., B.C.F.

Admiralty inform me Commodore (T) will decide Friday, 24th, whether to start for Operation H.R.A., and will inform you direct. I have requested him to notify you of decision as early as possible. (0854.)

C 13. V.A., B.C.F., to C.-in-C.

Battle Cruiser Fleet with available destroyers of 1st Destroyer Flotilla will leave base 5.30 a.m., 24th March, and will pass through position 56 N, 6 E, 5 a.m., 25th March. (0020.)

24th March.**C 14.** V.A., B.C.F., to Adty.

377 Request disposition of any British submarines which might be met by Battle Cruiser Fleet during Operation H.R.A. (Recd. 2.5 a.m.)

25th March.**C 15.** Adty. to Comm. (T).

829 Withdraw without delay, 1200. (Sent noon.)

C 16. Adty. to Comm. (T).

V.A., B.C.F., via Cleethorpes.

61 Take precautions against destroyer attack to-night. (1540) (Sent 4 p.m.)

C 17. Adty. to R.A., Immingham.

677 Recall minesweepers and also any auxiliary patrols which are beyond 20 miles from the coast. (Sent 4.3 p.m.)

C 18. Comm. (T) to Adty.

97 My position 1 p.m., 55.15 N, 7.35 E, course W, 12 knots. Operation H.R.A. was chiefly carried out. No details yet. Three seaplanes are missing. *Laverock*, *Medusa* collided. *Medusa* is in tow of *Lightfoot*. Two hostile armed trawlers sunk. (1400.) (Recd. 4.11 p.m.)

C 19. V.A., B.C.F., to Adty.

378 Am returning to base with Battle Cruiser Fleet (after dark?), leaving *Botha* and 1st Destroyer Flotilla with Commodore (T). Request mails, *Lion* and 1st Battle Cruiser Squadron be sent to Rosyth. (1700.) (Recd. 6.15 p.m.)

C 20. Adty. to Comm. (T).

830 Strong forces now sweeping after you to west and north-west. (1731.)

C 21. Adty. to V.A., B.C.F.

660 Commodore (T) may require your support after daylight to-morrow; you should remain at sea. (1865.)

C 22. Adty. to Comm. (T).

831 Area east of long. 4° E and south of lat. 54° N dangerous. Area northward and eastward of a line 122° from lat. 55.55 N, long. 4.45 E dangerous. Elsewhere no information. (2026.) (Recd. by *Cleopatra* 8.55 p.m.)

C 23. Adty. to C.-in-C., H.F.

V.A.C., 1st B.S.

778 and 385 Have steam at 2½ hours' notice. (2220.) (Sent 10.20 p.m.)

C 24. S.O., B.C.F., to Adty.

279 Propose to sweep south of Area 1 with Commodore (T) and screened by his destroyers to intercept enemy's forces returning at daylight. (2152.) (Recd. at Adty. 10.47 p.m.)

Reply.

Your 279. Not approved. (2345.)

C 25. C.-in-C., H.F., to Adty.

428 May I be informed of situation *re* B.C.F. and Commodore (T)? (Recd. 10.45 p.m.)

Reply.

779 Commodore (T) carried out H.R.A., losing three seaplanes and sinking two German patrol trawlers. *Medusa* was damaged in collision, and at 1 p.m. Harwich Force was in lat. 55.15 N, long. 7.35 E, steering west 12 knots, *Medusa* in tow of *Lightfoot*. Two destroyer flotillas left

Horn Reefs at 6.30 p.m. and swept NW, but turned back at 10 p.m. owing to bad weather. Two flotillas swept past Ameland, and turned back about same time losing V.22 on a German mine. 1st, 2nd and 4th Scouting Groups got underweigh between 11 a.m. and noon, and anchored at dark. First B.S. was underweigh returning to Jade at dark. Battle Cruiser Fleet has been ordered to remain at sea, in case Commodore (T) requires support tomorrow, Sunday, after daylight. We do not know Commodore (T)'s present position or intentions; it is not advisable to make him use W/T. Times are G.M.T. (sent 0005).

C 26. Adty. to Comm. (T).

832 Enemy destroyers have given up search and turned back. Cruisers will apparently come out in morning. (2315.) (Recd. by Commodore (T) 11.27 p.m.)

26th March.

C 27. Adty. to V.A., B.C.F.

662 Keep to northward of Area I. (0035.)

C 28. Adty. to C.-in-C., H.F.

V.A.s, 1st and 3rd B.S.

Grand Fleet raise steam and prepare for sea. (0200.)

C 29. Adty. to C.-in-C., A.F.

782 At 1.11 a.m. a fragment has been intercepted from Commodore (T) to S.O., B.C.F., as follows. (Begins.) *Undaunted* badly damaged can only go (Ends.) It is difficult to see what may eventuate later, as although German destroyers are returning now, large ships will certainly be out later. Grand Fleet should proceed to sea and concentrate to east of Long Forties. (0220.)

C 30. Adty. to Capt. (S), *Maidstone*.

334 Commodore (T) has *Medusa* and *Undaunted* badly damaged in position very approximately 50 miles west of Horn Reefs. Send a destroyer and five submarines to lat. 54.10 N, long. 4.0 E. Destroyer to look out for orders from Ipswich and communicate them to submarines. Report names of vessels sent. (0230.)

C 31. Adty. to V.A., B.C.F.
Comm. (T).

Destroyer flotillas are withdrawing and concentrating in position 17 miles west from Lister Deep. (0240.)

C 32. Adty. to C.-in-C., H.F.

784 Five submarines and a destroyer to maintain communication have been ordered to proceed from Harwich to lat. 54.10 N, long. 4.0 E, to act as may be ordered. Name of destroyer will be reported. (Sent 3 a.m.)

C 33. Adty. to V.A., B.C.F.

663 Cancel my 662, destroyers having withdrawn. (0310.)

C 34. Adty. to V.A., B.C.F. (664).
Comm. (T) (833).

At 4.30 a.m., G.M.T., 1st Scouting Group will be in lat. 55.10 N, long. 7.45 E, to meet 4th Scouting Group and proceed to lat. 55.9 N, long. 6.3 E. (0310.)

C 35. Adty. to V.A., B.C.F. (665).
Comm. (T) (834).

At 2 a.m., G.M.T., 3rd Battle Squadron in lat. 53.57 N, long. 7.55 E, proceeding to northward, 16 knots. 1st Battle Squadron also at sea, position unknown, but proceeding northward. (0345.)

C 36. Adty. to V.A.C., B.C.F.
Comm. (T).

For Commodore (T). Take off crews, sink disabled ships and retire on Battle Cruiser Fleet. (0435.)

C 37. S.O., Battle Cruiser Fleet, to C.-in-C., G.F.

My position now 13 K.V. 115, course SSE 18. Can you send me any destroyers from Northern Flotilla? (0430.)

C 38. C.-in-C., G.F., to S.O., B.C.F.

Your 0430. They could not reach you before dark. (0621.)

C 39. C.-in-C., H.F., to Adty.

438 Have ordered *Titania* as follows. (Begins.) Available submarines and *Talisman* proceed via "H" Channel and spread on meridian of 3.30 E, between lat. 54.0 N and lat. 54.35 N, to cover 5th Light Cruiser Squadron, which may be retiring to westward. Return at dark, 27th March. (Ends.) If not approved please cancel the orders. (Recd. 7.50 a.m.)

C 40. C.-in-C., H.F., to Adty.

439 It would be convenient if I could know by 4 p.m. if possible whether it is desirable for Battle Fleet to go east or west of mine area number one, so that course may be arranged before dark by visual and save wireless signalling. (Recd. 8 a.m.)

C 41. Adty. to C.-in-C., H.F. (788).
V.A., B.C.F. (666).
Comm. (T) (836).

All enemy forces have given up search owing to bad weather and are returning southward. (0930.)

C 42. Adty. to Comm. (T).

836 Report last position of *Undaunted* and any vessels detached from you. (1050.)

C 43. C.-in-C., G.F., to *Prince* for R.A., Invergordon.

Send following telegram O.H.M.S. priority to H.M.S. *Titania*:—For *Titania*. Cancel my 0521, recall submarines. (1045.)

C 44. C.-in-C., G.F., to Adty.

440 With reference to Adty. telegram 788. Weather unfavourable for destroyers, suggest all of force return to base if all is quiet. (1056.)

C 45. Adty. to V.A., B.C.F.
Comm. (T).

Return to bases or other British ports at once. (1150.)

C 46. Adty. to C.-in-C., G.F.

789 Battle Cruiser Fleet and Commodore (T) have been ordered to return. You should continue to come to south-eastward until it is certain they are returning.

C 47. Comm. (T) to Adty.

98 *Undaunted* reported her position 0549 making for Tyne, lat. 56.15 N, long. 4.21 E. I communicated with *Lightfoot* and presumably *Lassoo* who was in company 6 a.m. and ordered them to sink *Medusa*; signal was acknowledged. All others accounted for. (1205.) (Recd. 12.28 p.m.)

C 48. S.O., B.C.F., to Adty.
C.-in-C., G.F.

Transmit following message to ships for whom you are responsible. Admiralty, C.-in-C., Grand Fleet, from S.O., Battle Cruiser Fleet.

380 I am returning to base to refuel. *Penelope*, *Aurora* and *Conquest* are proceeding to join *Undaunted* and escort her to Tyne. *Cleopatra* is returning to his base. (1244.)

- C 49.** Adty. to C.-in-C., H.F.
790 *Undaunted* at 1305 lat. 56.36 N, long. 3.50 E. Hove to. (1525.)
- C 50.** Adty. to *Lurcher* and *Melampus*.
Return to base with submarines. (1530.)
- C 51.** Adty. to C.-in-C., H.F.
791 My 789. Return at your convenience. (1530.)
- C 52.** S.O., B.C.F., to *Undaunted*.
257 What is your condition? *Aurora*, *Conquest* and *Penelope* are proceeding join you. (1537.)
- C 53.** *Aurora* to Comm. (T).
292 S.O., Battle Cruiser Fleet. Have failed to locate *Undaunted* in position given. Am remaining in the vicinity, resuming search daybreak. (1840.)
- C 54.** Adty. to Admiral, Immingham.
S.N.O., Lowestoft.
Normal arrangements for auxiliary patrols can be resumed. Minesweeping vessels can again proceed out. (Sent 7.20 p.m.)
- C 55.** C.-in-C., G.F., to Adty.
441 Battle Fleet returning to base except 5th Battle Squadron proceeding to cover *Undaunted*. (1917.) (Recd. 8.22 p.m.)
- C 56.** S.O., B.C.F., to S.O., 3rd B.S.
C.-in-C., G.F.
313 Submit two destroyers may be sent to assist *Aurora* in locating *Undaunted* and to protect herself against submarine attacks in daytime to-morrow, Monday. *Undaunted* position 3.15 p.m. 56.36 N, 3.51 E, hove to. Probably set to north-east. (1945.)
- C 57.** C.-in-C., G.F., to S.O., 3rd B.S.
330 With reference to message timed 1945 V.A.C., B.C.F. Send four destroyers of 1st Destroyer Fleet, weather is too bad to the northward. (2111.) (Recd. 9.42 p.m.)
- C 58.** Comm. (T) to Adty.
99 Request division of destroyers be sent from Harwich to escort *Undaunted*; weather appears to be moderating. (2050.) (Recd. 10.2 p.m.)
- C 59.** Adty. to Comm. (T).
837 Your 99 has been complied with and S.N.O., Harwich, will inform you and *Aurora* of name of leader. (2258.)
- C 60.** Adty. to S.N.O., Harwich.
193 At 7 p.m., 26th, *Undaunted* was in following observed position, lat. 56.39 N, long. 3 E, steering N 60 W, 3 knots. *Aurora*, *Penelope* and *Conquest* screening her. Send a division of destroyers to escort her to Tyne. Report leader's name to Commodore (T), *Aurora* and *Undaunted*. (2304.)
- C 61.** S.O., 3rd B.S., to S.O., B.C.F.
348 Your 1945. *Defender*, *Forester*, *Badger* and *Beaver* leaving immediately. Please inform ships concerned. (2250.)

27th March.

- C 62.** S.N.O., Harwich, to Adty.
358 Your 193. *Mentor* leading ship of division detailed escort *Undaunted*. Will sail 1 a.m., 27th March. (0010.) (Recd. 12.32 a.m.)

- C 63.** *Aurora* to S.O., B.C.F.
24 Weather is unsuitable for destroyers. Barometer still falling. (0356.)
- C 64.** S.O., B.C.F., to *Aurora*.
31 Have given instructions to *Badger* and destroyers within to proceed to Aberdeen, owing to bad weather. Give necessary orders to them when you require them. (0521.)
- C 65.** *Aurora* to S.O., B.C.F.
38 Weather moderating; have ordered destroyers to join. (0615.)
- C 66.** S.O., 5th B.S., to C.-in-C., G.F.
S.O., B.C.F.
53 Left *Undaunted* 7.30 a.m. in lat. 56.35 N, long. 2 E, steering south-west, 7 knots. Bulkhead holding, weather moderating. *Aurora*, *Penelope* and *Conquest* with *Undaunted*. *Aurora* has given orders to destroyers to meet her. Am proceeding to base. (0830.)
- C 67.** *Aurora* to S.O., 5th B.S.
65 Transmit to S.O., 5th B.S., from *Aurora*. Destroyers have joined, proceeding with *Conquest*. *Penelope* remaining with *Undaunted*. Their position noon 56.27 N, 1.46 E. Course south-west, 7 knots. (1130.)
- C 68.** Comm. (T) to Adty.
100 *Cleopatra* rammed and sank German destroyer 10.20 p.m., 25th March. Immediately afterwards *Undaunted*, next astern, struck *Cleopatra* a glancing blow. Propose sending *Cleopatra* to Chatham on Tuesday, and hoist my Commodore's broad pendant in *Conquest*. Consider temporary repairs can be made good in 72 hours if necessary. (1130.) (Recd. 12.45 p.m.)
- C 69.** Adty. to Comm. (T), *Undaunted*.
838 *Undaunted* is to proceed to Tyne, when she will be repaired. Inform S.N.O. and A.S., Tyne, of time of arrival. (Sent 1.50 p.m.)

30th March.

- C 70.** Adty. to Comm. (T).
845 Report by telegram what steps were taken to sink *Medusa*. (Sent 11.35 a.m.)
- C 71.** Comm. (T) to Adty.
110 German Press message last night, Wednesday, reports that *Medusa* was still afloat a.m., 27th March. Description by Dutch trawler is complete. C.O.s *Medusa*, *Lassoo* both reported ship sinking when they left her, but did not see her actually sink. (1245.) (Recd. 3.16 p.m.)

APPENDIX D.

U.C. MINEFIELDS.

October 1915.

Field.	Locality.	Minelayer.	Date.	Losses.
			Oct.	
42	West Deep.	U.C.5	3	Brighton Queen (m/s)
43	Dyck L.V.		5	French trawler.
44	Sizewell Bank.			
45A	Stanford Channel.			s.s. <i>Novacastrian</i> .
45B	Hewett Channel.			
46	Elbow Buoy.	U.C.5	12	H.M.D. <i>Frons Olivae</i> .
47	Sunk Head.	U.C.6	12	s.s. <i>Aleppo</i> , Nor. s.s. <i>Salerno</i> , s.s. <i>Monitoria</i> .
48	Shipwash.	U.C.7	13	
49	N. Knock Buoy.	U.C.3	13	s.s. <i>Volscian</i> , <i>Javelin</i> (m/s), Br. s.s. <i>Salerno</i> .
50A	Dungeness.	U.C.5	18	s.s. <i>Ilaro</i> .
50B	Nab.	U.C.5	18	H.M.T. <i>Erin II</i> , H.M.D. <i>Star of Buchan</i> , T.B.D. <i>Velox</i> , Tug <i>Grappler</i> .
50c	Needles.	U.C.5	18	H.M.T. <i>Albion II</i> , s.s. <i>Algerian</i> .
51	N.E. Spit.	U.C.1	20	H.M.T. <i>Scott</i> , s.s. <i>Irene</i> .
52	Knock Deep.	U.C.7	29	
53	S. Foreland.	U.C.6	31	H.M.Y. <i>Aries</i> , H.M.T. <i>Othello II</i> , Nor. s.s. <i>Eidsiya</i> , s.s. <i>Toward</i> .
54	N.E. Bawdsey.	U.C.3	31	s.s. <i>Friargate</i> , s.s. <i>Nereus</i> .

November 1915.

Field.	Locality.	Minelayer.	Date.	Losses.
			Nov.	
55	Elbow.	U.C.1	5	
56	Sunk L.V.	U.C.5	6	
57	Covehitheness.			Rhineland (11th). Possibly also <i>Alitair</i> (6th) and T.B.D. <i>Matchless</i> (9th).
58A	Havre.			
58B	Boulogne.	U.C.6	8	Moorside (12th), <i>Nigel</i> .
59	Margate.	U.C.1	16	
60	Galloper L.V.	U.C.3	17	Nor. <i>Ulriken</i> (17th), Greek <i>Athamas</i> .
61	Dover.	U.C.5	17	Hospital ship <i>Anglia</i> (17th), <i>Lusitania</i> , H.M.A.T. <i>Falmouth II</i> .
62	Kentish Knock.	U.C.7	19	
63	Elbow.	U.C.1	24	Nor. <i>Klar</i> (27th).
64	Longsand Head.	U.C.7	28	H.M.A.T. <i>William Morrison</i> (28th), H.M.S. <i>Duchess of Hamilton</i> .
65	Bassure de Baas.	U.C.5	29	
66	N. Galloper.	U.C.3	27	

December 1915.

Field.	Locality.	Minelayer.	Date.	Losses.
67	S. Goodwin.	U.C.1	3	H.M.T. <i>Etoile Polaire</i> .
			Dec.	
68	S. Aldbro Napes.			Nor. s.s. <i>Ingstad</i> , s.s. <i>Ignis</i> , s.s. <i>Knarsdale</i> .
69	Humber.	U.C.6		<i>Mediator</i> (m/s), <i>Courtier</i> (m/s).
70	Boulogne.	U.C.3	9	
71	Mid. Knock.	U.C.1	15	s.s. <i>Leven Pool</i> .
72	Kentish Knock.	U.C.7	16	
73	Longsand.	U.C.3	17	<i>Lady Ismay</i> (m/s).
74	Sunk.	U.C.5	17	H.M.T. <i>Resono</i> , Submarine E.6.
75	Calais.	U.C.6	20	
76	Shipwash.	U.C.3	20	s.s. <i>Hadley</i> .
77	Elbow.	U.C.1	23	H.M.T. <i>Carillon</i> .
78	Longsand Head.	U.C.7	24	
79	Galloper.	U.C.10	29	Dutch s.s. <i>Ellewoutsdijk</i> , s.s. <i>Fridtjof Nansen</i> , s.s. <i>Leto</i> .
80	N. Galloper.	U.C.5	29	
81	Dover.	U.C.6	30	Dutch s.s. <i>Ecuador</i> , s.s. <i>Traquair</i> off Dover Pier.
82	Corton.	U.C.7		H.M.T. <i>Speeton</i> .
83	Elbow.	U.C.1	30	s.s. <i>Glocliffe</i> .

January 1916.

Field.	Locality.	Minelayer. ¹	Date.	Losses.
84	Boulogne.	U.C.3		
85	W. Rocks Buoy.	U.C.7		
86	Galloper.			
87	S.E. Knock.			
88	Black Deep	U.C.7		
89	S. Goodwin.	U.C.3		<i>Traquair</i> (Jan. 12).
90	Shipwash.	U.C.5		
91	S. Knock.			Dutch <i>Rijnendam</i> (Jan. 18), <i>Leoville</i> , <i>Falls City</i> , Nor. <i>Perth</i> , Dutch <i>Maasdijk</i> , Dutch <i>Thuban</i> .
92	"			
93	Boulogne.	U.C.3		<i>Breslau</i> (Jan. 15).
94	Galloper.			Dutch <i>Maashaven</i> (Jan. 13), Dutch <i>Apollo</i> .
95	Humber.	U.C.7		
96	Sunk.	U.C.5		Dutch <i>Prinses Juliana</i> (Feb. 1), <i>Balgownie</i> .

¹ Information from Gayer, who gives no dates for January; he states further that in January U.C.1 laid four fields in the Thames Estuary, U.C.5 laid another near the Sunk L.V. and U.C.10 placed one of the Kentish Knock fields.

February 1916.

Field.	Locality.	Minelayer. ¹	Date. ¹	Losses.
			Feb.	
97	Cross Sand.	U.C.10	2	
98	S.E. Knock.	U.C.5	9	Nor. Alabama, Dutch Band-oeng.
99	Margate.	U.C.1	9	
100	Folkestone.	U.C.6	10	Leicester.
101	Harwich.	U.C.7	10	H.M.S. <i>Arctusa</i> .
102	Aldbrough Napes.	U.C.4	10	Belg. <i>Aduatiek</i> , <i>Cedarwood</i> , <i>Tergeste</i> .
103	Galloper L.V.	U.C.5	20	Dutch <i>La Flandre</i> , <i>Dingle</i> , <i>Tummel</i> .
104	Folkestone.	U.C.6	20-21	A.T. <i>Carlton</i> , <i>Maloja</i> , <i>Empress of Fort William</i> , A.T. <i>Angelus</i> , A.T. <i>Weigela</i> .
105	Southwold.	U.C.10	22	<i>Southford</i> , <i>Betchenga</i> , <i>Thornaby</i>
106	Bassure de Baas.	U.C.3	22	
107	Galloper L.V.	U.C.7	23	Dutch <i>Mecklenburg</i> .
108	K. Knock L.V.	U.C.10	26	Swed. <i>Birgit</i> , <i>Malvina</i> .
109	Calais.	U.C.5	27	
110	S. Downs.	U.C.4	27	<i>Den of Ogil</i> .
111	Dover.	U.C.6	27	

March 1916.

Field.	Locality.	Minelayer.	Date.	Losses.
			Mar.	
112	Dover.	U.C.6	3	H.M.A.T. <i>Flicker</i> (4th).
113	Tongue L.V.	U.C.4	3	<i>Fauvette</i> (9th).
114	Longsand Head.	U.C.10	6	T.B.D. <i>Coquette</i> (7th), T.B. 11.
115	Sunk.	U.C.5	6	
116	Shipwash.	U.C.3	6	
117	N. Foreland.	U.C.7	8	
118	Dungeness.	U.C.6	10	
119	S. Downs.	U.C.4	11	
120	Longsand L.V.	U.C.10	12	
121	N. Foreland.	U.C.7	14	<i>Lowland</i> (18th).
122	Sunk L.V.	U.C.5	16	
123	K. Knock L.V.	U.C.3	16	<i>Furze</i> (19th).
124	S. Foreland.	U.C.6	16	H.M.A.T. <i>Corona</i> (23rd).
125	N. Galloper.	U.C.10	17	
126	East Hinder.	U.C.1	17	
127	S.E. Knock.	U.C.1	21	<i>Fulmar</i> (24th), drifter <i>Hilary II</i> , Dutch <i>Duiveland</i> , <i>Empress of Midland</i> .
128	Folkestone.	U.C.6	22	<i>Sea Serpent</i> (23rd), Dan. <i>Christianssund</i> , <i>Saint Cecilia</i> .
129	Inner and Outer Gabbard.	U.C.5	24	<i>Hebe</i> (26th), <i>Khartoum</i> , Dan. <i>Harriet</i> .
130	Boulogne.	U.C.7	24	
132	Corton.	U.C.5	30	Nor. <i>Memento</i> (31st), <i>Clinton</i> .

¹ Information in these columns comes from Gayer.

April 1916.

Field.	Locality.	Minelayer.	Date.	Losses.
			Apr.	
131	Sunk L.V.	U.C.7	1	H.M.A.T. <i>Commandant</i> (2nd), Fr. s. v. <i>Bourbaki</i> .
133	Calais.	U.C.6	3	
134	S.E. Knock.	U.C.10	3	Nor. <i>Ino</i> (3rd), <i>Bendew</i> (4th).
135	Orfordness.	U.C.1	4	
136	Folkestone.	U.C.6	6	<i>Halcyon</i> (7th), <i>Shenandoah</i> (14th).
137	S. Inner Gabbard.	U.C.10	7	Dutch <i>Colombia</i> (12th).
138	Tongue L.V.	U.C.7	8	<i>Avon</i> (9th).
139	N. Galloper.	U.C.5	9	
140	S. Knock.	U.C.1	10	
141	Dyck L.V.	U.C.6	20	Fr. Exam. steamer (21st).
142	N. Galloper.	U.C.1	20	Dutch <i>Maashaven</i> (26th), Dutch <i>Dubhe</i> , Dutch <i>Noordzee</i> .
143	Elbow.	U.C.7	20	H.M.A.T. <i>Lena Melling</i> (23rd).
144	Knock Deep.	U.C.10	21	
145	Sunk L.V.	U.C.5	21	
146	Orfordness.	U.C.6	24	
147	K. Knock L.V.	U.C.1	24	
148	Bawdsey.	U.C.7	24	
149	Southwold.	U.C.10	29	<i>Rochester City</i> (May 2).
150	N. Galloper.	U.C.1	29	<i>Hendon Hall</i> (May 1).

APPENDIX E.

MINELAYERS WITH THE FLEET IN ACTION,
2 OCTOBER 1915.Memorandum by the Commander-in-Chief, Home Fleets, dated
2 October 1915.

Base.—When there is any threat of a move by the Germans, the minelayers should go to the Tyne, or, if there is not room there, then to the Humber, which port is rather nearer the probable battle area than is the Forth.

2. On the fleet putting to sea the minelayers should proceed to the rendezvous given by the Commander-in-Chief, organised as follows:—

	Speed.	Mines.	Radius of action at 17 knots.
Group I.			
<i>Princess Margaret</i>	21	530	2,600 miles.
<i>Paris</i>	21½	100	1,000 "
<i>Biarritz</i>	21½	180	1,100 "
Total mines		810	
Group II.			
<i>Orviato</i>	17	600	5,600 "
<i>Angora</i>	18	320	1,443 "
Total mines		920	

3. On joining the fleet, both groups will join the two ships of the 3rd Cruiser Squadron which are stationed on the eastern wing of the fleet in cruising formation. If the vessels of the 3rd Cruiser Squadron are absent, the minelayers will take their positions in the cruiser diagrams.

4. If the enemy deploys to the westward, as a feint or to develop submarine and mining tactics, all the minelayers should have an opportunity of getting round his eastern flank on to his probable line of retirement; if the initial deployment is to the eastward, the fast group only will probably be able to do so, and Group II will possibly have to pass to the rear of our fleet to await an opportunity to act.

5. The objective of the minelayers will be to lay mines in such a position relative to the enemy's line of battle, between it and his base, that he will be unable to retire towards it without either crossing the minefield, and so suffering loss, or else making a detour round the field and so remaining under the fire of our fleet.

6. If the enemy can be prevented from retiring early in an action, the submarine and destroyer menace will be greatly reduced as it may be assumed that his tactics will be based on the idea of a retirement towards Heligoland, although possibly his original deployment may be to the westward in order to give time for his minelayers to lay their mines.

7. Our mines will in fact be used to endeavour to compel a gun action and to avoid putting our fleet into the pursuing position, with all its submarine, destroyer and torpedo disadvantages.

8. It is realised how difficult this aim is of attainment, but, even if the minelayers fail to lay their mines, their presence in a position which threatens the line of retirement may hamper the enemy's movements and prove of great advantage to us.

9. If the minelayers were to act independently of the fleet, they could probably only lay mines near the enemy bases, and would damage only either the defeated or victorious ships returning to base; their mines would have no direct effect on the action.

10. Again, if employed independently, they would require a larger escort than if acting under the protection of the fleet and its numerous cruisers, which means that the fleet strength will be depleted by the bulk if not the whole of Commodore (T)'s command.

11. Concentration of all arms in great force must be our guiding principle, as it will undoubtedly be that of our opponent.

ADMIRALTY ORDERS.

M. 00109/15.

Orders for laying mines to prevent German ships returning to their ports in North Sea.

In the event of the German Fleet, or a portion of it, coming out the following arrangements will be carried out to lay mines in the probable track of returning ships.

1. The positions of the lines of mines cannot be determined now, as they necessarily depend largely on the existing minefields and on future minelaying.

2. The Admiralty will order the minelayers to raise steam, sending a separate telegram to any vessel not in company with the Captain (M).

3. Each minelayer will proceed independently to lay her mines when ready to proceed.

4. A telegram will be sent from the Admiralty in cypher to the Captain (M), and will be repeated by the Admiralty to any detached vessels.

This telegram will give the position of the centre of the line of mines to be laid by each minelayer, denoting this position by true bearing, in degrees, and distance in miles from Heligoland. Heligoland will not be mentioned in the telegram.

5. The Captain (M) is to communicate the whole telegram to the vessels in company with him, in order to ensure that each Captain knows where the other minelayers will lay their mines, so that foul ground can be avoided.

6. The direction of the lines of mines will always be at right angles to the bearing of Heligoland.

In the event of rough sea preventing this direction being adhered to, the mines should be laid in the direction which most closely approximates to it.

7. The length of the lines of mines will depend on the number of mines carried by the ship laying each line.

8. The depth adjustment of the mines and the distance apart will be at the discretion of the Captain of each minelayer.

9. After laying her mines, each vessel will report by W/T in cypher the position of the line of mines laid by her. The signal should be addressed to the proper shore W/T station according to the W/T organisation, and should be repeated at intervals until in touch with the station and an acknowledgment is received. This will afford any ships in touch an opportunity of intercepting it. The position should be described by the method laid down in the cypher used (F or the book superseding it) so that intercepting ships which have not got these orders can understand the message.

Specimen of Telegram from Admiralty.

(In Cypher F or the Commanding Officer's Cypher in use at the time.)

Enemy at sea.

Lay mines.

Orviato, 290 deg. 66 miles (stop).

Princess Margaret, 312 deg. 67 miles (stop).

Biarritz, 260 deg. 75 miles (stop).

Paris, 248 deg. 74 miles.

Addressed to Captain (M), repeated to *Orviato* and C.-in-C., H.F.

Acknowledge.

REPLY TO COMMANDER-IN-CHIEF.

M. 0191/16.

No. 50.

Secret.

21st January 1916.

Sir,

In reply to your letter No. 25/H.F. 005, dated 4th January 1916, I am commanded by My Lords Commissioners of the Admiralty to acquaint you that they have given earnest consideration to the proposals for the use of certain minelayers in a fleet action, as set forth in the Memorandum accompanying your letter No. 2122/H.F. 005 of the 2nd October last.

2. My Lords fully appreciate the reasons advanced for the adoption of this scheme, which you give in paras. 5, 6 and 7 of your Memorandum, and are in complete agreement with the principle that, if it is practicable, it is far better to use our minelayers as such *in the field of battle* for the more speedy destruction of the enemy rather than on his lines of retreat after an action, when the issue should have been already decided.

3. In order to work round the enemy's flank, a very high rate of speed is essential. In this respect the speed of the *Orviato* (17½ knots) is insufficient, and it also seems more than doubtful whether the 20 knot fair-weather speed of *Biarritz*, *Paris* and *Princess Margaret* can be deemed fast enough. The *Biarritz* and *Paris* are, moreover, very light and their estimated speed would be considerably reduced in any sort of sea. Their steaming radius is comparatively small.

4. Apart from any question of speed and endurance, the possibility of effectively buoying the minefield is a matter of great importance.

Experience has shown that the assumed position of the minefield (even supposing it could be freely communicated when laid) might easily be a large number of miles from the true position; and, similarly, ships approaching it might be mistaken to an equal extent in their position as given by dead reckoning. It would therefore be necessary to buoy the positions of the lines of mines. The system proposed, which has been the subject of correspondence, appears satisfactory as long as the visibility is good, the state of the sea smooth, and a good lookout practicable. However, taking into consideration low visibility, the dark hours, bad weather, the small size of the buoys, and the many distractions of battle, the risk of our fleet running over our own mines may be considerable.

5. For the foregoing reasons, Their Lordships have come to the conclusion that the chances of success when compared with those of failure are not sufficient to justify departing from the alternative rôle of using our present minelayers in sowing mines against the retreat of the enemy, and near their base, or in their advance should sufficient notice be obtainable.

6. I am to add that the fast minelayer *Abdiel* will be placed under your orders for fleet work, after a short period of service under the Captain (M) for experimental purposes and training. If the trials prove satisfactory, the question of fitting other flotilla leaders for minelaying will be further considered.

I am, Sir,
Your obedient Servant.

The Commander-in-Chief,
H.M. Ships and Vessels,
Home Fleets.

APPENDIX F.

PRECAUTIONS AGAINST MINELAYING, 1-12 DECEMBER 1915.

"*Iron Duke*,"
28th November 1915.

H.F. 0042/26. *Memorandum.*

The following additional patrols are to be established and brought into force on the dates specified, the object being to prevent hostile minelayers approaching the fleet bases to lay mines during the forthcoming dark nights. The opportunity being a good one for minelaying, these additional precautions are considered necessary.

Scapa.

2. The *Broke* and one division of destroyers are to leave Scapa at noon on Wednesday, 1st December, to cruise in an area enclosed between the lines joining the following four positions:—

- (i) Lat. 57° 40' N, long. 0° 0'.
- (ii) Lat. 57° 25' N, long. 1° 45' E.
- (iii) Lat. 59° 0' N, long. 1° 10' E.
- (iv) Lat. 59° 0' N, long. 0° 0'.

Destroyers are to be spread to visibility distance during daylight and are to work in pairs at night.

3. The patrols are to be so arranged that the vessels are at the position (ii) at 2 p.m. on 2nd and 3rd December.

From thence they are to patrol the eastern portion of the area up to position (iii), after which the western portion is to be patrolled to the southward, and the vessels are to arrive at position (ii) again at 2 p.m. on the next day. They are to return to this base during the forenoon of 4th December.

4. The sloops are to take over the patrol duties from daylight, 4th, being at the position (ii) at 2 p.m. on 4th and 5th December, and are to return to the base during the forenoon of 6th.

5. Unless further orders are issued, *Broke* and one division of destroyers are to assume the patrol duties again at daylight, 6th, being at the position (ii) at 4 p.m. on 6th and 2 p.m. on the 7th, and returning to the base during the forenoon of 8th. Light cruisers will be detailed to continue the patrol duties, commencing at daylight on 8th.

6. From 1st to 12th December, inclusive, two destroyers from Scapa are to patrol in company on a fifteen-mile line running 110° from Noss Head, between 4 p.m. and 8 a.m., returning to Scapa during daylight hours.

Cromarty.

7. The local destroyer usually stationed off Noss Head is to be withdrawn and is to patrol the south channel of the Moray Firth minefield, the part between the meridians of long. 2° 30' W and 2° 45' W being avoided at night and in thick weather.

This redistribution is to take effect from 2 p.m. on 1st December.

Peterhead Patrol.

8. As far as possible, the *Sappho* is to be out during the dark hours of each day between 2nd and 7th December, inclusive, to support the whalers.

Rosyth.

9. From 2nd to 12th December, inclusive, one division of destroyers is to patrol outside May Island during the dark hours, except when light cruisers are out.

Sweeps of light cruisers are to take the place of the destroyer patrols as considered necessary by the Senior Officer Afloat at Rosyth, who is requested to issue orders accordingly.

They should go well to the eastward during the daylight, to the north of Area I, retiring towards Rosyth and to the westward of Area I during the dark hours.

(Signed) J. R. JELICOE,
Admiral.

"*King Edward VII*,"
8th December 1915.

No. 059. *Memorandum.*

With reference to H.F. 0042/26 of 28th November 1915, the Light Cruiser Squadron under your command, accompanied by four destroyers, is to leave Rosyth at midnight 8th-9th December and shape course to pass through a position in 56° 2' N, 1° 28' W.

2. On passing this point ships are to spread, each ship being accompanied by a destroyer, and a sweep made to the eastward on the line St. Abb's Head-The Skaw. Weather permitting, the spread of advance should be about 18 knots.

3. Vessels met are to be examined, and if it is necessary to board them, this duty is to be performed by the destroyers. Particular attention should be paid to the possibility of any ship met being a minelayer disguised as a merchant vessel.

(C8899)

4. At 4 p.m., or when the centre of the sweep arrives in lat. 57° 0' N, long. 4° 10' E, the squadron is to return to Rosyth.

5. The report of proceedings is to state which ships have been boarded.

(Signed) E. E. BRADFORD,
Vice-Admiral Commanding,
3rd Battle Squadron,
Senior Officer Afloat.

Commodore W. E. Goodenough, M.V.O., A.D.C.,
Commanding 2nd Light Cruiser Squadron.

APPENDIX G.

SHORTAGE OF TRAINED PERSONNEL, 30 NOVEMBER 1915.

"Iron Duke,"
30th November 1915.

No. 2711/H.F.1.

Sir,

Be pleased to represent to the Lords Commissioners of the Admiralty that I am very seriously disturbed over the undoubted great lowering of fighting efficiency that is rapidly taking place in ships of the Grand Fleet, due to the changes in personnel. It is visible to all those serving in the fleet. The result may vitally affect the safety of the Empire, and I consider it my duty to inform Their Lordships that the limit has been reached, and that the present method of obtaining trained ratings for new ships by drawing from the Grand Fleet can no longer be pursued with safety.

2. It is infinitely better to have eight ships which are really efficient than nine which are of a much lower standard of fighting value, and I respectfully submit that the policy of retaining so large a number of ships of comparatively small fighting value in commission should be abandoned, if this necessitates so great a disorganisation of the Grand Fleet ships in order to find crews for new vessels.

3. If it is necessary to keep the present large force of old battleships in the Mediterranean, in addition to the monitors, I submit it is even preferable to send some of the 3rd Battle Squadron to replace some of the older ships, and to pay off the latter. But I venture to suggest whether it is not possible to reduce our strength in the Mediterranean, where the French and Italian Fleets are so immeasurably superior to any possible enemy, and where, if my information is correct, our men from the battleships are largely employed on beach work.

4. I have hesitated to write strongly on this subject, although tempted to do so on many occasions, because I know the difficulties with which we are faced, and I have been hoping for some months past that Their Lordships would take the step which I advocate. But I can keep silence no longer, and beg that this letter may be laid before the Board for very earnest consideration.

I am, Sir,
Your obedient Servant,
(Signed) J. R. JELICOE,
Admiral.

The Secretary of the Admiralty.

APPENDIX H.

REGULATIONS FOR DEFENSIVELY ARMED MERCHANT SHIPS, 1 DECEMBER 1915.

(a) *The Status of Armed Merchant Ships.*

(1) The right of the crew of a merchant vessel forcibly to resist visit and search, and to fight in self-defence, is well recognised in International Law, and is expressly admitted by the German Prize Regulations in an addendum issued in June 1914, at a time when it was known that numerous merchant vessels were being armed in self-defence.

(2) The armament is supplied solely for the purpose of resisting attack by an armed vessel of the enemy. It must not be used for any other purpose whatsoever.

(3) An armed merchant vessel, therefore, must not in any circumstances interfere with or obstruct the free passage of other merchant vessels or fishing craft, whether these are friendly, neutral or hostile.

(4) The status of a British armed merchant vessel cannot be changed upon the high seas.

(b) *Rules to be observed in the exercise of the Right of Self-defence.*

(1) The Master or Officer in command is responsible for opening and ceasing fire.

(2) Participation in armed resistance must be confined to persons acting under the orders of the Master or Officer in command.

(3) Before opening fire the British colours must be hoisted.

(4) Fire must not be opened or continued from a vessel which has stopped, hauled down her flag, or otherwise indicated her intentions to surrender.

(5) The expression "armament" in these instructions includes not only cannon but also rifles and machine guns in cases where these are supplied.

(6) The ammunition used in rifles and machine guns must conform to Article 23, Hague Convention IV, 1907; that is to say, the bullets must be cased in nickel or other hard substance, and must not be split or cut in such a way as to cause them to expand or set up on striking a man. The use of explosive bullets is forbidden.

(c) *Circumstances under which the Armament should be employed.*

(1) The armament is supplied for the purpose of defence only, and the object of the Master should be to avoid action whenever possible.

(2) Experience has shown that hostile submarines and aircraft have frequently attacked merchant vessels without warning. It is important, therefore, that craft of this description should not be allowed to approach to a short range at which a torpedo or bomb launched without notice would almost certainly take effect.

British and Allied submarines and aircraft have orders not to approach merchant vessels. Consequently it may be presumed that any submarine or aircraft which deliberately approaches or pursues a merchant vessel does so with hostile intention. In such cases fire may be opened in self-defence, in order to prevent the hostile craft closing to a range at which resistance to a sudden attack with bomb or torpedo would be impossible.

(3) An armed merchant vessel proceeding to render assistance to the crew of a vessel in distress must not seek action with any hostile craft, though, if she is herself attacked while so doing, fire may be opened in self-defence.

(4) It should be remembered that the flag is no guide to nationality. German submarines and armed merchant vessels have frequently employed British, Allied or Neutral colours, in order to approach undetected. Though, however, the use of disguise and false colours in order to escape capture is a legitimate *ruse de guerre*, its adoption by defensively armed merchant ships may easily lead to misconception. Such vessels, therefore, are forbidden to adopt any form of disguise which might cause them to be mistaken for neutral ships.

(M. 08133 of 1.12.1915.)

APPENDIX K.

ORDERS FOR SUBMARINES OPERATING FROM BLYTH, 9 DECEMBER 1915.

"Iron Duke,"
9th December 1915.

H.F. 0022/248. Memorandum.

Secret.

ORDERS FOR SUBMARINES OPERATING FROM BLYTH.

1. Object of the operations :—

- (a) To attack enemy trade ;
- (b) To intercept neutral vessels, and examine them :—
 - (i) for contraband,
 - (ii) for commodities suspected of enemy destination or origin ;
- (c) To attack enemy submarines which may endeavour to interfere with the above operations.

2. The date for sailing will be communicated by telegram.

3. Submarine *D.7* is to leave Blyth so as to make the Ryvengen Light and fix her position during dark hours.

She is to cruise so as to intercept neutral and German vessels outside territorial waters between Ryvengen and Arendal, and also those which pass between Ryvengen and the Thyboron Light (at the entrance to the Lim Fiord in Denmark). Ships carrying contraband between the western Norwegian ports and Germany are said to use these routes when bound for Baltic and North Sea ports respectively.

D.7 is to examine merchant shipping, boarding them if necessary and possible, and in the event of finding anything suspicious in the ships or cargoes the vessels are to be sent into Leith in charge of armed guards.

Note.—The vessel intercepted may be directed to send a boat for the boarding party if circumstances render this necessary.

4. It is probable that the presence of our submarines operating in this area will quickly become known to the Germans from the reports of the steamers which may have sighted or been examined by *D.7*.

A period of 12 hours after the probable time of arrival of one of these steamers at her destination should be sufficient for the news to reach the

German authorities. Within 24 hours of this time, or 36 hours after examination, *D.7* is to be off Ryvengen Light, ready to intercept any enemy submarines which may have been sent to attack her, and subsequent to this time it must be recognised that great risk will be run in bringing the boat to the surface and stopping for the purpose of examining vessels.

5. Submarine *D.8* is to leave Blyth about 36 hours after the departure of *D.7*, and make the Hantstholm Light. She is then to cruise in the vicinity of a line 270 deg. from Hantstholm Light, to intercept enemy submarines which may be making for the Norwegian coast to attack *D.7*. It is important that the presence of *D.8* in this vicinity should not become known.

6. Each submarine is to return to Blyth by the eighth day after her departure from that port.

7. Both submarines are to pass north of Area I when going to and returning from the Norwegian coast.

8. Submarines from Harwich may be operating to the southward of lat. 56° N.

9. One or two armed guards, according to accommodation available, each consisting of a R.N.R. lieutenant or sub-lieutenant, one petty officer, and four able seamen, are to be embarked in *D.7*. These ratings will be sent to Blyth from Rosyth by the Vice-Admiral Commanding, 3rd Battle Squadron, and their arrival is to be telegraphed to the Commander-in-Chief, Home Fleets. The Commanding Officer of *Titania* is to inform the Vice-Admiral Commanding, 3rd Battle Squadron, as to whether one or two armed guards can be accommodated.

10. A list is annexed of certain neutral vessels suspected of trading with Germany.

11. *D.7* is to be supplied with Lloyd's Weekly Index before sailing, and all officers are to be familiar with the contents of the following publications, which are likely to affect them :—

- (i) Instructions for Boarding Officers and Prize Officers in War Time ;
- (ii) Naval Prize Manual ;
- (iii) Merchant Ships' Papers.

(Signed) J. R. JELlicoe,
Admiral.

The Commanding Officer,
H.M.S. *Titania* (3 copies).

Copy to :—
Vice-Admiral Commanding,
3rd Battle Squadron.

On this occasion the Vice-Admiral Commanding, 3rd Battle Squadron, has been directed to send two armed guards on receipt of the copy of these orders which he should receive on 11th December 1915.

APPENDIX L.

ORGANISATION OF THE BRITISH NAVAL FORCES
IN HOME WATERS, 31 DECEMBER 1915.**THE GRAND FLEET.****Fleet Flagship.**

Iron Duke (C.-in-C., Admiral Sir John R. Jellicoe, G.C.B., K.C.V.O.).
Sappho (light cruiser). *Oak* (T.B.D.).

1st Battle Squadron.

Marlborough (Vice-Admiral Sir Cecil Burney, K.C.B., K.C.M.G.). *Colossus*
(Rear-Admiral Ernest F. A. Haunt, C.M.G.). *Collingwood*, *Hercules*,
Neptune, *St. Vincent*, *Agincourt* (27,500 tons, 22 knots, 14—12 in.,
20—6 in., 3 S.T.). *Vanguard*, *Bellona* (light cruisers).

2nd Battle Squadron.

King George V (Vice-Admiral Sir Thomas H. M. Jerram, K.C.B.). *Orion*
(Rear-Admiral Arthur C. Leveson, C.B.). *Ajax*, *Centurion*, *Conqueror*,
Monarch, *Thunderer*, *Erin* (23,000 tons, 21 knots, 10—13.5 in.,
16—6 in., 3 S.T.). *Boadicea* (light cruiser).

3rd Battle Squadron.

King Edward VII (Vice-Admiral Edward E. Bradford, C.V.O.). *Africa*,
Britannia, *Commonwealth*, *Dominion*, *Hindustan*, *Albemarle*. *Diamond*
(light cruiser).

4th Battle Squadron.

Benbow (Vice-Admiral Sir Frederick C. D. Sturdee, K.C.B., C.V.O., C.M.G.).
Emperor of India (Rear-Admiral Alexander L. Duff, C.B.). *Superb*,
Dreadnought, *Bellerophon*, *Temeraire*, *Canada* (28,000 tons, 22½ knots,
10—14 in., 16—6 in., 4 S.T.). *Blonde*, *Blanche* (light cruisers).

5th Battle Squadron.

Barham (Rear-Admiral Hugh Evan-Thomas, M.V.O.). *Queen Elizabeth*,
Warspite (27,500 tons, 25 knots, 8—15 in., 16—6 in., 4 S.T.).

Battle Cruiser Fleet.**Flagship.**

Lion (V.A.C., B.C.F., Vice-Admiral Sir David Beatty, K.C.B., M.V.O.,
D.S.O.).

1st Battle Cruiser Squadron.

Princess Royal (Rear-Admiral Osmond de B. Brock, C.B.). *Queen Mary*,
Tiger (28,500 tons, 30 knots, 8—13.5 in., 12—6 in., 4 S.T.).

1st Light Cruiser Squadron.

Galatea (Commodore, 2nd Class, Edwyn S. Alexander-Sinclair, M.V.O.,
A.D.C.). *Phaeton*, *Cordelia*, *Inconstant* (*Cordelia*, 3,750 tons, 28½ knots,
2—6 in., 8—4 in., remainder 3,500 tons, 28½ knots, 2—6 in., 6—4 in.).

2nd Battle Cruiser Squadron.

Australia (Rear-Admiral William C. Pakenham, C.B., M.V.O.). *New Zealand*, *Indefatigable*.

2nd Light Cruiser Squadron.

Southampton (Commodore, 2nd Class, William E. Goodenough, M.V.O.,
A.D.C.). *Birmingham*, *Lowestoft*, *Nottingham*, *Champion*.

3rd Battle Cruiser Squadron.

Invincible (Rear-Admiral The Hon. Horace L. Hood, C.B., M.V.O., D.S.O.).
Indomitable, *Inflexible*.

3rd Light Cruiser Squadron.

Falmouth (Rear-Admiral Trevelyhan D. W. Napier, M.V.O.). *Gloucester*,
Yarmouth, *Birkenhead*.

Grand Fleet Cruiser Squadrons.**1st Cruiser Squadron.**

Defence (Rear-Admiral Sir Robert K. Arbuthnot, Bt., M.V.O.). *Warrior*,
Black Prince, *Duke of Edinburgh*.

2nd Cruiser Squadron.

Shannon (Vice-Admiral (Acting) The Hon. Somerset A. Gough Calthorpe,
C.V.O., C.B.). *Achilles*, *Cochrane*.

3rd Cruiser Squadron.

Antrim (Rear-Admiral Montague E. Browning, M.V.O.). *Devonshire*,
Roxburgh.

7th Cruiser Squadron.

Minotaur (Rear-Admiral Herbert L. Heath, M.V.O.). *Hampshire*, *Donegal*.

4th Light Cruiser Squadron.

Calliope (Commodore, 2nd Class, Charles E. le Mesurier). *Caroline*,
Comus.

5th Light Cruiser Squadron.

Arethusa (Commodore (T) Reginald Y. Tyrwhitt, C.B.). *Penelope*, *Cleopatra*,
Conquest, *Vindex* (seaplane carrier).

Home Fleets Destroyer Flotillas.

9th Flotilla (Harwich), *Undaunted*, 19 destroyers ("L" class).
10th Flotilla (Harwich), *Aurora*, 17 destroyers ("M" class).
1st Flotilla (Rosyth), *Fearless*, 21 destroyers ("I" class).
4th Flotilla (Scapa), *Carysfort*, 20 destroyers ("K" class).
11th Flotilla (Cromarty), *Castor*, 15 destroyers ("M" class).
12th Flotilla (Scapa), *Royalist*, 6 destroyers ("M" class).

8th Submarine Flotilla.

Captain (S) Arthur K. Waistell, *Maidstone*, 4 "D," 9 "E," 6 "H" class
submarines.

APPENDIX M.

MEMORANDUM ON ENEMY MINING,
11 JANUARY 1916.

"Iron Duke,"
11th January 1916.

No. 111/H.F. 005.

Sir,

Be pleased to inform the Lords Commissioners of the Admiralty that recent events have once more brought into prominence the grave danger that exists of the Grand Fleet being mined in their bases prior to some offensive move on the part of the enemy's naval forces, and not only of being mined in their bases, but of suffering heavy loss during a passage south, by minefields laid across the probable route of the fleet at some distance from their bases.

2. This is a danger which I have frequently pointed out to Their Lordships, and it has once more been brought into prominence by the recent loss of H.M.S. *King Edward VII*, and by the great difficulties that are encountered in carrying out sweeping operations in northern waters.

3. As an example, it is pointed out that although the *King Edward VII* was lost on the 6th January, and efforts have been made to carry out sweeping operations in the neighbourhood of her loss ever since, it has been impossible up to the present to work there owing to the state of the sea, and it would not be unusual for this condition to obtain for another week at least. The weather since the 22nd December in the area west of the Pentlands has been such that sweeping could not have been carried out without grave risk to the sweepers.

4. The position might be exactly similar in the event of a minefield being laid to the eastward of the Pentland Firth, instead of to the westward, and even supposing that the weather is suitable for sweeping operations, the minefield having been discovered by some ship striking a mine, a great deal of time is necessarily spent before a channel is either swept through the field, or the limits of it are ascertained so that the fleet may pass clear of it.

5. These remarks refer to minefields in the vicinity of the base, but there is, of course, every probability that mines will be laid across the presumed track of the fleet to the southward, in addition to the minefield near the base.

6. If the *King Edward VII* was lost by striking a mine, it is, in my opinion, most probable that the mines were laid owing to information having been given by neutral vessels, or by enemy agents in the vicinity of Thurso, that the area to the westward of the Orkneys was being used by the fleet, or by squadrons, as an exercise ground; and I should expect that the mines were laid, not by a submarine, but by a regular minelayer, which, in all probability, passed up the west coast of Norway, and well to the northward of Muckle Flugga, coming down between the Faroe Islands and the Shetlands, where the enemy is well aware we do not keep patrol vessels owing to the submarine menace. The recent severe weather would favour the operation as the small yachts and trawlers employed in this area were unable to maintain a constant patrol.

7. The question for consideration is how the fleet is to be safeguarded on leaving the bases, and on passage south, and in view of the heavy loss which might well be sustained should the fleet run into a minefield, no question of more pressing importance can be conceived.

8. In the first place, I must again point out, the totally inadequate number of minesweeping vessels attached to the fleet. The gunboats are quite unfit to encounter anything but fine weather at sea until their steel upper decks have been renewed. They are, in fact, unseaworthy. The sloops can sweep in fine weather, but their numbers are quite insufficient for that constant sweep of the approaches to the bases which it is essential to maintain if the fleet is to be ready to move at short notice. It is quite useless sending the sweepers out when information reaches me which necessitates a move. The speed at which sweeping can be carried out does not admit of any sort of arrangement of sweeping ahead of the fleet. Channels must be kept constantly cleared, and a narrow channel is of no use. A channel must be 15 to 20 miles wide if the fleet is to leave at night in reasonable time, which process necessitates several separate tracks for the different squadrons, as with such a large number of ships working without lights, it is essential for safe navigation that squadrons should proceed by different routes which are separated from each other by quite 5 miles, otherwise there is danger of collision, more especially as in the long nights a large alteration of course to the southward has to be made before daylight. Given reasonable weather, the only way to maintain a constant search of fleet routes from the bases is an adequate number of sweepers, omitting the gunboats, which, as stated, are unseaworthy.

9. There are now nine sloops attached to the Grand Fleet, of which up to the present we have never had more than six available at the base. There are no fleet minesweepers at the Rosyth base.

10. My considered opinion is that the *minimum* number of seaworthy vessels required for the two northern bases is 24, and it is my duty to inform Their Lordships that it is not possible in any way to guarantee that the fleet can reach southern waters without incurring risks of very heavy loss, UNLESS THIS NUMBER IS PROVIDED.

11. This deals with the question of sweeping, but as pointed out earlier, weather conditions are very frequently such as to entirely prevent any sweeping operations being carried out.

12. Under these conditions, the only remedy that appears to be possible is the provision of minebumping vessels. This arrangement has, it is understood, already been adopted by the Germans. Seeing that the German fleet never has occasion to move except at its *selected* moment, and can therefore ensure suitable sweeping weather before it is decided to make the move, whereas the British fleet has to be ready to move at *any* moment whatever the conditions may be, it is quite obvious that the provision of such craft as minebumping vessels, and any other device which can be employed to discover minefields in all weather, are far more necessary for us than for our enemies.

13. There is no doubt that a few vessels of this description, even up to a number of four, would be of incalculable value in giving early indication of the presence of a minefield when leaving the base, and, in fact, so long as the vessels are capable of maintaining a reasonable speed, they could work down over the routes for some little distance ahead of the fleet, such distance depending upon the speed of which they are capable. It is, of course, necessary that the vessels shall be of deep draft, but probably a draft of 25 feet would be sufficient.

14. It is understood that some of the *Edgar* class have been fitted for this purpose, and if they are no longer essential in the Mediterranean, I would submit that their value here fully justifies their being brought home. If they cannot be spared from the Mediterranean, then I earnestly submit that other vessels should be prepared for this service. Possibly the

Crescent might be used as one, and it is perhaps possible to use some of the vessels of the *Argonaut* class which have been paid off. The smallest possible complement to ensure a speed of, say, 14 knots should be supplied. The fewer men there are on board, the better.

15. I therefore submit the following proposals for careful consideration, observing that in my opinion the recommendations are the least that can overcome the mining menace, and ensure freedom for the fleet under all conditions:—

- (1) That the minesweeping sloops should be brought up to a total number of 24 at the earliest possible moment. The increase should commence *now*.
- (2) That four minebumping vessels should be fitted out, and attached to the Grand Fleet. If it is possible to obtain six such vessels, there is no doubt that two of them should be sent for similar work at Rosyth.

I am, Sir,

Your obedient Servant,

(Signed) J. R. JELICOE,
Admiral.

The Secretary of the Admiralty.

M. 0370. No. 57.

24th January 1916.

Secret.

Sir,

I am commanded by My Lords Commissioners of the Admiralty to acquaint you that they have had under their careful consideration your letter of the 11th instant, No. 111/H.F. 005, relative to the danger to the Grand Fleet from mining operations by the enemy, and the measures to be taken against this menace.

2. The safeguarding of the actual approaches to the northern ports can be improved by increasing the number of sweeping vessels and by constant extended patrol. Both of these measures it is admitted are in the winter months interfered with by bad weather, and paddle-steamers particularly would suffer in the exposed regions round the Orkneys. On the other hand, trawlers, which are good seaboats, should be able to carry out fairly satisfactorily the work of searching for mines and to go far to militate against the fleet being mined in. It is therefore proposed to provide you with 13 more trawlers for sweeping operations on the routes by which the fleet would come out, observing that for this constant daily sweeping, where speed is not of such primary importance, the trawlers would prove quite as efficient sweeping vessels as sloops, while risking much smaller crews.

3. In addition, a plan which is already in trial at four bases on the east coast should be adopted, i.e., by utilising the local tides large areas could be searched by means of drifters with skeleton indicator nets; the meshes being unnecessary can be omitted. Some of the net drifters attached to the northern base can be used for this purpose.

4. None of these methods are, it is recognised, of use for outlying minefields, whose positions may be totally unknown. As regards the chances of the fleet falling in with mines when once well clear of the neighbourhood of its ports, its tracks will be so uncertain that the chance of the minelayers hitting on the right one is not great. The best safeguard against outlying minefields is the constant stream of neutral traffic which crosses the North Sea, which soon locates dangerous areas.

5. When the fleet is ordered out for service, sweeping ahead with any kind of vessel will usually be impracticable, as the fleet will generally have to proceed at a high speed. It should be pointed out, however,

that one of the main duties of the six sloops detailed for service under the Admiral of Minesweeping will be to safeguard the principal track of the Battle Cruiser Fleet, and also to determine the limits of outlying minefields in the neighbourhood of this track. In the event of an engagement in the North Sea, the Battle Fleet, as well as the Battle Cruiser Fleet, will benefit by this work. Of these six sloops, four have been delivered and will commence work immediately; the other two will be delivered shortly.

6. It is proposed to allocate (when ready) to the Grand Fleet four new sloops, which it had been intended to detail to join the 1st Sloop Flotilla to replace vessels already detached to the Mediterranean. Further sloops might be detached from the 1st Sloop Flotilla to the Grand Fleet in exchange for destroyers from the 1st or 4th Flotilla, but it is not proposed to reduce the small vessels under the orders of the Vice-Admiral, Queens-town, below 12 sloops or destroyers.

7. The only efficient protection seems to lie in some attachment that can be carried by the fighting ships themselves, and progress is being made in two inventions of this character, namely:—

- (1) The paravane protector;
- (2) The high-speed mine sweep ("D" sweep).

8. The paravane protector has been used at speeds up to 25 knots. It deflects mines from the bows and cuts the moorings at a distance of 30 to 40 ft. from the side of a ship. At 15 knots and over it cuts instantaneously; with an improved cutter it will probably do the same at slow speeds.

9. The high-speed mine sweep is a largely improved sweep of the French type. Towed by a light cruiser, protected by paravanes, ahead of the fleet or column, it should indicate at once the presence of a minefield.

10. Their Lordships rely on you to press on with the trials of these inventions in order to decide if they are efficient and worth general adoption.

11. The danger from mines to which you have drawn attention is recognised, and the vessels allocated for the purpose of sweeping are being increased as rapidly as the congested state of labour in the shipyards permits. Until these vessels are available, full use must be made of the trawler-sweepers and other minesweeping vessels under your orders to meet the existing situation. It is not possible to bring the sloops under your orders up to a total of 24 at present.

12. The question of the employment of minebumpers will be examined, but is a more difficult problem than is suggested in your letter. Special vessels fitted as minebumpers could not keep ahead of the fleet, as the minebumping gear would necessarily reduce their speed, and even if used they would give very inadequate protection, as a large fleet cannot keep exactly in the wake of the leader. Owing to their lack of speed they would be a hindrance, and only a very partial safeguard, as they might pass far into a minefield before actually touching a mine.

13. The present bulged cruisers of the *Edgar* class and the large monitors are only partly protected against submarine explosion, and are as vulnerable to mines under the bottom as they were before the bulges were fitted.

14. It may be added that the building of minebumping vessels could not be executed before the end of the year, and would interfere with the progress of war and mercantile construction already in hand.

I am, Sir,

Your obedient Servant,

(Signed) W. GRAHAM GREENE.

The Commander-in-Chief, H.M. Ships and Vessels,
Home Fleets.

APPENDIX N.

ORDERS FOR CRUISE TO NORWEGIAN COAST,
10 MARCH 1916.

SAILING ORDERS—ONE SHIP OF 3RD CRUISER SQUADRON
AND TWO DESTROYERS OF 1ST FLOTILLA.

"Iron Duke,"

10th March 1916.

H.F.S.O. 48.

One ship of the 3rd Cruiser Squadron, accompanied by two destroyers of the 1st Flotilla, is to leave Rosyth at 6 a.m., Monday, 13th March, and proceed direct to Udsire, lat. 59° 20' N, long. 4° 50' E, arriving there at daylight, Tuesday, 14th March.

2. From Udsire, the force is to sweep down the Norwegian coast as far as the Naze (keeping about 10 miles off the land), thence through a position in lat. 57° 0' N, long. 6° 0' E, and thence to Rosyth. The speed of advance is to be 15 knots.

3. The object of the operation is to intercept vessels of hostile or suspicious character and to show the flag off the Norwegian coast outside territorial waters.

4. Every precaution is to be taken against enemy submarines. Boarding is to be carried out by the destroyers, supported by the cruiser; all vessels should keep well before the beam of the vessel being boarded, and except when the boarding boat is being lowered or hoisted, are to steam at high speed on constantly varying courses.

5. Armed raiders may be accompanied by submarines.

6. W/T signals are not to be made except in case of emergency and in reply to Commander-in-Chief's signals.

7. A copy of the orders which are being issued relative to the precautions to be taken by all vessels when boarding merchant shipping, is also enclosed for information.

(Signed) J. R. JELlicOE,
Admiral.

The Rear-Admiral Commanding, 3rd Cruiser Squadron,
The Captain (D), 1st Flotilla.

Copy to:—

The Vice-Admiral Commanding, 3rd Battle Squadron.

APPENDIX O.

QUESTION OF MOVING THE GRAND FLEET TO
THE FORTH, 15 APRIL 1916.

M. 02696/16.

No. 333.

15th April 1916.

Most Secret.

Sir,

I am commanded by My Lords Commissioners of the Admiralty to inform you in reply to your letter No. 681/H.F. 007 of 22nd March 1916 that the proposals of the Commander-in-Chief, Rosyth, for the defence of the anchorage east of the Forth Bridge have been carefully considered at a recent conference at the Admiralty.

2. The Commander-in-Chief, Rosyth, the Major-General Commanding Forth Defences, and Major-General Shaw, C.B., from General Headquarters, Home Forces, were present, and the proposals were agreed to generally, and steps have been taken to give them immediate effect.

3. When the anchorage has been rendered secure it will then be possible to base a largely increased proportion of the Grand Fleet on the Forth. This will have undeniable advantages, especially in the case of the smaller vessels whose fuel endurance renders their employment in the southern portion of the North Sea a matter of considerable anxiety under existing circumstances when they have to start from more northern bases.

4. Up to the present our naval strategy has consisted in sweeps by Grand Fleet vessels in the northern portion of the North Sea, mining and seaplane operations by the Harwich Force, supported on some occasions by Grand Fleet squadrons, and the concentration of the fleet for operations against the High Sea Fleet when we have been aware that it has put to sea.

5. The latter operation has never been productive, but the repetition of these concentrations is justified by the possibility of the German fleet carrying out raids and bombardments on our east and south-east coasts; from these, however, we have been free for the last year.

6. Besides submarines, there is nothing under existing dispositions, except moral effect, to prevent such aggressions, nor is there any adequate force on the east coast to prevent German flotillas rounding up our coast patrols and merchant shipping by a surprise sweep along our coasts, and it is remarkable these are not carried out—unless the enemy are unaware of our naval dispositions, and fear the menace of our submarines or their own minefields, which have been so plentifully scattered in our home waters.

7. These considerations all tend to the necessity of basing a larger proportion of our naval forces further south to be nearer the enemy when he puts to sea, and to afford him less time for offensive action on our coasts.

8. The gradual increase in the number of new destroyers will presently admit of the 4th Flotilla being based on the Humber, and this will enable the 3rd Battle Squadron and some cruisers to be based there also. It is recognised that there are difficulties in large ships leaving the Humber during the ebb tide, but even if some delay has to be accepted in getting the ships to sea, there is a considerable saving in time due to the ships being further south, and it is not always ebb tide.

9. The fact of battleships being based on the Humber will necessitate the enemy supporting a raid with battleships, and it is to our advantage to draw his battleships as near our coast as possible, both to enable our submarines to act against them and to give our forces from the Forth and the north more time to intercept them while returning.

10. The necessary complement to basing the 3rd Battle Squadron in the Humber is to base a proportion of the Dreadnought battlefleet in the Forth with all the flotillas and light cruisers which are not essential to the battle squadrons remaining at the northern bases.

11. Such a disposition will render it necessary for the enemy to be very cautious in attempting any offensive against our coasts unless he brings his whole Dreadnought strength to the vicinity of our coast and accepts the risk of its incurring losses by mines and submarines. Should his return be delayed by losses or other unforeseen event, a favourable opportunity might be afforded for intercepting him.

12. Pending the completion of the Forth defences, which will take some time, a reorganisation of the fleet should be considered which would best meet these requirements.

13. The possibility of diverting neutral merchant ships altogether from the Forth is being inquired into, and the improvement of the Humber defences is being considered.

I am, Sir,
Your obedient Servant

The Commander-in-Chief, H.M. Ships and Vessels,
Home Fleets.

APPENDIX P.

ORDERS FOR OPERATION L, 18 APRIL 1916.

"Iron Duke,"
18th April 1916.

H.F. 0022/310. Memorandum.

OPERATION "L."

The Vice-Admiral Commanding, 2nd Battle Squadron, is in general charge.

Forces taking part—

2nd Battle Squadron (less *Revenge*), with *Castor* and 12 destroyers of 11th Flotilla.

2nd Battle Cruiser Squadron, with four destroyers of the 13th Flotilla and two of the 1st Flotilla.

2nd Light Cruiser Squadron from Rosyth.

Carysfort and half 4th Flotilla from Scapa.

Three submarines from Blyth.

Two submarines from Harwich.

2. Object of the Operation.

- (a) To intercept shipping carrying contraband outside territorial waters in the Kattegat.
- (b) To attack enemy forces which may be sent out from the North Sea and Baltic ports on receipt of news of our destroyers operating in the Kattegat.
- (c) To draw out enemy forces.

3. The lettered positions referred to in the following orders are as follows:—

Position "A."	30 miles, 180° from the Naze.
"B."	40 miles, 240° from the Naze.
"C."	Lat. 57° 30' N, long. 7° 30' E.
"D."	" 57° 42' N, " 2° 30' E.
"E."	" 56° 20' N, " 11° 6' E.
"F."	" 56° 35' N, " 11° 15' E.
"G."	" 56° 44' N, " 12° 0' E.

4. The three submarines from Blyth are to sail in time to arrive at positions "E," "F" and "G" respectively at daylight on Saturday, 22nd instant, passing through position "D" en route to clear the area in which D.7, D.8 and G.2 are operating.

They are to remain in this position until dark on Sunday, 23rd, when they are to proceed to suitable positions in the vicinity of the Skaw to intercept enemy vessels passing north or south, where they are to remain until dark on Monday, 24th, after which they are to return to Blyth by the same route.

5. The two submarines from Harwich will sail in time to be off the Jutland Bank before daylight on Saturday, 22nd instant, keeping south of lat. 57° 0' N.

They will remain until dark on Sunday, 23rd, after which they will proceed to the southward in accordance with orders issued by the Admiralty.

6. The *Carysfort* and two divisions of the 4th Flotilla are to leave Scapa at 2 p.m. on Thursday, 20th instant, and proceed to position "A," which they are to reach at 8 p.m., 21st, passing through lat. 38° N, long. 5° E, and thence steering to arrive to the eastward of the Skaw at 4 a.m. on Saturday, 22nd.

Care is to be taken to economise fuel to the utmost extent.

On arrival to the eastward and in sight of the Skaw, they are to sweep to the southward into the Kattegat, intercepting and boarding all suspicious vessels met outside territorial waters, particularly those bound to the southward, and are to turn to the northward in time to rendezvous at a position on a line 45 deg. from the Skaw at 10.30 a.m., but out of sight of land. From thence they are to proceed to the westward, and rendezvous with the 2nd Battle Cruiser Squadron at position "C" at 6 p.m., subsequently joining the 2nd Battle Squadron.

7. The 2nd Light Cruiser Squadron is to leave Rosyth at about midnight, 20–21st instant, and passing through position "D," is to arrive at position "A" at 1 a.m. on 22nd instant.

From thence the squadron is to sweep to the eastward, adjusting courses and speeds to arrive to the north-eastward of the Skaw at 10 a.m., passing sufficiently close to ensure being sighted.

The squadron is then to return to the westward, passing out of sight of the Skaw, and is to rendezvous with the 2nd Battle Cruiser Squadron at 6 p.m. in position "C."

This squadron is not intended to board vessels, but to support the destroyers in the Kattegat in case of attack by light cruisers.

8. The 2nd Battle Cruiser Squadron, screened by four destroyers of the 13th Flotilla and two of the 1st Flotilla, is to leave Rosyth at 5 a.m. on Friday, 21st instant, and passing through position "D," proceed to "A," arriving there at 6 a.m., 22nd instant. This squadron is then to turn to position "B" and to join the 2nd Battle Squadron.

9. The 2nd Battle Squadron (less *Revenge*), screened by *Castor* and 12 destroyers of the 11th Flotilla, is to leave Scapa at 8 a.m., Friday, 1st, and passing north of position "D" proceed to position "B," arriving there at 6 a.m., Saturday, 22nd instant. The force is then to steer towards position "A" to sight the 2nd Battle Cruiser Squadron, and the two squadrons are to cruise in company, with the 2nd Battle Cruiser Squadron

spread to the southward, to the northward of lat. 57° 20' N, and between the meridians of long. 5° E and 8° E, until 6 p.m., at which hour the 2nd Battle Cruiser Squadron is to be in position "C" to meet the 2nd Light Cruiser Squadron and half of the 4th Flotilla.

10. At 6 p.m. the battle squadron and Scapa destroyers are to proceed to Scapa, the remainder of the forces to Rosyth.

The Rosyth force is to pass through position "D," the Scapa force to the northward of it.

Destroyers are to be detached to their bases separately, should lack of fuel necessitate this.

11. W/T silence is to be maintained up to 3 p.m. on the 22nd, except in cases of emergency. Between 3 p.m. and 8 p.m. it is desirable to make use of wireless signals to endeavour to draw out the German ships.

12. It is desirable to conceal the withdrawal of the destroyers and light cruisers from the Skagerrak, as it is desired to draw out enemy forces over the submarines.

13. Submarines D.7, D.8 and G.2 are operating in the area enclosed between the lines joining the following positions until dark on Sunday, 23rd instant, and all vessels are to give them a wide berth:—

Position 1.	56° 22' N, long. 5° 4' E.
" 2.	57° 10' N, long. 4° 10' E.
" 3.	57° 30' N, long. 2° 55' E.
" 4.	56° 40' N, long. 3° 50' E.

14. If making Scapa during dark hours the forces returning to this base are to approach the Pentland Skerries on a bearing 114 deg.

(Signed) J. R. JELlicOE,
Admiral.

The Flag Officers and Officers in Command of H.M. Ships of the 2nd Battle Squadron, 2nd Battle Cruiser Squadron and 2nd Light Cruiser Squadron.

The Flag Officers Commanding, 3rd Battle Squadron, Battle Cruiser Fleet and 3rd Battle Cruiser Squadron.

The Captains (D), 1st, 4th and 11th Flotillas.

The Commanding Officer, H.M.S. *Titania*.

Telegram.

From Admiralty to Captain (S).

18th April 1916,
5.45 p.m.

354.

Two submarines should be sent to Jutland Bank to arrive before daylight, Saturday, 22nd April. A British squadron will be off Skagerrak on Saturday or Sunday, and submarines should attack any German ships which may be attracted north; they should not go north of lat. 57° N, and should be careful not to attack British vessels. After nightfall, Sunday, 23rd April, they should cruise between lat. 55° N and lat. 56° N, and observe German movements in the vicinity of Lister Deep and Horn Reefs, information in similar cases required as to number and composition of German patrols and their movements, also as to localities in use by fishing vessels, and whether Horn Reefs and Vyl Shoal Light Vessels are still burning, and any other information which would be of use for further operations. Movements of aircraft sighted should be recorded. They should leave their cruising ground in time to arrive back at their base by noon,

29th April, and all information should be telegraphed on arrival to Commander-in-Chief, Grand Fleet, and Admiralty. Returning submarines are not to make report by W/T, but wait until they reach harbour.

Addressed to Captain (S).

Repeated to Commander-in-Chief, Home Fleets.

Acknowledge. (1656.)

"Iron Duke,"
20th April 1916.

H.F. 0022/313. Memorandum.

Secret.

OPERATION "L."

The following amendments and additions are to be made to Memorandum H.F. 0022/310 of 18th April.

2. The 4th Light Cruiser Squadron is to accompany the 2nd Battle Cruiser Squadron and to be detached to meet the 2nd Battle Squadron in position "B" at 6 a.m., 22nd, remaining with 2nd Battle Squadron during the day and joining 2nd Battle Cruiser Squadron at 6 p.m., for return to Rosyth.

3. The 2nd Battle Squadron, with 4th Light Cruiser Squadron, is to sweep southward to about lat. 56° 20' N, long. 6° 20' E by noon, then returning to position "C," keeping well clear of Harwich submarines, which have been ordered to keep east of long. 7° E during daylight hours on Saturday, 22nd April. The 2nd Battle Cruiser Squadron will not be required to meet 2nd Battle Squadron, but is to cruise off the entrance to the Skagerrak to support the 2nd Light Cruiser Squadron till required at position "C."

4. The 3rd Battle Cruiser Squadron and 3rd Light Cruiser Squadron and available destroyers are to leave the base so as to meet Vice-Admiral, Battle Cruiser Fleet, in lat. 56° 10' N, long. 4° E at noon on 22nd, timing their departure so that speed may be moderate during dark hours to economise fuel in destroyers.

5. The Vice-Admiral, Battle Cruiser Fleet, will then sweep towards Horn Reefs till about 3 p.m. and then return to base. A narrow front is desirable while passing near the submarines mentioned in para. 13, as they may be out of position somewhat.

(Signed) J. R. JELlicOE,
Admiral.

The Flag Officers and Officers in Command of Ships of 2nd Battle Squadron.

The Vice-Admiral Commanding, Battle Cruiser Fleet.

The Captain (D), 11th Flotilla.

"Iron Duke,"
20th April 1916.

H.F. 0022/315. Memorandum.

Secret.

TO BE DESTROYED WHEN COMPLIED WITH.

Should the weather on the 22nd instant be such as to prevent the torpedo boat destroyers keeping up with the 2nd Battle Squadron, the movements of this squadron should be modified, by passing from position "B" through position "A," thence to lat. 56° 45' N, long. 6° 0' E, thus cutting across probable submarine routes at a sharper angle. Some of the light cruisers should be used as a submarine screen in this event.

(C8899)

U

2. H.M.S. *Royalist* will accompany the 2nd Battle Squadron, and is to return to Scapa with the squadron.

The torpedo boat destroyers should be kept in the vicinity of the squadron, following at a safe speed, if this is possible.

The Vice-Admiral Commanding, 2nd Battle Squadron, should inform the Vice-Admiral Commanding, Battle Cruiser Fleet, that he is modifying his movement if this is done.

The Vice-Admiral Commanding, Battle Cruiser Fleet, will not answer if he considers it undesirable and will himself, of course, be guided by weather conditions.

(Signed) J. R. JELlicoe,
Admiral.

The Vice-Admiral Commanding,
2nd Battle Squadron.

The Vice-Admiral Commanding,
Battle Cruiser Fleet.

(Copy to each.)

APPENDIX Q.

ORDERS FOR OPERATION XX, 30 APRIL 1916.

"Iron Duke,"
30th April 1916.

H.F. 0022/322. Memorandum.

Secret.

OPERATION "XX."

Forces taking part—

Available squadrons of the Grand Fleet from Scapa and Rosyth.

Four submarines from Blyth and six from Harwich.

Minelayers *Abdiel* and *Princess Margaret*.

Seaplane carriers *Vindex* and *Engadine*.

2. Object of the Operation.

To mine the northern exit of the German fleet from the Amrum Channel in the neighbourhood of the Vyl Lightship.

To mine the southern exit of the German fleet at the seaward end of the channel leading out of Heligoland Bight near the Borkum Riff.

To attack the Zeppelin sheds at Tondern with twelve to fourteen seaplanes.

To draw the German fleet over the minefields, and bring it to action, if it appears.

3. Date on which the Operation is to take place.

To take place a.m. on 4th May. Should circumstances necessitate a postponement, the dates of sailing, etc., are to be adjusted accordingly.

4. Orders for the Harwich submarines and *Princess Margaret* will be issued by the Admiralty.

The detailed orders for the remaining forces will be issued by the senior officers of the forces taking part at each base, copies of which are to be sent to the Commander-in-Chief as soon as possible.

5. The minefield off the Vyl Lightship is to be laid by the *Abdiel* between 12.30 a.m. and 1.30 a.m. on the morning of 4th May.

The *Abdiel* is to sail at 9 p.m. on 2nd May and, after passing the Pentland Skerries, steer 114 deg. until clear of the Moray Firth mine area,

when course is to be shaped for the Horn Reefs Light Vessel, speed being adjusted to arrive eight miles 180 deg. from the Vyl Light Vessel at 12.30 a.m. on the 4th May. As it is very undesirable to be much to the eastward of long. 5° E before dark, owing to the probability of vessels being sighted by aircraft or by enemy lookout trawlers, a speed of 20 knots is to be maintained after 8 p.m. on Wednesday, 3rd May.

The mines are to be laid from the point eight miles 180 deg. from the Vyl Light Vessel in a mean direction 180 deg. on two wide zigzags, and are to be well spread at irregular intervals, approximately ten mines to the mile. The mines are to be adjusted to a depth of twenty feet, L.W.O.S.

On completion the *Abdiel* is to proceed to join the battlefleet in lat. 56° 30' N, long. 6° 15' E, at 8 a.m., 4th May. When proceeding to the northward, after laying the minefield, she is to steer 300 deg. for the first thirty miles in order to clear the Harwich submarines, and is to steam at least twenty knots for the first hour, but is not to pass to the northward of the latitude of the Horn Reefs Light Vessel until daylight unless she is being chased by enemy vessels.

In the event of being sighted by, and unable to avoid, enemy patrols, and if the officer commanding the *Abdiel* considers that there is no chance of the mines being laid unobserved, he is to withdraw to the north-westward, keeping clear of the other forces until daylight, and then to join the Commander-in-Chief. No wireless signal is to be made unless attacked by superior enemy forces which she is unable to evade or beat off, except as laid down in para. 15.

6. The minefield off the southern exit from the Heligoland Bight is to be laid by H.M.S. *Princess Margaret*, between midnight and 2 a.m. on 4th May. Detailed orders will be issued by the Admiralty.

Commodore (T) is to detach two destroyers from Harwich to proceed to the Humber in time to complete with fuel and sail as escort to *Princess Margaret*.

On completion of the operation the *Princess Margaret* and escort are to return direct to the Humber.

7. The air raid on the Tondern sheds is to be conducted by the Commodore Commanding, 1st Light Cruiser Squadron, under the orders of the Vice-Admiral Commanding, Battle Cruiser Fleet.

The force is to consist of *Vindex*, *Engadine*, 1st Light Cruiser Squadron and 16 destroyers of the 1st Flotilla, and is to leave Rosyth to arrive at the position for starting the seaplanes at the time ordered by the Vice-Admiral Commanding, Battle Cruiser Fleet, proceeding at moderate speed in order to economise fuel. The following positions are to be passed through *en route* :—

(a) Lat. 55° 45' N, long. 2° 0' E.

(b) " 56° 00' N, " 3° 0' E.

(c) " 56° 15' N, " 5° 0' E.

8. The Battle Cruiser Fleet, screened by the remaining destroyers of the 1st and 13th Flotillas, with sufficient destroyers from Scapa to make the number up to eight, is to sail at daylight on Wednesday, 3rd May, to support the 1st Light Cruiser Squadron. The Battle Cruiser Fleet (less the 1st Light Cruiser Squadron) is to arrive in approximately lat. 56° 0' N, long. 6° 40' E, at 5 a.m. on the 4th May, with the light cruisers ahead.

After leaving Rosyth the Battle Cruiser Fleet is to stand to the north-eastward and, when well clear of the land and of the trade routes from the Skagerrak, the Vice-Admiral Commanding may, at his discretion, detach the destroyers to proceed at moderate speed to a 4 a.m. rendezvous on the 4th.

The Battle Cruiser Fleet is then to proceed at high speed, keeping to the northward until time to proceed to the support of the 1st Light Cruiser Squadron, passing through a position in lat. 58° 5' N, long. 4° 40' E, *en route*.

The courses for the forces from Rosyth are arranged so that if sighted during daylight on 3rd by enemy submarines or disguised patrol vessels, or by neutrals in German employ, their destination may not be apparent.

9. The forces from Scapa will sail in time to arrive in lat. $56^{\circ} 30' N$, long. $6^{\circ} 15' E$, at about 8 a.m. on Thursday, 4th May, and will pass through a position in lat. $59^{\circ} 05' N$, long. $3^{\circ} 50' E$, about 8 p.m., 3rd, thence steering for the 8 a.m. rendezvous.

10. Three submarines from Harwich will be stationed in the vicinity of Terschelling. Orders for them will be issued by the Admiralty.

Three more are to sail in time to make the Horn Reefs Light Vessel before dark on Wednesday, 3rd May. Two are then to spread on a line 270 deg. from Vyl Light Vessel, keeping outside the 20-fathom line until 2 a.m., and are to be in positions eight and fifteen miles respectively from the Vyl Light Vessel by 4.30 a.m., 4th May.

The third is to lie on the bottom between Graa Deep and the Vyl Light Vessel during the dark hours to keep clear of *Abdiel*, and is to watch the passage between these two lightships after daylight, 4th May.

The detailed orders for the Harwich submarines will be issued by the Admiralty.

11. Four submarines of the 11th Flotilla are to leave Blyth in time to be in position off the Horn Reefs Light Vessel at 6 a.m. on Thursday, 4th May.

One submarine is to watch the passage between the Horn Reefs Light Vessel and the buoy on the west edge of the Horn Reefs, keeping slightly to the northward of the line. The remaining submarines are to be on a line 270 deg. from the light vessel, spread seven miles apart, the easternmost submarines being five miles from the light vessel.

12. The Harwich and Blyth submarines are to remain in or near their position until dark on 5th, when the Blyth submarines are to return to their base, passing north of Mine Area I. The Harwich submarines will proceed in accordance with Admiralty orders.

13. It is of the utmost importance to maintain wireless silence, except for reporting enemy movements and in cases of great urgency and as laid down in para. 15.

14. *Special Instructions in the event of Fog.*

If fog is encountered and the weather is so thick as to prevent any unit taking part from reaching its assigned position at the time ordered, or is too thick for the air operation to be effective, the following procedure is to be adopted:—

Abdiel.—If *Abdiel* is to the eastward of long. $6^{\circ} E$ she is to turn and proceed through a position in lat. $55^{\circ} 45' N$, long. $5^{\circ} 50' E$, and from thence steer 293 deg.; after passing this position she is to report her abandonment of the operation by the special W/T procedure laid down in the attached sheet.

When to the westward of long. $3^{\circ} 30' E$ *Abdiel* is to exchange positions, course, and speed with the Commodore Commanding, 1st Light Cruiser Squadron, and proceed to Scapa.

Force under the Commodore Commanding, 1st Light Cruiser Squadron. If to the eastward of long. $50^{\circ} E$ the force is to alter course to 293 deg., and the Commodore Commanding is at once to report his abandonment of the operation to the Commander-in-Chief by the special W/T procedure attached.

When to the westward of long. $3^{\circ} 30' E$ the force is to return to Rosyth, informing *Abdiel* of its position and future movements when west of this meridian.

The *Battle Cruiser Fleet* is to alter course to 300 deg. and report to the Commander-in-Chief by the special W/T procedure attached.

15. *W/T Instructions in the event of Fog.*

In the event of fog necessitating the abandonment of the operation, W/T message is to be made *on power on the Admiral's wave* in accordance with the instructions contained in the inclosure. Special groups are allotted for this purpose, and they are *only to be employed for this particular message*.

16. A report has been received from the Captain (S), dated 29th April, that submarines which returned from Horn Reefs report that Lynvig, Horn Reefs, Vyl, Graa Deep, and Blaavand lights are burning.

Trawlers were seen and believed to be patrolling in lat. $55^{\circ} 50' N$, long. $7^{\circ} 10' E$; lat. $55^{\circ} 50' N$, long. $7^{\circ} 30' E$, and lat. $55^{\circ} 7' N$, long. $8^{\circ} E$. It is desirable to sink any patrol trawlers that are encountered, provided the main operation is not prejudiced by so doing.

A fishing fleet was working between Horn Reefs and lat. $55^{\circ} 8' N$, and a few drifters north of Horn Reefs, all east of long. $7^{\circ} 30' E$.

A Zeppelin was seen at 8.30 a.m., 25th April, and during the afternoon of 26th April, south of Vyl Shoal Light Vessel. A seaplane was over Horn Reefs at 4.15 a.m., 26th April.

17. The Daily Aeronautical Report, No. 43, dated 24th April, states that there is a battery of 88-mm. (3.4-in.) anti-aircraft guns situated at Abel (three miles north of Tondern).

(Signed) J. R. JELlicOE,
Admiral.

The Flag Officers and Commodores of the Grand Fleet.

The Captains (D) and Half-Flotilla Leaders of the 1st, 4th, 11th, 12th and 13th Flotillas.

The Captains of H.M. Ships *Titania* and *Abdiel*.

(Copies to Chief of War Staff, Admiralty, and Captain (S), *Maidstone*.)

(Not issued to V.A., 3rd B.S., and R.A., 3rd C.S.)

(Inclosure in Memorandum H.F. 0022/322 of 30th April 1916.)

W/T INSTRUCTIONS IN THE EVENT OF FOG.

Special Groups to be employed.

From Commander-in-Chief to Forces concerned—	
Operation abandoned owing to fog	P K G
From <i>Abdiel</i> to C.-in-C., S.O., B.C.F., and S.O., 1st L.C.S.—	
I have abandoned operation owing to fog	P K J
From S.O., B.C.F., to C.-in-C., S.O., 1st L.C.S., and <i>Abdiel</i> —	
I have abandoned operation—owing to fog	P K Q
From S.O., 1st L.C.S., to C.-in-C., S.O., B.C.F., and <i>Abdiel</i> —	
I have abandoned the operation owing to fog	P K X
From Commander-in-Chief to Forces concerned—	
Operation abandoned owing to bad weather	P K P
From <i>Abdiel</i> to C.-in-C., S.O., B.C.F., and S.O., 1st L.C.S.—	
I have abandoned the operation owing to bad weather	P K V
From S.O., B.C.F., to C.-in-C., S.O., 1st L.C.S., and <i>Abdiel</i> —	
I have abandoned the operation owing to bad weather	P K Y
From S.O., 1st L.C.S., to C.-in-C., S.O., B.C.F., and <i>Abdiel</i> —	
I have abandoned the operation owing to bad weather	P K Z

Form of Message.

The message is to be sent on power on the Admiral's wave in the following form, and care is to be taken that the transmission by W/T is exact.

Abdiel transmitting:—

VE PKJ II PKJ VE

S.O., 1st L.C.S. transmitting:—

VE PKX II PKX VE

The "Time of origin" is *not* to be transmitted and the message will *not* be answered.

"Iron Duke,"
1st May 1916.

H.F. 0022/323. Memorandum.

OPERATION "XX."

The following alterations and additions to memorandum H.F. 0022/322 of 30th April 1916 are communicated for information and guidance.

2. The mines are to be adjusted to a depth of 15 feet L.W.O.S., instead of 20 feet as previously ordered in para. 5, last line on sheet 1.

3. Add to paragraph 5.

In the event of being interfered with by patrol vessels or should circumstances prevent the *Abdiel* from being certain of the exact position from which to commence laying the mines, she is to proceed to lay them in the area bounded by the following lines:—

- (a) Parallel of lat. 55° 10' N.
- (b) Parallel of lat. 55° 0' N.
- (c) Meridian of long. 7° 10' E.
- (d) Meridian of long. 8° 0' E.

(Signed) J. R. JELlicOE,
Admiral.

The Officer in Command,
H.M.S. *Abdiel*.

"Iron Duke,"
2nd May 1916.

H.F. 0022/324. Memorandum.

Secret.

OPERATION "XX."

The following modifications to the cruising dispositions L.S.1 and L.S.2 are to be made to avoid the risk of having to use W/T owing to the cruisers getting out of visual touch.

2. In the Cruiser Disposition Diagrams L.S.1 and L.S.2, the position "C" is to be moved to "X," i.e., right ahead of the fleet flagship, the other letters being correspondingly moved a half interval to the right.

3. On clearing Pentland Skerries.

Cruisers are to take up disposition L.S.1-15 in the order:—

A.—*Minotaur*. B.—*Hampshire*. C.—*Shannon*.
Achilles.
2 T.B.D.s.
D.—*Cochrane*. F.—*Duke of Edinburgh*. G.—*Defence*.

Positions to be five miles apart or in visual touch if visibility is less than five miles.

Before sunset the Vice-Admiral Commanding, 2nd Cruiser Squadron, is to order the cruisers to form into squadrons five miles apart at positions:

B.—*Minotaur*. C.—2nd Cruiser Squadron. D.—1st Cruiser Squadron

and *Hampshire* and the two destroyers to take station ten miles ahead of *Shannon*.

The centre of screen is to bear 153 deg. from battlefleet.

The bearing of ships on the screen to be 90 deg. and 270 deg.

The *Hampshire* and destroyers are to gain their new station by increasing speed $1\frac{1}{2}$ knots beyond the speed of the battlefleet, the destroyers forming astern of *Hampshire* before dark.

Hampshire's duties will be to clear merchant vessels and trawlers from the course of the battlefleet. (See page 39, Section XXII(b) of the Grand Fleet Battle Orders.)

At daylight the Vice-Admiral Commanding, 2nd Cruiser Squadron, is to spread the remaining cruisers in L.S.1-15 in the order:—

A.—*Minotaur*. B.—*Cochrane*. C.—*Shannon*.
Achilles.

D.—*Duke of Edinburgh*. F.—*Defence*.

Five miles apart, or less, if visibility is below five miles.

The *Hampshire* and destroyers are to drop back so as to be in visual touch with *Shannon* by 8 a.m., 4th May, and in the absence of further orders *Hampshire* is to take station astern of *Minotaur* and the two destroyers are to join the *Shannon*.

4. The Commodore (D) is to detail the two destroyers mentioned in para. 3, as necessary.

5. The order of sailing of the Cruiser Squadrons is to be:—

1st to leave—7th C.S. Route "A" } in one group.
2nd to leave—2nd C.S. Route "B" }
3rd to leave—1st C.S. Route "C"

(Signed) J. R. JELlicOE,
Admiral.

The Flag Officers Commanding, 1st, 2nd
and 7th Cruiser Squadrons.

The Commodore (D).
(Copy to each.)

H.M.S. "*Maidstone*,"
26th April 1916.

No. 00111.

Secret.

OPERATION "XX"—SUBMARINE ORDERS.

1. Submarines *E.55*, *E.37* and *D.6* are to leave at 9 a.m. on the morning previous to the day of operations, to patrol in the following positions, where they are to arrive before dawn:—

E.55—6 miles north of position of Terschelling Bar Light Vessel.
E.37—6 miles SW by W of position of Terschelling Bar Light Vessel.
D.6—12 miles WNW of position of Terschelling Bar Light Vessel.

2. The *Princess Margaret* will be laying mines between midnight and 2 a.m. on the morning of the operations between lat. 53.52½ N and lat. 54.17 N, to the eastward of the meridian of 5.46 E.

3. Submarines *E.53*, *E.31* and *E.29* are to leave at 10 a.m. two mornings previous to the day of operations, and are to make Horn Reefs Light Vessel before dark the next day.

They will be accompanied by a destroyer as far as lat. 53° N, which will remain there until the submarines have proceeded a further 100 miles, so that they can be informed if the operations are postponed.

E.53 is then to proceed to between Graa Deep and Vyl Light Vessels, lying there during the night and watching the passage between these two light vessels after daylight.

E.31 and *E.29*, after making Horn Reefs, are to keep outside the 20-fathom line until 2 a.m., and are then to spread on a line 270 deg. from Vyl Light Vessel, *E.31* being 15 miles, and *E.29* 8 miles from it by 4.30 a.m.

4. The *Abdiel* will lay mines between 12.30 a.m. and 1.30 a.m. on the morning of the day of operations from a position 8 miles 180 deg. from the Vyl Light Vessel in wide zigzags in a mean direction of 180 deg. After laying mines she will steer 310 deg. for 30 miles, so as to avoid the submarines.

5. Submarines from Blyth will be spread on a line 270 deg. from Horn Reefs by 6 a.m. on the day of the operations.

6. An air raid will take place during the early morning in the direction of Lister Deep. Submarines, particularly *E.53*, should keep a careful lookout for disabled seaplanes.

7. Various British squadrons will be in the vicinity, and it is possible that German vessels may be drawn north.

8. Submarines are to remain on their stations, circumstances permitting, until dusk on the day following that on which the operation is carried out, and are then to return to Harwich.

CAPTAIN (S).

The Commanding Officers,
H.M. submarines concerned.

Secret.

OPERATION "XX"—ORDERS FOR *PRINCESS MARGARET*.

1. Having arrived at the Humber by noon on 2nd May, *Princess Margaret* and the two destroyers attached to her should complete with fuel.

2. *Princess Margaret* should leave the Humber with her destroyers in time to arrive at lat. 53.52½ N, long. 5.55 E, at about midnight on 3rd May 1916, or slightly before then.

3. The destroyers should be detached after dark, and arrangements made for *Princess Margaret* rejoining them after daylight on 4th May 1916.

4. On reaching the position ordered in para. 2, mines should be laid within the space outlined in blue on the enclosed Chart S.02.

5. The course within the space should be as devious as possible, having regard to the time available, and the mines should be laid irregularly to render their location by the enemy difficult.

6. It is desired that the mines should be laid at a depth of over 15 ft. below L.W.O.S., and less than 20 ft. below L.W.O.S. The actual depth should be arranged by Captain (M), having regard to the fact that it is not desired to have a number of mines on the surface owing to the plummet chain adjustment. If imperative, a less depth than 15 ft. can be accepted.

7. Three submarines will be in positions as follows at daylight on 4th May:—

- 6 miles N (mag.) from position of Terschelling Bar Light Vessel.
- 12 miles WNW from position of Terschelling Bar Light Vessel.
- 6 miles SW by W from position of Terschelling Bar Light Vessel.

8. On completing the operation *Princess Margaret* and destroyers are to return to the Humber.

9. Wireless telegraphy is not to be used for sending unless the enemy are sighted or the ship is in danger and requires assistance between the time of sailing and the time of returning to port, except as follows:— If the operation is successfully carried out the word "successful" should be made in Cypher Q after passing westward of long. 3.0 E.

10. If the Admiralty wish to recall this force owing to movements of enemy ships or for other urgent reasons, the word "Timbuctoo" will be made *en clair*, preceded by *Princess Margaret's* call sign from Ipswich on S wave, and *Princess Margaret* and destroyers are to look out on this wave.

The signal is not to be replied to and will be repeated three times at 5-minute intervals.

The procedure will be again followed half an hour after the last repetition.

11. On the morning of 4th May a portion of the Grand Fleet will be carrying out an operation "XX" near Horn Reefs, but ships will not be anywhere in the vicinity of your track.

12. The receipt of these orders should be acknowledged by land line telegram in cypher.

INDEX OF SHIPS, PERSONS, FORMATIONS AND COMMANDS.

(The Reference is to the Number of Section.)

- Abdiel* (fleet minelayer). Lays mines in Operation XX, 4 May, 156, 157, 159, 160, 164.
- Acacia* (smack). Fired on by submarine, 17 Jan., 48.
- Achilles* (Br. s.s.). Sunk by U.44, 31 Mar., 85.
- Adamton* (Br. collier). Sunk by submarine, 8 April, 86.
- Adele* (armed drifter). In action with armed steamer, 30 Dec., 36.
- Admiral Commanding, East Coast Minesweepers*. Title abolished, 33. See under Charlton.
- Admiral Commanding, Orkneys and Shetlands*. See under Colville.
- Admiral, Dover Patrol*. See under Bacon.
- Admiral of Minesweeping Service*. See under Fitzherbert.
- Admiral of Patrols*. Office of, abolished: title changed to Rear-Admiral Commanding, East Coast of England, 6 Nov., 33. See under Ballard.
- Admiral, Queenstown*. See under Bayly.
- Adventure* (l.c.). In submarine hunt, 28 Dec., 37: based on Queenstown 76: arrives at Kingstown, 25 April, 95.
- Africa* (battleship). Refitting at Belfast, 1 Jan., 38.
- Albemarle* (battleship). Ordered to Mediterranean, 5 Nov., damaged in Pentland Firth, 6-7 Nov., rejoins 3rd Battle Squadron, 9: warned *re* possible submarine attack, May, 171.
- Albion* (battleship). Returning from the Mediterranean, April, 88: sent to Queenstown, 95.
- Albion II* (minesweeper). Mined off Needles Light, Jan., 17.
- Alcantara* (armed merchant cruiser). Sunk by *Greif*, 29 Feb., 69, 115.
- Aleppo* (Br. s.s.). Mined near Sunk Head Buoy, 18 Oct., 13.
- Alert* (fishing smack). (See *Home Waters*, Vol. V, 48.) Skipper of, in *Kestrel*, 56.
- Alexander-Sinclair, Captain Edwyn Sinclair, M.V.O.* (Commodore, 2nd Class). In Operation XX, 4 May, 161, 162.
- Algerian* (Br. transport). Mined near Needles Light, 10 Jan., 17.
- Andes* (armed merchant cruiser). Warned *re* disguised enemy raider, 29 Feb., 69.
- Angelus* (minesweeper). Mined off Dover, 28 Feb., 54.
- Alyssum* (sloop). In 10th Sloop Flotilla, encounters enemy t.b.ds., 10 Feb., 58.
- Anglia* (Br. hospital ship). Mined near Folkestone Gate, 17 Nov., 20.
- Angora* (minelayer). Lays mines in Borkum area, 8 Nov., 11: lays mines between North and South Falls, 16 Oct., 14.
- Arabis* (sloop). In 10th Sloop Flotilla, 58: sunk by German t.b.ds., 11 Feb., 60, 61, 62, 63: effect of loss of, 108.
- Aranmore* (Br. s.s.). Sunk by U.43, 21 Mar., 80, 82.
- Arbonne* (Br. s.s.). Torpedoed by U.B.2, 21 Feb., 56, 96.
- Arcona* (Ger. minelayer). Ready to lay mines in event of raid, 6 Mar., 109.
- Arena* (Nor. s.s.). Sunk off Stavanger, 3 April, 82.
- Arethusia* (l.c.). In sweeps, 30 Sept. and 6 Oct., 4: in sweep across German Bight, 31 Oct., 5: in Operation A.R.H., 18 Jan., 46: missed by two torpedoes, 28 Jan., 47: mined, 11 Feb., 53, 59, 60, 62: no light cruiser available to replace, 63.
- Argyll* (cruiser). Wrecked on the Bell Rock, 28 Oct., 9.
- Aries* (armed yacht). Mined off South Foreland, 31 Oct., 18.
- Arracan* (Br. s.s.). Chased by U.32, 5 Mar., 73.
- Arthur William* (smack). Destroyed by a submarine, 31 Jan., 48.
- Ashburton* (Br. s.s.). Sunk by U.44, 1 April, 85, 86.

- Ask* (Swed. s.s.). Torpedoed without warning, 17 Mar., 101.
- Aud* (Ger. auxiliary). Arrested by *Bluebell*, 21 April, 95: to land arms in Ireland, 21 April, 150.
- Au Fait* (drifter). Sunk by Flanders destroyers, 25 April, 104.
- Au Revoir* (Fr. minesweeper). Torpedoed by U.B.18, 27 Feb., 56.
- Aurora* (l.c.). In sweeps, 30 Sept. and 6 Oct., 4: in sweep across German Bight, 31 Oct., 5: in support of 10th Sloop Flotilla, 21 Feb., 63: in Operation H.R.A., 25 Mar., 118, 119, 121, 122, 124, 125, 126, 127, 128, 129.
- Australia* (battle cruiser). In collision with *New Zealand*, 22 April, 148.
- Avocat* (Br. s.s.). Bombed by German aeroplanes, 30 Oct., 18.
- Bacon, Vice-Admiral Reginald H. S., C.V.O., D.S.O.* Bombards Belgian coast, Sept., 15: urged to extend net drifters to French coast, Oct., 17: at conference on Folkestone-Grisnez boom, 19: his suggestions for dealing with submarine minelayers, 2 Nov., 19: stops sailing of transports, 20: confers with the French, 33: assumes responsibility for sweeping at northern entrance to Downs, 34: requests Admiral de Marliave to keep five torpedo boats at Calais and five at Boulogne, 35: warned *re* hostile air raid, 31 Jan., 49: proposes special route for neutral vessels, 54: on courage of crews of patrol vessels, 54: recalls his auxiliary patrol, 11 Feb., 59: air raid on Ostend and Zeebrugge to be carried out under the orders of, 71: lays "Zareba" off Belgian coast, 24 April-5 May, 104: sends out auxiliary patrol, 6 Mar., 107: contemplates air raid on Zeebrugge, 117: ordered to attack L.15, 31 Mar., 138: Harwich destroyers under his orders, May, 169: on Folkestone Gate, 170.
- Badger* (t.b.d.). Escorting *Undaunted*, 27-28 Mar., 128.
- Balgownie* (Br. s.s.). Bombed by German aeroplanes, 27 Nov., 18.
- Ballard, Rear-Admiral George A., C.B.* (Rear-Admiral Commanding, East Coast of England). His title of Admiral of Patrols abolished, 6 Nov., 33: instructed to let patrol vessels take their chance, 10 Feb., 57: sends vessel to intercept Zeppelins, 4 April, 141: relieved by Admiral Stuart Nicholson, April, 155.
- Baralong* (decoy ship). 65. See *Home Waters*, Vol. V.
- Barham* (battleship). Flagship of new 5th Battle Squadron, 3: collides with *Warspite*, Dec., 28.
- Battle Cruiser Fleet*. See under Beatty. In exercise cruise, 1 Dec., 28: in exercise cruise, 5-8 Jan., 38: does not sail, 30 Jan., 43: ordered to sail, 10 Feb., 57: movements of, after attack on 10th Sloop Flotilla, 11 Feb., 59: in exercise cruise with Grand Fleet, 26 Feb., 64: co-operation of, in Operation H.R.A., 25 Mar., 119, 125: in Operation L, 22 April, 146, 148: *re* basing it further south, 153: in Operation XX, 4 May, 156, 159, 162, 163.
- Battle Cruisers* (Ger.). See under (1st) Scouting Group. Admiral Beatty hopes to meet them, 26 Mar., 125: commanded by Admiral Hipper, Mar., 130: in operations of 4 May, 164.
- Battle Cruiser Squadrons*.
- 1st *Battle Cruiser Squadron*. Supports sweep to Skagerrak, 6 Nov., 10: in Operation L, 22 April, 146, 147.
- 2nd *Battle Cruiser Squadron*. Function of 2nd Light Cruiser Squadron to work with, 25: in sweep to Skagerrak, 27 Jan., 43: in Operation L, 22 April, 146, 150.
- 3rd *Battle Cruiser Squadron*. Supports sweep to Skagerrak, 6 Nov., 10: in Operation L, 22 April, 146, 147.
- Battle Squadrons*.
- 1st *Battle Squadron*. In Operation L, 22 April, 147: in Operation XX, 4 May, 159.
- 2nd *Battle Squadron*. Exercises cancelled, 22 Oct., 8: sighted by U.44, 18 Dec., 36: leaves Cromarty, 6 Mar., 107: in Operation L, 22 April, 146, 147: in Operation XX, 4 May, 159.

Battle Squadrons—continued.

- 3rd Battle Squadron.* Four ships of, ordered to Mediterranean, 5 Nov., 9: at sea after attack on 10th Sloop Flotilla, 11 Feb., 59: at sea, 5-6 Mar., 107: does not go to sea, 26 Mar., 127: *re* basing it further south, 153: moved to Sheerness, 30 April, 154, 169.
- 4th Battle Squadron.* Firing in Cromarty Firth, 20 Dec., 36: at Cromarty, 1 Jan., 38: in Operation L, 22 April, 147: in Operation XX, 4 May, 159.
- 5th Battle Squadron.* In practice cruise, 13-15 Oct., 3: two ships of in collision, Dec., 28: ordered to cover *Undaunted*, 26 Mar., 127: joins *Undaunted*, 27 Mar., 128: in Operation L, 22 April, 147: in Operation XX, 4 May, 159, 164.
- Battle Squadrons (German).*
- 1st Battle Squadron.* At sea, 6 Mar., 107: 26 Mar., 125: ordered to sea, 25 Mar., 130: at sea, 22 April, 147.
- 2nd Battle Squadron.* Protects Bight from raids, 6 Mar., 109: at sea, 22 April, 147.
- 3rd Battle Squadron.* Goes into Baltic for exercises, Jan., 43: at sea, 6 Mar., 107: 26 Mar., 125: supports 2nd Scouting Group, 25 Mar., 130: at sea, 22 April, 147: recalled from the Baltic, 4 May, 164.
- Bauer, Captain* (in charge of German submarine service). Cruises in U.67 in South-west Approach, middle of April, 91.
- Baus* (Nor. s.s.). Torpedoed without warning by U.B.26, 5 April, 98.
- Bayley, Mr. Douglas* (master, *Sussex*). Escapes from U.45 in South-west Approach, 29 April, 93.
- Bayly, Vice-Admiral Sir Lewis, K.C.B., C.V.O.* (Vice-Admiral Commanding on the coast of Ireland, etc.). 1st Sloop Flotilla under his command, Dec., 37: warns his sloops of enemy raiders, 29 Feb., 70: no enemy submarines operating in his command, Jan. and Feb., 72: *re Farnborough*, 78: suspends packet services, 26 Mar., 83: given discretion to sail vessels, 11 April, 87: informed *re* approach of German submarine, 13 April, 88: 4 Q-ships under his command, 15 April, 89: thinks *Farnborough* probably sank submarine, 15 April, 89: his opinion on limitations of sloops and A.P. vessels, 94: reinforced, 16 April, 95.
- Bayo* (Span. s.s.). Mined, 13 Jan., 40.
- Beatty, Vice-Admiral Sir David, K.C.B., M.V.O., D.S.O.* (Vice-Admiral Commanding, Battle Cruiser Fleet). Considers L Channel indispensable, 58: at sea, after attack on 10th Sloop Flotilla, 11 Feb., 59: informed that L Channel was considered clear of mines, 23 Feb., 63: abandons sweep, 11 Mar., 112: in Operation H.R.A., 25 Mar., 119, 121, 123, 125, 126, 127, 128, 129, 135: warned *re* air raid, 2 April, 139: in Operation L, 22 April, 146, 147: warned *re* air raid, 2 May, 157: in Operation XX, 4 May, 163.
- Beaver* (t.b.d.). Escorting *Undaunted*, 27-28 Mar., 128.
- Begonia* (sloop). Rescues crew of *Teutonian*, 4 Mar., 73: torpedoed by U.44 and towed to Queenstown, 29 Mar., 84.
- Belford* (Br. s.s.). Torpedoed off Boulogne by U.B.10, 20 Dec., 35.
- Belgica* (Span. s.s.). Mined, 15 Jan., 40.
- Bell* (Nor. s.v.). Sunk by U.44, 31 Mar., 85.
- Bengairn* (Br. s.v.). Sunk by U.28, end of Mar., 85.
- Bernadetti* (Fr. s.v.). Sunk by U.20, 1 May, 94.
- Berwindale* (Br. s.s.). Torpedoed, abandoned and salvaged, 16 Mar., 77.
- Biarritz* (minelayer). Lays deep minefield off Firth of Forth, 2 Oct., 2: in Operation K, 13 Oct., 6: abandons minelaying operation, 11 Mar., 112: in Operation B.Z., 15 Mar., 113: mines laid by, sink *Ottensen*, 16 Mar., 114: S.22 mined, probably on field laid by, 25 Mar., 133: lays mines off Lowestoft, 18 May, 168: in Moray Firth, 23 May, 168.
- Binicaise* (Fr. s.v.). Sunk by submarine, 6 April, 86.
- Black Prince* (cruiser). On patrol, 9-13 Mar., 115: 10-13 May, 166.

- Blessing* (Br. motor fishing boat). Destroyed by U.B.27, 28 April, 155.
- Blonde* (l.c.). Unable to overtake steamer, 30: explosion of depth charge on board, 11 Jan., 41, 47.
- Bluebell* (sloop). Escorting a transport, 16 Mar., 77: arrests *Aud*, 21 April, 95.
- Bocker, Lieutenant-Commander.* Commanding L.14, bombs Edinburgh, 2 April, 139: in air raid, 2-3 May, 158.
- Boest, Commander.* Attacks 10th Sloop Flotilla, 10 Feb., 61.
- Bonheur* (Nor. s.s.). Mined near Stack Skerry, 8 Jan., 39.
- Botha* (flotilla leader). Hunts U.44, 24 Jan., 67: in Operation H.R.A., 25 Mar., 121.
- Bougainville* (Fr. s.v.). Sunk in South-west Approach by U.70, 22 Mar., 80.
- Boyle, Rear-Admiral The Hon. R. F., M.V.O.* (Senior Naval Officer, Larne). Relieves Admiral Tupper at Stornoway, 76.
- Braemar* (Nor. s.v.). Attacked by U.32, 8 Mar., 73.
- Braunschweig* (Ger. armed trawler). Sunk during Operation H.R.A., 25 Mar., 120, 130: reports presence of British destroyers, 25 Mar., 130.
- Braunton* (Br. s.s.). Torpedoed without warning, 7 April, 98.
- Breithaupt, Lieutenant-Commander.* Commanding L.15, captured in the Thames, 1 April, 138.
- Byeslau* (Br. s.s.). Damaged by mine, Jan., 53.
- Brighton Queen* (paddle minesweeper). Mined in West Deep, 5 Oct., 13.
- Brock, Vice-Admiral Sir Frederick E. E., K.C.M.G., C.B.* Relieves Admiral Colville, 19 Jan., 42.
- Broke* (flotilla leader). Patrolling east of Moray Firth, Dec., 30: on extended eastern patrol, 11 Jan., 41.
- Browning, Rear-Admiral Montague E., M.V.O.* (Rear-Admiral, 3rd Cruiser Squadron). Obtains permission to abandon cruise, 18 Feb., 68.
- Burney, Vice-Admiral Sir Cecil, K.C.B., K.C.M.G.* (Vice-Admiral Commanding, 1st Battle Squadron). Sends destroyers from Cromarty to search for suspicious vessels, 20 Oct., 4.
- Buttercup* (sloop). In 10th Sloop Flotilla, encounters enemy t.b.ds., 10th Feb., 58, 60: *Rosemary*, same class as, 63.
- Byron, Lieutenant-Commander F. H. D.* Commanding E.6, attacks *Rostock*, 24 Oct., 8.
- C.26 (s/m). Transferred from 7th Submarine Flotilla to 4th Submarine Flotilla, Feb., 71.
- C.27 (s/m). Transferred from 7th Submarine Flotilla to 4th Submarine Flotilla, Feb., 71.
- Cairngowan* (Br. s.s.). Sunk by U.69, 20 April, 91.
- Callaghan, Admiral Sir George Astley, G.C.V.O., K.C.B.* (C-in-C., The Nore). Submits scheme for keeping submarines out of Thames Estuary, 16 Sept., 14: his request for six new motor launches granted, Nov., 18: minesweepers under command of, 34: receives orders dealing with possible German landing on Belgian coast, 71: ordered to attack L.15, 31 Mar., 138.
- Calliope* (l.c.). On anti-minelayer patrol, Jan., 38: on fire, 19 Mar., 115: in sweep off Norwegian coast, 9-11 May, 166.
- Campbell, Lieutenant-Commander Gordon.* Commanding *Farnborough*, sinks U.68, 22 Mar., 78: encounters a submarine, 15 April, 89.
- Cantatrice* (armed tr.). Weatherbound, 31 Jan., 49: on Zeppelin patrol, 31 Mar., 140.
- Captain (D), 10th Flotilla.* See under Nicholson.
- Captain (M).* See under Litchfield-Speer.
- Cardonia* (Br. s.v.). Sunk by U.67, 16 April, 90, 91.
- Carmanian* (Nor. s.v.). Sunk by U.19, 25 April, 92.
- Carnation* (sloop). Collides with *Michael*, 27 Mar., 127.
- Caroline* (l.c.). Rescues crew of Danish trawler, Jan., 41.
- Carysfort* (l.c.). In Operation L, 22 April, 146.
- Casement, Sir Roger.* Arrested 21 April, 95.

Cayley, Captain George C. (Commodore-in-charge, Harwich). Suggests new shipping route, 54.

Chacma (Nor. s.v.). Stopped by *U.70*, 22 Mar., 80.

Challenger (smack). Destroyed by a submarine, 4 Aug., 48.

Chanaral (Fr. s.v.). Sunk by *U.67*, 22 April, 91.

Charlton, Rear-Admiral Edward F. B., C.B. (Admiral Commanding, East Coast Minesweepers). Relieved by Admiral Fitzherbert, 33.

Cheero (decoy smack). Sinks a submarine, probably *U.B.13*, 23 April, 103.

Chic (Br. s.v.). Sunk, probably by *U.22*, April, 88.

Chief of Admiralty War Staff. See under Oliver.

Chief of Staff, Grand Fleet. See under Madden.

Chirsin (armed tr.). Encounters a submarine, 12 Mar., 100.

Chittenden, Mr. Alban (master, *Duendes*). Escapes from *U.70* in South-west Approach, 25 Mar., 81.

Chris (net drifter). Submarine possibly in nets of, 17 Mar., 100.

Cleopatra (l.c.). In sweeps, 30 Sept. and 6 Oct., 4: in sweep across German Bight, 31 Oct., 5: guide to minelayers, 8 Nov., 11: broad pendant of Commodore (T), Feb., 63: in support of 10th Sloop Flotilla, 21 Feb., 63: at Harwich, 20 Mar., 117: in Operation H.R.A., 25 Mar., 119, 124, 125: missed by torpedo, 25 Mar., 120: rams German destroyer, 25 Mar., 123, 131: for protection of netlaying off Zeebrugge, 14 May, 169.

Christian (Dan. s.v.). Sunk by *U.B.27*, 28 April, 155.

Christopher (t.b.d.). Shelters at Stornoway, 5 Jan., 38.

Clan Lindsay (defensively armed s.s.). Encounters *U.20*, 3 May, 94.

Clan Macfadyen (defensively armed s.s.). Encounters *U.20*, 2 May, 94.

Claymore (Fr. t.b.d.). At sinking of *Unione*, 10 April, 87.

Clyde (Br. s.v.). Destroyed by *U.B.18*, 7 April, 98.

Colossus (battleship). To refit at Invergordon, Jan., 38.

Colville, Admiral The Hon. Sir Stanley C. J., G.C.V.O., K.C.B. (Admiral Commanding, Orkneys and Shetlands). Relieved by Admiral Brock, 19 Jan., 42: relieves Admiral Meux as C.-in-C., Portsmouth, 18 Feb., 70: ordered to intercept enemy raiders, 29 Feb., 70: his suggestion to fit out ketch as decoy approved, April, 98.

Commander-in-Chief, Devonport. See under Commander-in-Chief, Plymouth.

Commander-in-Chief, Grand Fleet. See under Jellicoe.

Commander-in-Chief, High Sea Fleet. See under Pohl and Scheer.

Commander-in-Chief, Portsmouth. See under Meux and Colville.

Commander-in-Chief, Plymouth. See under Egerton.

Commander-in-Chief, The Nore. See under Callaghan.

Commodore-in-Charge, Harwich. See under Cayley.

Commodore (T). See under Tyrwhitt.

Comrades (net drifter). At capture of *U.B.26*, 5 April, 98.

Comus (l.c.). Unable to overtake steamer, 30: on anti-minelayer patrol, Jan., 38: sweeps along Norwegian coast, 19 Mar., 115.

Conqueror (battleship). Refitting at Invergordon, 1 Jan., 38.

Conquest (l.c.). In sweeps, 30 Sept. and 6 Oct., 4: in sweep across German Bight, 31 Oct., 5: in support of 10th Sloop Flotilla, 21 Feb., 63: in Operation B.Z., 15 Mar., 113: reinforces *Lance*, 20 Mar., 117: in Operation H.R.A., 25 Mar., 119, 121, 124, 125, 126, 127, 128: damaged by gunfire, bombardment of Lowestoft, 25 April, 152.

Contest (t.b.d.). Shelters at Stornoway, 5 Jan., 38.

Cottingham (s.s.). Vessel which sank *U.C.2* sunk by *U.24*, 26 Dec., 37.

Courtier (minesweeper). Mined, 6 Jan., 33.

Crescent (cruiser). Missed by torpedo, 15 Mar., 75, 77.

Cromer (Br. s.s.). Rams a submarine, 1 April, 101, 103.

Cromstal (smack). Destroyed by a submarine, 27 Jan., 48.

Crooks, Mr. James. Skipper of *Acacia*, escapes from submarine, 17 Jan., 48.

Cruiser Squadrons.

1st Cruiser Squadron. Sweeps towards Norway, 27-30 Oct., 3: sweeps up Norwegian coast, 1 Feb., 57: sweeps across mouth of the Skagerrak, 1-3 Feb., 66: in Operation L, 22 April, 147: in Operation XX, 4 May, 159.

2nd Cruiser Squadron. In Operation L, 22 April, 147: in Operation XX, 4 May, 159, 163.

3rd Cruiser Squadron. Loss of *Argyll*, 28 Oct., 9: sweeps off Bergen, 18 Feb., 68: *re basing* it further south, 153: moved to Sheerness, 30 April, 154, 169.

7th Cruiser Squadron. In sweep towards Faeroes, 18 Nov., 25: patrols from Scapa, 7 Feb., 57: in Operation XX, 4 May, 159.

10th Cruiser Squadron. *Donegal* ordered to rendezvous with division of, 18 Nov., 25: action between *Alcantara* and *Greif*, 29 Feb., 69: Admiral Tupper relieves Admiral de Chair, 76: *Motagua* held up in the Clyde, 8 April, 86.

Curtis, Commander Berwick. Commanding *Abdiel*, in Operation XX, 4 May, 160.

Cymric (Br. s.s.). Torpedoed by *U.20*, 8 May, 94.

D.1 (s/m). Off Horn Reefs, 6-10 Feb., 62: endeavours to intercept German submarines, 16-19 April, 144: unsuccessfully attacks German destroyer, May, 165.

D.3 (s/m). Left for Horn Reefs, 20 Oct., 7: sent to Kattegat, 19 Nov., 25: at western end of Juist Island, 18-23 Jan., 46: inside Heligoland, 11-15 Feb., 62.

D.4 (s/m). Operating westward of Borkum minefields, 20-27 Oct., 7: sent to Kattegat, 19 Nov., 25: between Horn Reefs and Sylt, 26 Feb.-1 Mar., 65: stationed 30 miles WNW of Borkum Riff Light Vessel, 23-27 Mar., 133: in Operation XX, 4 May, 159, 165.

D.6 (s/m). Cruises off Borkum Riff, 1-6 Oct., 6: in the Bight first week in Nov., 8: at Horn Reefs, 5-10 Jan., 44: searches for *Medusa*, 29 Mar., 129, 142: in Operation XX, 4 May, 159, 165.

D.7 (s/m). On Norwegian patrol, Dec., 1: operating westward of Borkum minefields, 20-27 Oct., 7: in the Skagerrak, 16 Dec., 29: in the Kattegat, 10-16 Jan., 44, 66: off Danish and Norwegian coasts, 23-27 Feb., 68: in the Kattegat, 7-9 Mar., 110: endeavours to intercept German submarines, 18-23 April, 144: in the Kattegat, 16-21 May, 167.

D.8 (s/m). On Norwegian patrol, Dec., 1: in the Bight, first week in Nov., 8: off Danish coast, 16 Dec., 29: infraction of Norwegian territorial rights by, 10 Feb., 66: endeavours to intercept German submarines, 18-19 April, 144.

Dave, Vice-Admiral Charles H., M.V.O. (Vice-Admiral Commanding at Old Milford). Sends vessels to search Milford neighbourhood, 37.

De Chair, Rear-Admiral Dudley R. S., K.C.B., M.V.O. (Rear-Admiral, 10th Cruiser Squadron). Warned, *re* possible submarine attack, Feb., 69: relieved by Admiral Tupper, 76.

Dee (t.b.d.). Covering passage of troops to Ireland, 26 April, 95.

Defender (t.b.d.). Escorting *Undaunted*, 27-28 Mar., 128.

Destroyer Flotillas.

1st Destroyer Flotilla. Eight destroyers of, accompany battle cruisers, 19 Oct., 4: ordered to sail, 10 Feb., 57: movements of, after attack on 10th Sloop Flotilla, 11 Feb., 59: exercising with Grand Fleet, 26 Feb., 64: in Operation H.R.A., 25 Mar., 119, 121: six destroyers from, in Operation L, 22 April, 146, 147: in Operation XX, 4 May, 156, 159, 161: eight destroyers of, based at Harwich, May, 169.

2nd Destroyer Flotilla. Searches Eastern Approaches to Pentlands, 3: 11 boats of, at Devonport, Feb., 63.

4th Destroyer Flotilla. Searches Western Approaches to Pentlands, 3: exercising with Grand Fleet, 26 Feb., 64: portion of, in Operation L, 22 April, 146, 147: in Operation XX, 4 May, 159.

Destroyer Flotillas—continued.

- 9th Destroyer Flotilla.* Eight destroyers of, working from Devonport, 31 Oct., 5: examines position of attack on *Arabis*, 20 Feb., 63: two divisions of, in Operation H.R.A., 25 Mar., 118: two destroyers from, in Operation XX, 4 May, 159.
- 10th Destroyer Flotilla.* Four destroyers of, sweep for submarines, 8-9 April, 101: two divisions of, in Operation H.R.A., 25 Mar., 118, 121.
- 11th Destroyer Flotilla.* Searches Eastern Approaches to Pentlands, 3: exercising with Grand Fleet, 26 Feb., 64: in Operation L, 22 April, 146, 147: in Operation XX, 4 May, 159.
- 12th Destroyer Flotilla.* Exercising with Grand Fleet, 26 Feb., 64: in Operation L, 22 April, 147: in Operation XX, 4 May, 159.
- 13th Destroyer Flotilla.* Six destroyers from, in Operation L, 22 April, 146: in Operation XX, 4 May, 159.
- Destroyer Flotillas (German).*
- 2nd Flotilla.* Cruises in Kattegat, 17 Nov., 28.
- 10th Half Flotilla.* First to be fitted with rapid minesweeping gear, 7.
- Devonshire (cruiser).* Attacked by *U.44*, 20 Dec., 36: off Norwegian coast, 4 April, 143.
- Director of Air Department, Admiralty.* See under Sueter.
- Divisional Naval Transport Officer, Havre.* In charge of British net drifters at Havre, Mar., 97.
- Dohna-Schlodien, Commander Count zee.* Commanding *Moewe*, Jan., 40.
- Donegal (cruiser).* En route to Alexandrovsk, 18 Nov., 25: in sweep off Norwegian coast, 21 May, 166.
- Dotterel (Br. s.s.).* Bombed by German aeroplanes, 4 Nov., 18: mined off Boulogne, Nov., 20.
- Dove (t.b.d.).* Covering passage of troops to Ireland, 26 April, 95.
- Dreadnought (battleship).* To join 3rd Battle Squadron at Sheerness, 154.
- Duendes (Br. s.s.).* Escapes from *U.70* in South-west Approach, 25 Mar., 81, 82.
- Duff-Dunbar, Lieutenant-Commander Kenneth J.* Commanding *E.16*, torpedoes steamer, 22 Dec., 32.
- E.4 (s/m).* Cruises inside Heligoland, 16-22 Nov., 24: inside Heligoland, 19-23 Dec., 32: at Horn Reefs, 16-21 Jan., 46: searches for *Medusa*, 29 Mar., 129, 142: on Zeppelin patrol, 15-20 May, 165.
- E.5 (s/m).* In the Bight, first week in Nov., 8: at Horn Reefs, first week in Dec., 28: inside Heligoland, 19-23 Feb., 65: fails to return, 6 Mar., 110, 114.
- E.6 (s/m).* Left for Horn Reefs, 20 Oct., 7: fires at *L.7*, 23 Oct., 8: operates off the Ems, 16-22 Nov., 24: mined near Sunk Light Vessel, 26 Dec., 32.
- E.16 (s/m).* In North Sea, 29 Sept.-8 Oct., 1: at Norderney, torpedoes steamer, 22 Dec., 32: in second attempt at A.R.H., 28 Jan., 47: off Dutch coast, 12 Feb., 62: returns with defective steering gear, 26 Feb., 65: in Operation L, 22 April, 151.
- E.17 (s/m).* Relieves *E.16* at Aberdeen, Oct., 1: attacks steamer in Western Ems, 6 Oct., 6: operates in the Kattegat, 14-15 Nov., and off Norwegian coast, 26 Nov.-1 Dec., 25: loss of, 5 Jan., 44.
- E.21 (s/m).* Ordered to Mediterranean, 5 Nov., 9.
- E.22 (s/m).* At Horn Reefs, end of Nov., 28: at Horn Reefs, 28 Dec.-5 Jan., 44: in second attempt at A.R.H. attacks armed trawler, 28 Jan., 47: off Dutch coast, 12 Feb., 62: unsuccessful attack on German battle cruiser, 28 Feb., 65.
- E.23 (s/m).* At Norderney Gat, 19 Jan., 46: in second attempt at A.R.H., 28 Jan., 47: returns to Harwich with broken shaft, 11 Feb., 62: High Sea Fleet passes over, 6 Mar., 110: in Operation L, 22 April, 151.
- E.24 (s/m).* Unsuccessfully attacks small auxiliary off Dutch coast, 20 Feb., 66: converted into minelayer, mines Elbe Light Vessel, 8 Mar., 111: is lost, 24 Mar., 116, 132: *Volkshof* sunk by mines laid by, 134.

- E.25 (s/m).* Ordered to Mediterranean, 5 Nov., 9.
- E.26 (s/m).* In second attempt at A.R.H., 28 Jan., 47: between Ems and Norderney, 11-12 Feb., 62: sights an enemy submarine, 19 Mar., 114: endeavours to intercept German submarines, 16-19 April, 144: off Terschelling, 8-14 May, 165.
- E.29 (s/m).* At Horn Reefs, 19-23 Dec., 32: attacks enemy t.b.d., 14 Feb., 62: returns owing to leak from defective rivets, 25 Feb., 65: unsuccessfully attacks a destroyer, 6 Mar., 110: replaces *E.4* and *D.6* off Ameland, 29 Mar., 129, 142.
- E.30 (s/m).* Off Danish and Norwegian coasts, 23-28 Feb., 68: captures *Kong Inge*, 18 Mar., 115: damaged by battery explosion, 7 April, 144: off Norwegian coast, May, 166: sinks *Trave*, 18 May, 167.
- E.31 (s/m).* Off Borkum, 8-13 April, 142: in Operation XX, 4 May, 159: encounter with *Rostock*, 4 May, 164: rescues crew of *L.7*, 4 May, 165.
- E.37 (s/m).* In Operation XX, 4 May, 159, 165.
- E.41 (minelaying s/m).* Maiden cruise of, 11-14 Mar., 113: reconnoitres between Horn Reefs and Sylt, 22 April, 151: re Belgian coast operations in May, 169.
- E.43 (s/m).* In Operation L, 22 April, 146, 149.
- E.53 (s/m).* In Operation XX, 4 May, 159, 165.
- E.55 (s/m).* Experiments in net cutting, April, 104: in Operation XX, 4 May, 159, 165.
- Eagle Point (Br. s.s.).* Sunk in South-west Approach by *U.70*, 28 Mar., 82.
- Eclipse (l.c.).* Becomes ship of Captain (D), 2nd Flotilla, Feb., 63.
- Edwards, Lieutenant-Commander Harrington D., D.S.O.* Commanding *E.5*, fails to return, 6 Mar., 110.
- Eemdijk (Dutch s.s.).* Torpedoed without warning, probably by *U.B.18*, 6 April, 98.
- Egerton, Admiral Sir George Le C., K.C.B. (C.-in-C., Plymouth).* Ordered to intercept enemy raiders, 29 Feb., 70: stops sailings, 5 Mar., 73.
- Egerton, Commander Wion de M.* Commanding *Lance*, in action with German destroyers, 20 Mar., 117.
- Eidsiya (Nor. s.s.).* Mined off South Foreland, 31 Oct., 18.
- Ellison, Captain Alfred A. (Senior Naval Officer, Lowestoft).* Sends out patrol vessels to hunt submarines, 17 Jan., 48: warned, re hostile air raid, 31 Jan., 49: his opinion re hostile air raid, 20 Feb., 52: asks for four torpedo boats, 56: devises a special type of indicator net, 100: suggestion to extend his patrols, 101: one of his smacks encounters a submarine, 23 Mar., 102: proposes a line of nets off Lowestoft, Mar., 103: his smacks encounter a submarine, 18 May, 168.
- Elpis (Gr. s.s.).* Attacked by *U.32*, 6 Mar., 73.
- El Zorro (oiler).* Torpedoed by *U.24*, 28 Dec., 37.
- Endurance (net drifter).* Captures *U.B.26*, 5 April, 98.
- Energic (smack).* Armed as submarine decoy, 48: submarine in nets of, 30 Mar., 100.
- Engadine (seaplane carrier).* In Operation XX, 4 May, 156, 159, 160.
- Englishman (Br. s.s.).* Sunk off Oversay by *U.43*, 24 Mar., 80, 82, 83.
- Erin II (patrol tr.).* Mined near Nab Light Vessel, 19 Oct., 17.
- Fairpoint (Br. s.s.).* Sunk, 15 April, 90: by *U.69*, 91.
- Falcon (Br. s.s.).* Missed by torpedo, 16 Mar., 101.
- Fame (smack).* Armed as submarine decoy, 48: encounters *U.B.6* and *U.B.16*, 6 Mar., 100: renamed *Revenge*, encounters a submarine, 18 May, 168.
- Farnborough (decoy ship).* Sinks *U.68*, 22 Mar., 78, 80: in action, 15 April, 89: with *U.67*, 90.
- Faulknor (flotilla leader).* Sent back to Scapa, 9 Jan., 41.
- Fearless (l.c.).* With supporting force in sweep to Skagerrak, 6 Nov., 10.
- Feilman, Lieutenant-Commander Ferdinand E. B.* Commanding *E.31*, rescues crew of *L.7* and encounters *Rostock*, 4 May, 165.
- Feliciano (Br. s.s.).* Torpedoed without warning by *U.19*, 21 April, 92.

- Fenay Bridge* (Br. s.s.). Sunk in South-west Approach by *U.70*, 24 Mar., 81, 82.
- Firedrake* (t.b.d.). Rescues crew of *H.6*, 18 Jan., 46: captures *U.C.5*, 27 April, 103, 104.
- First Sea Lord*. See under Jackson.
- Fitzherbert*, Rear-Admiral *The Hon. Edward S.* (Admiral, Minesweeping Service). Relieves Admiral Charlton in command of Minesweeping Service, 33: advises against new shipping route, 54: 10th Sloop Flotilla under orders of, 58: out with 10th Sloop Flotilla, 19-21 Feb., 63.
- Flora* (Nor. s.v.). Burning wreck of, found by *E.16*, 1 Oct., 1.
- Florida* (Nor. s.v.). Burning wreck of, found by *E.16*, 1 Oct., 1.
- Flotillas*, Destroyer See under Destroyer Flotillas.
- Foam Crest* (smack). Armed as submarine decoy, 48.
- Forstner*, Lieutenant-Commander. Commanding *U.28*, operating off Irish coast, 22 Mar.-2 April, 85.
- Frankfurt* (Ger. l.c.). Attacked by submarine, 22 April, 150, 151.
- Franz Fischer* (collier). Sunk near Kentish Knock Light Vessel, 1 Feb., 51.
- Friargate* (Br. s.s.). Mined 4 miles north of N.E. Bawdsey Buoy, Nov., 18.
- Frons Olivae* (drifter). Mined near Elbow Buoy, 12 Oct., 13.
- G.1* (s/m). In Operation XX, 4 May, 159, 165.
- G.2* (s/m). Endeavours to intercept German submarines, 18-23 April, 144: in Operation XX, 4 May, 159, 165: watches Goteborg, 19 May, 166.
- G.4* (s/m). Endeavours to intercept German submarines, 6-9 April, 144: in Operation L, 22 April, 146, 149: in Operation XX, 4 May, 159, 165.
- G.5* (s/m). Endeavours to intercept German submarines, 6-9 April, 144: in Operation L, 22 April, 146, 149: in Operation XX, 4 May, 159, 165.
- G.10* (s/m). Off Norwegian coast, May, 166.
- G.193* (Ger. t.b.d.). Encounters British light cruisers, 25 Mar., 131, 132.
- G.194* (Ger. t.b.d.). Ramméd by *Cleopatra*, 25 Mar., 131.
- Galatea* (l.c.). In Operation XX, helps to bring down a Zeppelin, 4 May, 162.
- Galgate* (Br. s.v.). Sunk by *U.20*, 6 May, 94.
- Garry* (t.b.d.). Under orders of Senior Naval Officer, Larne, 76.
- Gayer*, Captain (German Naval Historian). On entanglement of *U.B.10* in nets near Thornton Ridge, 24 April, 104.
- General Officer Commanding in Ireland*. Considers Galway safe, 10 May, 95.
- Gleaner of the Sea* (drifter). Sinks *U.B.3*, 24 April, 104.
- Glendoon* (Nor. s.v.). Sunk by *U.69*, April, 91.
- Gloucester* (l.c.). Proceeds for Galway, 26 April, 95.
- Goldmouth* (Br. oiler). Sunk by *U.44*, 31 Mar., 84, 85.
- Grand Fleet*. See under Jellicoe. For organisation of, see Appendix L: sweeps by cruisers from, Oct., 3: in practice cruise, 13-15 Oct., 3: at short notice, 23-24 Oct., 8: question of employing submarines with, 21: Blyth submarines to co-operate with, 22: ships from, at sea, 18 Nov., 25: at sea, 1-4 Dec., 28: loss of *Natal*, 30 Dec., 30: no exercises in contemplation, 1 Jan., 38: removal to Loch Ewe considered, Jan., 42: at short notice, 29 Jan., 43: at two hours' notice, 10 Feb., 57: at sea, after attack on 10th Sloop Flotilla, 11 Feb., 59: in exercise cruise, 26-27 Feb., 64: *re* vessels from, passing through North Channel, 86: at sea, 6 Mar., 107: sweep of, curtailed, 11 Mar., 112: ordered to sea, 26 Mar., 125: at sea, 26 Mar., 127: unaffected by air raids, 143: in Operation L, 22 April, 147, 148: proposals to base it further south, 153, 154: in Operation XX, 4 May, 156, 159, 163, 164: *re* submarines from, 167: ordered to the Long Forties, 30 May, 171.
- Grapppler* (Br. tug). Mined near Nab Light Vessel, 22 Oct., 17.
- Graudenz* (Ger. l.c.). Mined, 21 April, 150.

- Greif* (Ger. auxiliary cruiser). Sunk by *Alcantara*, 29 Feb., 69, 135: havoc wrought by, 70, 115.
- Groneland* (Nor. s.s.). Captured as a contraband carrier, 17 Dec., 29.
- H.5* (s/m). Sent to Kattegat, 18 Nov., 25: takes the place of *E.23* off Dutch coast, 12 Feb., 62: off Dutch coast, 25 Feb.-1 Mar., 65: unsuccessfully attacks armed trawler, 17 Mar., 115: relieved by *H.7*, 20 Mar., 132: off Terschelling, 17-23 May, 165.
- H.6* (s/m). Stranded off Ameland, 18 Jan., 46.
- H.7* (s/m). Leaves for Western Ems, 18 Jan., 46: off Borkum, 19-23 Feb., 65: off Horn Reefs, 5-10 Mar., 110: sights Harwich Force, 25 Mar., 132: endeavours to intercept German submarines, 16-19 April, 144.
- H.8* (s/m). Leaves for Operation A.R.H., 18 Jan., 46: strikes a mine, 22 Mar., 114.
- H.9* (s/m). Off Horn Reefs exit, 11-14 Feb., 62.
- H.10* (s/m). Sights Harwich Force off Ameland, 21 Dec., 32: leaves for Operation A.R.H., 18 Jan., 46: off Borkum, 8-13 April, 142.
- Hakan* (Swed. s.s.). Sent to British port, 4 April, 143.
- Halicor* (Fr. armed tr.). Encounters *U.45*, 1 May, 94.
- Hallowell-Carew*, Lieutenant-Commander *Robert R.* Commanding *Arabis*, sunk by German destroyers, 11 Feb., 60.
- Hallwright*, Lieutenant-Commander *William W.* Commanding *Laburnum*, protects Galway base, 26 April, 95.
- Hampshire* (cruiser). In Operation XX, 4 May, 163.
- Hans Gude* (Nor. s.s.). Sunk by *U.44*, 31 Mar., 85.
- Harmatris* (Br. transport). Torpedoed by *U.B.18*, 7 Mar., 96.
- Harrovian* (Br. s.s.). Sunk by *U.69*, April, 91.
- Harwich Force*. See under Tyrwhitt. Sweeps by, Oct., 4: in Operation K, 13 Oct., 6: supports minelaying expedition, 8 Nov., 11: on an exercise cruise, 18 Nov., 25: in sweep to Skagerrak, 29 Nov., 28: sweeps across the Bight, 21 Dec., 31: at short notice, 29 Jan., 43: Germans unaware of presence of, 28 Jan., 47: in hunt for *L.19*, 1 Feb., 50: in practice cruise, 9 Feb., 57: at sea, after attack on 10th Sloop Flotilla, 11 Feb., 59: in support of 10th Sloop Flotilla, 21 Feb., 63: attempt to exercise with Grand Fleet abandoned, 26 Feb., 64: at short notice, 5 Mar., 106: at sea, 6 Mar., 107: in attempted minelaying operation, 11 Mar., 112: in Operation H.R.A., 25 Mar., 118, 119, 120, 123, 128: in action, bombardment of Lowestoft, 25 April, 152: not in Operation XX, 3 May, 156, 160: vessels from, patrol Belgian coast Zareba, 169.
- Herbert*, Lieutenant-Commander *Godfrey*, D.S.O. Commanding *E.22*, unsuccessfully attacks German battle cruiser, 28 Feb., 65.
- Hersilia* (armed yacht). Wrecked on North Rona, 6 Jan., 38.
- Hibernia* (battleship). Ordered to Mediterranean, 5 Nov., 9.
- High Sea Fleet*. See under Pohl and Scheer. Prepares for a sortie, 7: question of attacking with submarines during fleet action, 21: no intercepted signals from suggested sortie, 1 Jan., 38: in the Bight, 17 Jan., 43: ready for sea, 2 Feb., 50: in state of instant readiness, 10 Feb., 57: first large movement of, under Admiral Scheer, 11 Feb., 61: Flanders submarines co-operate with, April, 103: off Terschelling, 6 Mar., 107: Admiral Scheer appointed to command, 24 Jan., 108, 109: Staff memo on future operations, 108: passes over *E.23*, 6 Mar., 110: possibility of meeting with Grand Fleet, 11 Mar., 112: restoring freedom of movement to, 114: avoidance of causing unrest in, 20-26 Mar., 119: at sea, 25 Mar., 130: intended sortie abandoned on account of mines, Mar., 133: informed *re* air raid on south of England, 31 Mar., 136: portion of, held in readiness, 1 April, 139: ready for sea, 21 April, 146: at sea, 22 April, 147: to bombard British coast, April, 150: possibility of raids of, considered by Admiralty, 153: some *U.B.* boats attached to, 155: attempt to draw it out, 3 May, 156: *re* mines laid by *Princess Margaret*, 4 May, 160: to raise steam for full speed, 4 May, 164: sortie of, 30 May, 171.
- Hilda* (smack). Destroyed by a submarine, 31 Jan., 48.

- Hipper, Admiral von.* In command of German battle cruisers, Mar., 130 : turns back, 26 Mar., 132, 135.
- Hobbyhawk* (decoy smack). Sinks a submarine, probably *U.B.13*, 23 April, 103 : encounters a submarine, 18 May, 168, 171.
- Hollandia* (Swed. s.s.). Torpedoed without warning, probably by *U.B.6*, 31 Mar., 102.
- Huntly* (s.s.). Torpedoed off Boulogne by *U.B.10*, 20 Dec., 35.
- Huronian* (Br. s.s.). Torpedoed by *U.24*, 28 Dec., 37.
- Ilaro* (Br. s.s.). Mined off Dungeness, 24 Oct., 17.
- Industry* (Br. tug). Sunk by *U.45*, 27 April, 93, 94.
- Inkonka* (Br. s.s.). Missed by torpedo, 25 Mar., 83, 84 : torpedo fired by *U.28*, 85.
- Inverlyon* (Br. s.v.). Sunk, probably by *U.73*, 11 April, 88.
- Irene* (Br. s.s.). Mined near Tongue Light Vessel, Nov., 18.
- Iris* (sloop). Conveying troops to Sybil Head, 30 April, 95.
- Iron Duke* (battleship). At Cromarty, 1 Jan., 38 : leaves Scapa, 6 Mar., 107 : practices communication with submarines, Mar., 115.
- Jackson, Sir Henry Bradwardine, K.C.B., K.C.V.O., F.R.S.* (First Sea Lord). Re measures for strengthening Belgian patrol lines, 17 May, 169.
- James Fletcher* (armed yacht). Encounter with *U.C.6*, 11 Jan., 54.
- Javelin* (minesweeping tr.). Mined near North Knock Buoy, 17 Oct., 13.
- Jeanette* (Fr. s.v.). Destroyed, probably by *U.B.18*, 6 April, 98.
- Jellicoe, Admiral Sir John Rushworth, G.C.B., K.C.V.O.* (C.-in-C., Grand Fleet). Orders *E.16* to cruise in North Sea, 28 Sept., 1 : suggests deferring laying of minefield off Firth of Forth, 2 : despatches his cruisers for frequent sweeps, 3 : orders *Lion* and 1st Battle Squadron to Scapa, 20 Oct., 4 : suggests Harwich Force should return west of mined area No. 1, 5 : proposes light cruiser sweep, 2 Nov., 10 : presses the advantages of using submarines in a fleet action, 21 : Blyth submarines placed under orders of, 22 : expects more submarine attacks off his bases, 23 : informed of supposed enemy cruiser leaving Kattgat, 18 Nov., 25 : resumes extended eastern patrol, 1 Jan., 38 : warns destroyers against mines, 6 Jan., 39 : orders Egerton depth charges to be unshipped, 11 Jan., 41 : considers moving Grand Fleet to Loch Ewe, Jan., 42 : advised to arrange sweeps to the Skagerrak, 26 Jan., 43 : to give submarines discretion to abandon operations in bad weather, 44 : warned to keep steam at two hours' notice, 2 Feb., 50 : ordered to move Grand Fleet southward, 9 Feb., 57 : takes Grand Fleet to sea, after attack on 10th Sloop Flotilla, 11 Feb., 59 : informed that L Channel was considered clear of mines, 23 Feb., 63 : arranges for combined exercises of Grand Fleet and Harwich Force, 26 Feb., 64, 65 : instructions to, *re* British submarines in neutral territorial waters, 66 : on use of oscillating mines in a fleet action, 67 : sends *D.7* and *E.30* to attack German submarines off Norway and Denmark, 22 Feb., 68 : *re* action between *Alcantara* and *Greif*, 29 Feb., 69 : obtains release of destroyers from the Clyde, 77 : obtains release of Grand Fleet vessels from the Clyde and Belfast, 86 : reinforces Admiral Bayly, 16 April, 95 : takes Grand Fleet to sea, 6 Mar., 107 : *re* communication with submarines, Mar., 115 : institutes patrol north of Shetlands, Mar., 115 : copy of orders for Operation H.R.A. sent to, 118 : his proposed sweep of the Skagerrak postponed, 20 Mar., 119 : takes Grand Fleet to sea, 26 Mar., 127 : warned, *re* air raid, 2 April, 139 : endeavours to intercept German submarines, April, 144 : in Operation L, 22 April, 147, 148 : *re* basing Grand Fleet further south, 153, 154 : his orders for Operation XX, 30 April, 156, 160, 163, 164 : warned, *re* air raid, 2 May, 157 : *re* use of Grand Fleet in support of air raids, 159 : sends submarines to Kattgat, 15 May, 167 : minefields to protect his bases, 168.
- Johnson, Lieutenant Bernard L., R.N.R.* Commanding *H.8*, strikes a mine, 22 Mar., 114.
- Joszef Agost Foherczeg* (It. s.s.). Sunk by *U.19*, 22 April, 92.

- Kannik* (Nor. s.s.). Torpedoed by *U.B.18*, 23 Mar., 97.
- Kelvinbank* (Br. s.s.). Torpedoed by *U.B.18*, 22 Mar., 97.
- Kempensfeldt* (flotilla leader). Takes *King Edward VII* in tow, 6 Jan., 39.
- Kentish Knock* (armed drifter). Encounter with submarine, 1 Feb., 48.
- Kestrel* (fishing smack). Attacked by submarine, 21 Feb., 56.
- King Edward VII* (battleship). To refit at Belfast, Jan., 38 : loss of, 6 Jan., 39, 43.
- Kingfisher* (armed tr.). On Zeppelin patrols, 31 Jan., 49 : 31 Mar., 140.
- King Stephen* (tr.). Refuses to rescue crew of *L.19*, 2 Feb., 50 : at sinking of a submarine, probably *U.B.13*, 23 April, 103.
- Kitchener, Field-Marshal Earl* (Secretary of State for War). His route changed owing to mines, 29 Nov., 20.
- Kong Inge* (Nor. s.s.). Captured by *E.30*, 18 Mar., 115.
- L.7* (Ger. airship). Fired at by *E.6*, 23 Oct., 8 : in operations of 4 May, 164 : destroyed, 4 May, 165.
- L.9* (Ger. airship). Abandons air raid, 31 Mar., 137 : in operations of 4 May, 164.
- L.11* (Ger. airship). In air raids, 13 Oct., 6 : 5 Mar., 106 : 1-2 April, 139 : 4 April, 141 : 2-3 May, 158 : abandons air raids, 31 Jan., 49 : 31 Mar., 137.
- L.13* (Ger. airship). In air raids, 13 Oct., 6 : 31 Jan., 49 : 5 Mar., 106 : damaged in air raid, 31 Mar., 137 : abandons air raids, 2 April, 139 : 5 April, 141.
- L.14* (Ger. airship). In air raids, 13 Oct., 6 : 31 Jan., 49 : 5 Mar., 106 : 31 Mar., 137 : 2 April, 139 : 2-3 May, 158.
- L.15* (Ger. airship). In air raids, 13 Oct., 6 : 31 Jan., 49 : damaged in air raid, 31 Mar., 137 : destroyed, 1 April, 138.
- L.16* (Ger. airship). In air raids, 16 Oct., 6 : 31 Jan., 49 : 31 Mar., 137 : 2 April, 138 : 5 April, 141 : 2-3 May, 158.
- L.17* (Ger. airship). In air raids, 31 Jan., 49 : 2-3 May, 158 : abandons air raids, 1 April, 139 : 4 April, 141.
- L.19* (Ger. airship). In air raid, 31 Jan., 49 : destroyed in North Sea, 2 Feb., 50 : crosses coast at Winterton, 1 Feb., 51 : effect of destruction of, 61, 108.
- L.20* (Ger. airship). In air raid, 31 Jan., 49 : destroyed, 3 May, 158.
- L.21* (Ger. airship). In air raids, 31 Jan., 49 : 2-3 May, 158.
- L.22* (Ger. airship). In air raids, 31 Mar., 137 : 2 April, 139.
- L.23* (Ger. airship). In air raid, 2-3 May, 158.
- Laburnum* (sloop). Protects Galway base, 26 April, 95.
- Laertes* (t.b.d.). Under repair, 31 Oct., 5 : in Operation H.R.A., 25 Mar., 119, 120 : damaged by gunfire, bombardment of Lowestoft, 25 April, 152.
- Laforey* (t.b.d.). Ordered to reinforce *Lance*, 20 Mar., 117 : in Operation H.R.A., 25 Mar., 119 : on Zeppelin patrol, 4 April, 141.
- Lance* (t.b.d.). In sweep across German Bight, 31 Oct., 5 : man overboard picked up by *Loyal*, 30 Nov., 28 : in action with German destroyers, 20 Mar., 117.
- Langeli* (Nor. s.s.). Torpedoed by *U.B.29*, 20 Mar., 102.
- Lark* (t.b.d.). In collision with *Llewellyn*, 20 Feb., 63 : in Operation XX, 4 May, 160.
- Larne* (t.b.d.). Fires at *U.45*, 29 April, 93, 94.
- Lassoo* (t.b.d.). In sweep across German Bight, 31 Oct., 5 : in Operation H.R.A., 25 Mar., 119, 120, 121 : takes off crew of *Medusa*, 25 Mar., 122.
- Laurel* (t.b.d.). In sweep across German Bight, 31 Oct., 5 : in Operation H.R.A., 25 Mar., 119.
- Laveyock* (t.b.d.). In Operation H.R.A., 25 Mar., 119 : collides with *Medusa*, 25 Mar., 120.
- Legion* (t.b.d.). At Harwich, 31 Oct., 5.
- Leoville* (Fr. s.s.). Mined near South Knock Buoy, Jan., 53.
- Le Pilier* (Fr. s.v.). Sunk by *U.45*, 2 May, 94.
- Le Trombe* (Fr. t.b.). At capture of *U.B.26*, 5 April, 98.

Liberty (t.b.d.). In Operation H.R.A., 25 Mar., 119.

Light Cruiser Squadrons.

1st Light Cruiser Squadron. Cruises to Skagerrak, 6 Nov., 10 : sweeps eastward from Firth of Forth, 30-31 Dec., 30 : in sweep to Skagerrak, 26 Jan., 43 : carries out sweep, 11-13 Mar., 112 : in Operation L, 22 April, 146, 147 : in Operation XX, 4 May, 156, 159.

2nd Light Cruiser Squadron. Cruises to Skagerrak, 6 Nov., 10 : at Scapa, 18 Nov., 25 : sweeps eastward from Firth of Forth, 8-9 Dec., 30 : carries out sweep, 11-13 Mar., 112 : on Zeppelin patrol, 3 April, 139 : in Operation L, 22 April, 146 : cruises in North Sea, 9-11 May, 166.

3rd Light Cruiser Squadron. Sweeps eastward from Firth of Forth, 24-26 Dec., 30 : in Operation L, 22 April, 146, 147.

4th Light Cruiser Squadron. At Rosyth, 18 Nov., 25 : in sweep to Skagerrak, 27 Jan., 43 : in Operation L, 22 April, 146, 148 : in Operation XX, 4 May, 159 : searches for damaged Zeppelin, 3 May, 163 : in sweep off Norwegian coast, 9-11 May, 166.

5th Light Cruiser Squadron. Captures 13 German trawlers, 4 : in Operation H.R.A., 25 Mar., 118, 121, 127 : encounters German destroyers, 25 Mar., 123.

Lightfoot (flotilla leader). In sweep across German Bight, 31 Oct., 5 : with Harwich Force, 10 Feb., 59 : examines position of attack on *Arabis*, 20 Feb., 63 : in Operation H.R.A., 25 Mar., 118, 119, 120, 122, 125 : takes *Medusa* in tow, 25 Mar., 121 : sweeps for *L.15*, 31 Mar., 138.

Lindfield (Nor. s.v.). Sunk in South-west Approach by *U.70*, 17 Mar., 80.

Linnet (t.b.d.). In action with German destroyers, 20 Mar., 117 : in Operation H.R.A., 25 Mar., 119, 120.

Lion (battle cruiser). Supports sweep to Skagerrak, 6 Nov., 10 : in Operation L, 22 April, 146, 147.

Litchfield-Speer, *Captain F. Shirley* (Captain (M)). In charge of minelayers, 8 Nov., 11.

Llewellyn (t.b.d.). In collision with *Lark*, 20 Feb., 63 : in Operation H.R.A., 25 Mar., 119.

Loderer (Br. s.s.). Renamed *Farnborough*, 21 Oct., sinks *U.68*, 22 Mar., 78.

Loder-Symonds, *Captain Frederick P.* Commanding *Cleopatra*, rams German destroyer, 25 Mar., 123.

Lokken (Nor. s.s.). Sent into Kirkwall, 10 May, 166.

Lookout (t.b.d.). In action with German destroyers, 20 Mar., 117.

Love, *Lieutenant F. W.* In *E.31*, avoids being rammed by *Rostock*, 4 May, 165.

Louisane (Fr. s.s.). Torpedoed by *U.B.18*, 9 April, 96.

Lowry, *Admiral Sir Robert Swinburne, K.C.B.* (Admiral Commanding on the Coast of Scotland). Favours laying deep minefield off Firth of Forth, 2 : informed of attack on 10th Sloop Flotilla, 10 Feb., 59 : recommends route for merchant shipping, 134 : warned, *re* air raids, 2 April, 139, 2 May, 157.

Loyal (t.b.d.). In sweep across German Bight, 31 Oct., 5 : rescues man washed overboard from *Lance*, 30 Nov., 28 : returns to Harwich with *Lark* and *Llewellyn*, 20 Feb., 63.

Lucifer (t.b.d.). In action with German destroyers, 20 Mar., 117 : in Operation XX, 4 May, 160.

Lurcher (t.b.d.). In Operation XX, 4 May, 159.

Lusitania (Br. collier). Mined near Folkestone Gate, 17 Nov., 20.

Lysander (t.b.d.). In sweep across German Bight, 31 Oct., 5.

Maasdijk (Dutch s.s.). Mined near South Knock Buoy, Jan., 53.

McLeod, *Lieutenant-Commander John K.* Commanding *Zylpha*, April, 89.

McLoughlin, *Lieutenant Joseph, R.N.R.* (Senior Officer, Havre Drifter Flotilla). Captures *U.B.26*, 5 April, 98.

MacLean, *Commander Colin K.* Commanding *Lightfoot*, takes *Medusa* in tow, 25 Mar., 121.

Madden, *Vice-Admiral (Acting) Charles E., C.V.O.* (Chief of Staff, Grand Fleet). Visits Admiralty, Oct., 21.

Maloja (Br. s.s.). Mined off Dover, Feb., 53, 54.

Manchester Engineer (Br. s.s.). Torpedoed without warning, 27 Mar., 83, 84.

Manly (t.b.d.). In Operation H.R.A., 25 Mar., 119.

Mansfield, *Sub-Lieutenant John M.* In *H.8*, 22 Mar., 114.

Mansfield (t.b.d.). In sweep across German Bight, 31 Oct., 5 : in Operation H.R.A., 25 Mar., 119, 120.

Marguerite (Bel. smack). Destroyed by a submarine, 31 Jan., 48.

Marie Molinos (Fr. s.v.). Sunk by *U.20*, 3 May, 94.

Marlborough Hill (Russ. s.v.). Spared by *U.20*, 7 May, 94.

Marliave, *Admiral de.* To patrol at Calais and Boulogne, 35 : warned of possible German naval raid, 10 Feb., 57.

Mary Rose (t.b.d.). In Operation L, 22 April, 148.

Mastiff (t.b.d.). In Operation H.R.A., 25 Mar., 119.

Matchless (t.b.d.). In sweep across German Bight, 31 Oct., 5 : mined in swept channel, 9 Nov., 11, 20.

Maud (Br. s.v.). Sunk by *U.45*, 1 May, 94.

Mauritania (Br. s.s.). Sighted by *U.44* in South-west Approach, 85.

Maxwell-Scott, *Lieutenant-Commander Malcolm R. J.* Has firing levers removed from jammed mine, 8 Nov., 11.

Mayne, *Lieutenant-Commander Ronald C.* Commanding *Buttercup*, Senior Officer, 10th Sloop Flotilla, 58 : encounters enemy t.b.ds., 10 Feb., 58, 59, 60.

Meadows, *Sub-Lieutenant Alfred E., R.N.R.* In *H.8*, 22 Mar., 114.

Medea (t.b.d.). At Harwich, 31 Oct., 5 : in action with Flanders destroyers, 24 April, 104 : sent to reinforce *Lance*, 20 Mar., 117.

Mediator (minesweeper). Mined, 2 Jan., 33.

Medusa (t.b.d.). Sent to reinforce *Lance*, 20 Mar., 117 : in Operation H.R.A., 25 Mar., 119, 125 : collides with *Laverock*, 25 Mar., 120, 130 : taken in tow by *Lightfoot*, 25 Mar., 121 : abandoned, 25 Mar., 122 : towed to Terschelling, 3 April, 129 : German destroyers search for, 30 Mar., 132 : British submarines search for, 30 Mar., 142.

Melpomene (t.b.d.). In sweep across German Bight, 31 Oct., 5 : damaged in action with Flanders destroyers, 24 April, 104.

Memento (Nor. s.v.). Set on fire by *U.B.27*, 2 May, 155 : wreck of, sighted by 1st Light Cruiser Squadron, 3 May, 161.

Mentor (t.b.d.). Under repair, 31 Oct., 5 : on Zeppelin patrol, 31 Mar., 136.

Meteor (t.b.d.). In sweep across German Bight, 31 Oct., 5 : in Operation H.R.A., 25 Mar., 119.

Meteor (Ger. auxiliary minelayer). (See *Home Waters*, Vol. V.) Good results of cruises of, 40 : havoc wrought by, 70, 76.

Meux, *Admiral of the Fleet The Hon. Sir Hedworth, G.C.B., K.C.V.O.* (C.-in-C., Portsmouth). On mines off Portsmouth, 4 Nov., 17 : relieved by Admiral Colville, 18 Feb., 70.

Michael (t.b.d.). Collides with *Carnation*, 27 Mar., 127.

Milne (t.b.d.). At Harwich, 31 Oct., 5 : in collision with *Murray*, 21 Feb., 63 : in action with Flanders destroyers, 24 April, 104.

Ministre Beernaert (Bel. s.s.). Torpedoed by *U.24*, 26 Dec., 37.

Minos (t.b.d.). In sweep across German Bight, 31 Oct., 5.

Miranda (t.b.d.). Damaged in collision, 10 Mar., 112.

Mischief (t.b.d.). In Operation L, 22 April, 148.

Mod (Nor. s.s.). Sunk by *U.B.27*, 30 April, 155.

Modesta (Nor. s.s.). Has contraband on board, 17 Nov., 26.

Moewe (Ger. auxiliary minelayer). The first cruise of, Jan., 40 : description of, sent to Admiral Jellicoe, Feb., 69 : havoc wrought by, 70 : returns to Germany, 4 Mar., 109, 110.

Moncreiffe, *Lieutenant-Commander John R. G.* Commanding *E.17*, attacks steamer in Western Ems, 6 Oct., 6 : interned in Holland, 5 Jan., 44.

Monitoria (Br. collier). Mined off Sunk Head, 21 Oct., 13.
Moorson (t.b.d.). In sweep across German Bight, 31 Oct., 5.
Morris (t.b.d.). In sweep across German Bight, 31 Oct., 5: in Operation H.R.A., 25 Mar., 119, 120.
Motagua (armed merchant cruiser). Sights submarine, 21 Mar., 78: held up in the Clyde, 8 April, 86.
Murray (t.b.d.). In sweep across German Bight, 31 Oct., 5: in collision with *Milne*, 21 Feb., 63: in action with Flanders destroyers, 24 April, 104: in Operation H.R.A., 25 Mar., 119, 120: on Zeppelin patrol, 31 Mar., 136.
Musician (Br. s.s.). Sights a submarine, 26 Mar., 83.
Nadine (Bel. tr.). Rescues crew of *Van Stirum*, 25 Dec., 37.
Natal (cruiser). Blows up at Cromarty, 30 Dec., 30.
Naper, Lieutenant-Commander George W. E. Commanding *E.24*, fails to return, 21 Mar., 116.
New Zealand (battle cruiser). In collision with *Australia*, 22 April, 148.
Nicator (t.b.d.). Covering passage of troops to Ireland, 26 April, 95.
Nicholson, Captain Wilmot S. (Captain (D), 10th Flotilla). Commanding *Aurora*, in Operation H.R.A., 25 Mar., 121, 122, 129.
Nicholson, Rear-Admiral Stuart, C.B., M.V.O. Relieves Admiral Ballard as R.A.E.C., April, 155: warned, *re* air raid, 2 May, 157.
Nimrod (flotilla leader). In sweep, 6 Oct., 4: under repair, 31 Oct., 5: in sweep to Skagerrak, 29 Nov., 28: flying Commodore (T)'s pendant in submarine hunt, 10 Mar., 112: in Operation B.Z., 15 Mar., 113: in Operation H.R.A., 25 Mar., 118, 119, 120, 121, 122, 123: sweeps for *L.15*, 31 Mar., 138.
Nominoe (Fr. s.s.). Torpedoed by *U.B.29*, 19 Mar., 102.
Nordland (Swed. s.s.). Attempt to intercept her, 2 Jan., 45.
Nore Defence Flotilla. Ready to repel raid, 11 Feb., 59: vessels of, take up their positions in defence scheme, 6 Mar., 107.
Norman Prince (defensively armed s.s.). Encounters *U.67*, 22 April, 91.
Norne (Nor. s.s.). Sunk by *U.28*, end of Mar., 85.
Oleander (fishing smack). Destroyed by submarine, 21 Feb., 56.
Oliver, Vice-Admiral (Acting) Sir Henry F., K.C.B., M.V.O. (Chief of Admiralty War Staff). His orders *re* possible German landing on Belgian coast, 71: on fighting German armed small craft, 101: learns of High Sea Fleet movements, 6 Mar., 107: on Folkestone-Grisnez boom, May, 170.
Olivine (armed drifter). Rescues crew of *L.15*, 1 April, 138.
Omsk (Russ. s.s.). Sunk, probably by *U.28*, 28 Mar., 85.
Onslaught (t.b.d.). In Operation L, 22 April, 148.
Onslow (t.b.d.). Covering passage of troops to Ireland, 26 April, 95.
Orvieto (minelayer). Lays 500 deep mines near North Carr, 7 Oct., 2: lays mines between S. Falls and W. Hinder Banks, 23 Mar., 96.
Ossory (t.b.d.). Covering passage of troops to Ireland, 26 April, 95.
Othello (minesweeping tr.). Mined off South Foreland, 31 Oct., 18.
Ottensen (Ger. auxiliary). Mined, 16 Mar., 114.
Ottomar (Russ. s.v.). Sunk by *U.44*, 25 Mar., 84.
Otto Rudolf (Ger. armed tr.). Sunk during Operation H.R.A., 25 Mar., 120, 130.
Paget, Admiral Sir Alfred W., K.C.B., K.C.M.G. (Captain, R.N.R.). Relieves Admiral Boyle at Larne, 76.
Palembang (Dutch s.s.). Mined, 18 Mar., 101.
Papeleria (Nor. s.s.). Sunk, 16 April, 90: by *U.69*, 91.
Paris (minelayer). Lays deep minefield off Firth of Forth, 2 Oct., 2: in Operation K, 13 Oct., 6: lays minefields, off Ostend, 10 Mar., 96: off Lowestoft, 18 May, 168.
Parisiana (Br. s.s.). Sunk by *U.19*, 23 April, 92.

Penelope (l.c.). In sweeps, 30 Sept. and 6 Oct., 4: in sweep across German Bight, 31 Oct., 5: in Operation K, 13 Oct., 6: in Operation H.R.A., 25 Mar., 119, 124, 125, 126, 127, 128: torpedoed, bombardment of Lowestoft, 25 April, 152.
Penshurst (decoy ship). Under repair at Queenstown, April, 89.
Perth (Br. s.s.). Torpedoed near Cross Sand, 2 April, 103.
Pestalozzi (Nor. s.v.). Boarded by *U.28*, 22 Mar., 85.
Peter Hamre (Nor. s.s.). Torpedoed near Kentish Knock, 2 April, 103.
Phaeton (l.c.). In Operation XX, helps to bring down a Zeppelin, 4 May, 162.
Phrygia (defensively armed steamer). Claims a submarine, 24 Mar., 83: encounters *U.28*, 24 Mar., 85.
Pillau (Ger. l.c.). Flag of 2nd Scouting Group transferred to, 21 April, 150.
Pleasance (net drifter). At capture of *U.B.26*, 5 April, 98.
Pleiades (net drifter). At capture of *U.B.26*, 5 April, 98.
Pohl, Admiral von. Decision not to use submarines to attack commerce, 1: prepares for a sortie, 7: carries out sortie, 23 Oct., 8: decision *re* destroyer sweep in Skagerrak, 26: despatches three submarines to reconnoitre the Orkneys, 16 and 17 Nov., 27: determined to repeat cruise in Kattegat, 28: succeeded by Admiral Scheer, 24 Jan., 61, 108, 153: no intention to risk fleet for exercises, 107.
Poppy (sloop). In 10th Sloop Flotilla, encounters enemy t.b.ds., 10 Feb., 58: sights Zeppelin, 5 April, 141.
Port Augusta (defensively armed s.s.). Encounters *U.45*, 2 May, 94.
Port Dalhousie (Br. s.s.). Torpedoed by *U.B.10*, 19 Mar., 101.
Primrose (sloop). Drives off submarine attacking *Berwindale*, 16 Mar., 77: goes to assistance of *Duendes*, 25 Mar., 81: conveying troops to Fenit, 30 April, 95.
Princess Margaret (minelayer). Lays mines, in Borkum area, 8 Nov., 11: in Operation XX, 4 May, 156, 157, 159, 160, 163: off Lowestoft, 18 May, 168: off Belgian coast, 15 May, 169.
Pungo (Ger. s.s.). Renamed *Moewe*, 40.
Pustkuchen, Lieutenant. Commanding *U.B.29*, Mar., 96: torpedoes *Sussex*, 24 Mar., 102.
Radium (smack). Destroyed by a submarine, 31 Jan., 48.
Ravenhill (Br. s.v.). Sunk by *U.69*, 18 April, 91.
Rear-Admiral Commanding, East Coast of England. See under Admiral of Patrols, and under Ballard and Nicholson.
Rear-Admiral, 3rd Cruiser Squadron. See under Browning.
Rear-Admiral, 10th Cruiser Squadron. See under De Chair.
Revenge (decoy smack). Encounters a submarine, 18 May, 168.
Resono (armed tr.). Mined near Sunk Light Vessel, 26 Dec., 32.
Ribston (Br. collier). Sunk by *U.19*, 24 April, 92.
Rijndam (Dutch s.s.). Mined near South Knock Buoy, Jan., 53.
Rijndijk (Dutch s.s.). Damaged by mine or torpedo, 7 April, 86.
Rio Branco (Braz. s.s.). Sunk by *U.B.27*, 1 May, 155.
Rio Tiete (Br. collier). Sunk, probably by *U.28*, 28 Mar., 85.
Riviera (seaplane carrier). At Dover, 71: in air raid on Zeebrugge, 20 Mar., 117.
Robert Adamson (Br. s.s.). Torpedoed near Harwich, 10 April, 103.
Rosemary (sloop). Joins 10th Sloop Flotilla, Feb., 63.
Ross (Br. s.s.). Sunk by *U.19*, 22 April, 92.
Rostock (Ger. l.c.). Attacked by *E.6*, 24 Oct., 8: encounters *E.31*, 4 May, 164, 165.
Rothsay (Br. s.s.). Torpedoed in South-west Approach by *U.32*, 5 Mar., 73.
Roxburgh (cruiser). In sweeps off Norwegian coast, 15 Mar., 115: 8 April, 143.
Ruabon (Br. s.s.). Sunk by *U.20*, 2 May, 94.
Russell (battleship). Ordered to Mediterranean, 5 Nov., 9.
Safeguard (gunboat). Rescues crew of *Willie*, 17 Mar., 77.
S.22 (Ger. t.b.d.). Mined, 25 Mar., 133.

- Sabbia* (Br. collier). Mined, 21 April, 134.
- Sagitta* (armed yacht). Flagship of A.M.S., Feb., 63.
- St. John, Captain Francis G., M.V.O.* Commanding *Undaunted*, in Operation H.R.A., 25 Mar., 124, 128.
- St. Marie* (Fr. s.v.). Destroyed by submarine, 7 April, 86.
- St. Vincent* (battleship). Leaves Scapa to refit at Liverpool, 2 Jan., 38.
- Salerno* (Br. s.s.). Mined near North Knock Buoy, 14 Oct., 13.
- Salerno* (Nor. s.s.). Mined near Sunk Head Buoy, 18 Oct., 13.
- Salybia* (Br. s.s.). Torpedoed without warning by *U.B.29*, 24 Mar., 102.
- Santanderino* (Span. s.s.). Torpedoed without warning by *U.66*, 8 April, 87.
- Scheer, Admiral von.* In command of High Sea Fleet, 43; successor of Admiral Pohl, 61, 108, 153; announces end of submarine campaign, 25 April, 93; first activity of forces under, in Mar., 106; signals from, intercepted, 6 Mar., 107; without air reconnaissance, 6 Mar., 109; precaution against submarines, 110; orders High Sea Fleet to sea, 25 Mar., 130; informed *re* position of British fleet, 26 Mar., 135; signal from, *re* air raid, intercepted, 31 Mar., 136; sends 1st and 2nd Scouting Groups to reconnoitre, 21 April, 150; orders submarines to make for British cruisers, 4 May, 164.
- Schneider, Lieutenant-Commander.* Commanding *U.24*, in South-west Approach, Dec., 37.
- Schuur, Commander.* Attacks 10th Sloop Flotilla, 10 Feb., 61.
- Schwanden* (Russ. s.v.). Sunk, 15 April, 90; by *U.69*, 91.
- Schwieger, Lieutenant-Commander.* Commanding *U.20*, reconnoitres the Orkneys, 20 Nov., 27; his ferocity, 73.
- Scott, Lieutenant Walter L., R.N.R.* Commanding *Hobbyhawk*, encounters a submarine, 18 May, 168.
- Scott* (tr.). Mined near Tongue Light Vessel, 22 Oct., 18.
- Scouting Groups.*
- 1st *Scouting Group.* Off Terschelling, 29 Jan., 47; to have sailed at midnight, 10 Feb., 59; at sea, 6 Mar., 107, 109; proposed sweep to support Zeppelins, Mar., 108; in the Baltic, 20 Mar., 119; known to be coming out, 26 Mar., 125; returns from Baltic, 25 Mar., 130; at sea, 26 Mar., 146; at sea, 22 April, 147, 150; preparing for sea, 2 May, 163; in operation of 4 May, 164.
- 2nd *Scouting Group.* Six light cruisers of, in sweep of Skagerrak, 16-18 Dec., 29; off Terschelling, 29 Jan., 47; in the Bight, 10 Feb., 57; sighted by *D.3*, 11 Feb., 62; at sea, 6 Mar., 107, 109; proposed sweep to support Zeppelins, Mar., 108; ordered to sea, 25 Mar., 130; at sea, 25 Mar., 133; at sea, 22 April, 147, 150; in operations of 2-5 May, 163, 164.
- 4th *Scouting Group.* At sea, 6 Mar., 107; known to be coming out, 26 Mar., 125; ordered to sea, 25 Mar., 130; at sea, 21-22 April, 150.
- Senior Naval Officer, Clyde.* Orders to, *re* Grand Fleet vessels, 86.
- Senior Naval Officer, Larne.* See under Boyle and Paget. Stops all northbound traffic through the North Channel, 24 Mar., 81; orders to, *re* Grand Fleet vessels, 86.
- Senior Naval Officer, Liverpool.* Orders to, *re* Grand Fleet vessels, 86.
- Senior Naval Officer, Lowestoft.* See under Ellison.
- Senior Naval Officers, East Coast.* Warned of possible German naval raid, 10 Feb., 57; told to resume normal conditions, 11 Feb., 59; informed of air raid, 4 April, 141.
- Senior Naval Officer, Stornoway.* See under Tupper and Boyle.
- Senior Officer, 10th Sloop Flotilla.* See under Mayne.
- Seydlitz* (Ger. battle cruiser). Off Horn Reefs, 26 Mar., 135.
- Shipping Intelligence Officers.* Functions of, 79.
- Silius* (Nor. s.v.). Torpedoed by *U.B.18*, 9 Mar., 96.

- Silksworth Hall* (Br. s.s.). Torpedoed near the Corton, 10 April, 103.
- Skodsborg* (Dan. s.s.). Torpedoed by *U.B.29*, 20 Mar., 102.
- Sloop Flotillas.*
- 1st *Sloop Flotilla.* Under command of Admiral Bayly, Dec., 37, 89.
- 10th *Sloop Flotilla.* Encounters enemy t.b.ds., 10 Feb., 58; sweeping L Channel, 19-21 Feb., 63; sights Zeppelin, 5 April, 141.
- Smiths, Lieutenant.* Commanding *U.B.26*, surrenders to British net drifters off Havre, 5 April, 98.
- Snowdrop* (sloop). On escort duty, 16 Mar., 77; escorts transport to Galway, 30 April, 95.
- Springflower* (fishing smack). Sunk by *U.B.17*, 6 Mar., 100.
- Stately* (net drifter). At capture of *U.B.26*, 5 April, 98.
- Steinbrinck, Lieutenant-Commander.* Commanding *U.B.10*, torpedoes *Huntly* and *Belford*, 20 Dec., 35; commanding *U.B.18*, operating off Havre, Feb., 56; torpedoes *Harmatris*, 7 Mar., 96; torpedoes *Tubantia*, 16 Mar., 101.
- Strong, Mr. James W. H.* (skipper, R.N.R.). Commanding *Fame*, awarded D.S.C., Mar., 100.
- Submarine Flotillas.*
- 4th *Submarine Flotilla.* *C.26* and *C.27* transferred from 7th Submarine Flotilla, Feb., 71.
- 7th *Submarine Flotilla.* *C.26* and *C.27* transferred to 4th Submarine Flotilla, Feb., 71.
- 8th *Submarine Flotilla.* 11th Flotilla to carry out similar duties to, 22.
- 11th *Submarine Flotilla.* To be an overseas flotilla, 22.
- Sueter, Captain Murray F., C.B.* (Commodore, 1st Class) (Director of Air Department, Admiralty). Suggests air raid on Hoyer, June 1915, 118.
- Sunshine* (smack). Destroyed by a submarine, 18 Jan., 48.
- Superb* (Nor. s.s.). Set on fire by *U.B.27*, 2 May, 155; wreck of, sighted by 1st Light Cruiser Squadron, 3 May, 161.
- Sussex* (Br. s.s.). Escapes from *U.45* in South-west Approach, 29 April, 93, 94.
- Sussex* (Fr. s.s.). Torpedoed without warning by *U.B.29*, 24 Mar., 102.
- Sydney Reid* (defensively armed s.s.). Encounters *U.67*, 19 April, 91.
- Talisman* (t.b.d.). Attacked by *U.44*, 24 Jan., 67.
- Teal* (Br. s.s.). Sunk by *U.B.27*, 29 April, 155.
- Telesia* (smack). Armed as submarine decoy, 48; encounters a submarine, 23 Mar., 102; renamed *Hobbyhawk*, encounters a submarine, 18 May, 168.
- Teutonian* (Br. s.s.). Sunk in South-west Approach by *U.32*, 4 Mar., 73.
- Thompson, Mr. A. R.* (skipper, R.N.R.). Commanding *Energic*, awarded D.S.C., 100.
- Thorn* (t.b.d.). Under orders of Senior Naval Officer, Larne, 76.
- Tiger* (battle cruiser). Leaves Tyne, 21 Dec., 36.
- Tipperary* (flotilla leader). Working from Devonport, 31 Oct., 5; returns from Devonport to Harwich, 63.
- Tore Jarl* (Nor. s.s.). Picks up crew of *Mod*, 30 April, 155.
- Toward* (Br. s.s.). Mined off South Foreland, 31 Oct., 18.
- Trave* (Ger. s.s.). Sunk in Kattegat by *E.31*, 18 May, 167.
- Traquair* (Br. s.s.). Mined off Dover, 12 Jan., 53.
- Tregantle* (Br. s.s.). Torpedoed near Corton Light Vessel, 22 April, 103.
- Trident* (t.b.d.). In Operation XX, 4 May, 159.
- Trois Frères* (Fr. s.v.). Sunk off Ushant by *U.32*, 6 Mar., 73.
- Tubantia* (Dutch s.s.). Torpedoed without warning by *U.18*, 16 Mar., 101.
- Tupper, Vice-Admiral Reginald G. O., C.V.O.* (Senior Naval Officer, Stornoway). Relieves Admiral De Chair in command of 10th Cruiser Squadron, 76.

- Tyrwhitt, Captain Reginald Yorke, C.B.* (Commodore, 1st Class). Captures 13 German trawlers, 30 Sept., 4; captures 16 German trawlers, 6 Oct., 4; sweeps across the German Bight, 31 Oct., 5, 6; supports minelaying expedition, 8 Nov., 11, 12; sweeps to the Skagerrak, 29 Nov., 28; sweeps across the Bight, 21 Dec., 31; his force sighted by *H.10*, 21 Dec., 32; informed of supposed minelayer, 30 Dec., 36; attempts to intercept *Nordland*, 2 Jan., 44; in charge of Operation A.R.H., 18 Jan., 46; in charge of second attempt at A.R.H., 28 Jan., 47; unable to send out Zeppelin patrol, 31 Jan., 49; in hunt for *L.19*, 1 Feb., 50; in practice cruise, 9 Feb., 57; at sea after attack on 10th Sloop Flotilla, 11 Feb., 59; supports 10th Sloop Flotilla, 21 Feb., 63; attempt to exercise his force with Grand Fleet abandoned, 26 Feb., 64; submarines warned that he would be coming, 65; to provide destroyers to co-operate with Dover force for air raid, 71; at sea, 6 Mar., 107, 109; hunts submarines in K Channel, 10 Mar., 112; in attempted minelaying operation, 11 Mar., 112; issues orders for Operation B.Z., 9 Mar., 113; sends destroyers to join *Lance*, 20 Mar., 117; plans Operation H.R.A., 118; in Operation H.R.A., 25 Mar., 119, 120, 121, 122, 123, 124, 125, 129, 132; ordered to attack *L.15*, 31 Mar., 138; sends destroyers to intercept Zeppelins, 4 Mar., 141; his forces depleted, May, 169.
- U.16* (Ger. s/m). Operating in mouth of Skagerrak, 30 Sept., 1.
- U.19* (Ger. s/m). Reconnoitres the Orkneys, 19–23 Nov., 27; in South-west Approach, end of April, 92; unaware submarine campaign had ceased, 25 April, 93; lands Casement in Ireland, 21 April, 95; *Aud* under protection of, 21 April, 150.
- U.20* (Ger. s/m). Reconnoitres the Orkneys, 20 Nov., 27; stationed off Lindesnaes, 17–24 Dec., 29; *en route* for South-west Approach, 25 April, 93; in South-west Approach, beginning of May, 94; off Norderney, 21 April, 150.
- U.21* (Ger. s/m). Reported in South-west Approach, 18 April, 91.
- U.22* (Ger. s/m). Leaves Ems to attack British submarines, 7 Oct., 6; unsuccessful cruise of, 1–12 Mar., 73; leaves Germany, 1 April, 85; presumably off Skerryvore beginning of April, 87; believed to have sunk *Chic*, April, 88.
- U.24* (Ger. s/m). Operations in South-west Approach, Dec., 37, 72, 78; attacks British cruisers, 3 May, 164.
- U.28* (Ger. s/m). Cruises in Skagerrak, 17 Nov., 26; returns owing to defects, 10 Mar., 75; her place taken by *U.68*, 16 Mar., 78; sails for Irish coast, 18 Mar., 83; operating off Irish coast, returns home, 2 April, 85, 143, 144.
- U.32* (Ger. s/m). Lies in wait at position where *Arabis* sank, 11 Feb., 61; raids the South-west Approach, 4–8 Mar., 73; off Norderney, 21 April, 150.
- U.43* (Ger. s/m). Off Peterhead, 19–24 Nov., 27; fitted for minelaying, 36; leaves Germany for north of Ireland, 9 Mar., 75; operations, north coast of Ireland, middle of Mar., 80, 82, 83.
- U.44* (Ger. s/m). Returns from Little Fisher Bank, 6 Oct., 6; attacks *Devonshire* and lays mines off Tyne, Dec., 36, 51; lays Leon mines off Coquet Island, 27 Jan., 67; operating off Irish coast, end of Mar., 83; engaged by *Zinnia*, 28 Mar., 84; returns home, 2 April, 85.
- U.45* (Ger. s/m). Visit to Irish coast cancelled, Mar., 83; leaves the Ems for the north, 20 April, 92; in South-west Approach, end of April, 93, 94.
- U.46* (Ger. s/m). Recalled, 11 April, 92.
- U.51* (Ger. s/m). In operations of 4 May, 164.
- U.66* (Ger. s/m). Leaves Germany, 29 Mar., 86; operates in South-west Approach, beginning of April, 87; sinks *Zent*, 5 April, 89.
- U.67* (Ger. s/m). Cruises in Skagerrak, 17 Nov., 26; off Peterhead, 20–25 Dec., 36; in South-west Approach, middle of April, 88; encounters *Farnborough*, 15 April, 90; returns home, 30 April, 91.
- U.68* (Ger. s/m). Reconnoitres for *Moewe*, 40; ordered to take the place of *U.28*, 10 Mar., 75; sunk by *Farnborough*, 22 Mar., 78; ready to repel raids, 6 Mar., 109.
- U.69* (Ger. s/m). Sails for Irish coast, but returns next day, 25 Mar., 83; in South-west Approach, middle of April, 88, 91; ready to repel raids, 6 Mar., 109; sweeps for British force, 25 Mar., 133.
- U.70* (Ger. s/m). Lies in wait at position where *Arabis* sank, 11 Feb., 61; proceeds for South-west Approach, 10 Mar., 75; operations in South-west Approach, middle of Mar., 80, 82, 83; in operations of 4 May, 164.
- U.71* (Ger. minelaying s/m). Possibly sighted by *D.7*, 21 April, 144; unsuccessful attempt to mine British bases, 18 April, 145.
- U.72* (Ger. s/m). Unsuccessful attempt to mine British bases, 18 April, 145.
- U.73* (Ger. s/m). Leaves Germany for the Mediterranean, 1 April, 86.
- U.74* (Ger. s/m). Fitted as minelayer, to mine the Forth, 28 Mar., 130; mines the Forth, 31 Mar., 134; destroyed by Peterhead Auxiliary Patrol, 27 May, 171.
- U.B.2* (Ger. s/m). Torpedoes *Arbonne*, 21 Feb., 56.
- U.B.6* (Ger. s/m). Encounters *Fame*, 6 Mar., 100; believed to have sunk *Ask*, 17 Mar., 101; believed to have sunk *Hollandia*, 31 Mar., 102.
- U.B.10* (Ger. s/m). Torpedoes *Huntly* and *Belford* off Boulogne, 20 Dec., 35; torpedoes *Port Dalhousie*, 19 Mar., 101; entangled in nets near Thornton Ridge, 24 April, 104.
- U.B.13* (Ger. s/m). Attacks Lowestoft fishing fleet, 1 Mar., 100; claims to have sunk steamers, 16 and 31 Mar., 101; disappears with all hands, 24 April, 104.
- U.B.16* (Ger. s/m). On watch near Thornton Bank, 3 Oct., 16; encounters *Fame*, 6 Mar., 100.
- U.B.17* (Ger. s/m). Attacks British monitors off Middelkerke Bank, 3 Oct., 16; believed to have sunk *Franz Fischer*, 1 Feb., 51; sinks two smacks, 6 Mar., 100.
- U.B.18* (Ger. s/m). Operations of, off Havre, Feb., 56; torpedoes *Harmatris*, 7 Mar., 96; operations of, off Havre, 22–23 Mar., 97; operations of, in the Channel, 6–8 April, 98; torpedoes *Tubantia*, 16 Mar., 101; not in operations of 6 Mar., 109.
- U.B.19* (Ger. s/m). In the Channel, Mar., 96.
- U.B.21* (Ger. s/m). In operations of 4 May, 164.
- U.B.22* (Ger. s/m). In operations of 4 May, 164.
- U.B.26* (Ger. s/m). Captured by British net drifters off Havre, 5 April, 98.
- U.B.27* (Ger. s/m). Cruise of, end of April, 155, 161; in operations of 4 May, 164.
- U.B.29* (Ger. s/m). Newly commissioned, 8 Mar., 96; torpedoes *Sussex*, 24 Mar., 102.
- U.C.1* (Ger. minelaying s/m). Operations of, during Oct., 13, 18; during Nov., 20; during Jan. and Feb., 53; deterred from approaching Elbow Buoy, 20 Feb., 54; lays mines north of Galloper, 29 April, 104.
- U.C.2* (Ger. minelaying s/m). See under Cottingham.
- U.C.3* (Ger. minelaying s/m). Operations of, during Oct., 13; during Nov., 20; during Jan. and Feb., 53; incorrectly considered sunk, 23 April, 103; mines Harwich, 3 Mar., 108.
- U.C.4* (Ger. minelaying s/m). Operations of, during Feb., 53; lays mines near Tongue Light Vessel, 3 Mar., 100; mines Edinburgh Channel, 3 Mar., 108.
- U.C.5* (Ger. minelaying s/m). Operations of, during Oct., 13; lays mines near Nab Light Vessel, 18 Oct., 17; operations of, during Nov., 20; lays mines at North Galloper, 29 Dec., 36; operations of, during Jan. and Feb., 53; lays mines near Sunk Light Vessel, about 17 Mar., 100; surrenders to *Firedrake*, 27 April, 103; discovers the Zeebrugge Zareba, 25 April, 104; mines Harwich, 3 Mar., 108.

- U.C.6* (Ger. minelaying s/m). Operations of, during Oct., 13; rammed and slightly damaged, Oct., 19; operations of, during Nov., 20; lays mines across swept channel, 33; operations of, during Feb., 53; encounter with *James Fletcher*, 11 Jan., 54; lays mines off Calais, 3 April, 99; lays mines off Dover, 3 Mar., 100, 108; lays mines off Orfordness, 24 April, 103.
- U.C.7* (Ger. minelaying s/m). Operations of, during Oct., 13; in net, off Humber, 20 Oct., 19; operations of, during Nov., 20; during Jan. and Feb., 53; lays mines off Boulogne, 24 Mar., 99; fails to mine Downs, 3 Mar., 108.
- U.C.8* (Ger. minelaying s/m). Interned in Holland, 4 Nov., 20.
- U.C.9* (Ger. minelaying s/m). Operations of, during Oct., 13; destroyed during Oct., 19.
- U.C.10* (Ger. minelaying s/m). Operations of, during Jan., 53; lays mines near North Galloper, 17 Mar., 101; lays mines off Southwold, 29 April, 103, 104; mines Black Deep, 3 Mar., 108.
- U.C.11* (Ger. minelaying s/m). As training ship, Nov., 20.
- Undaunted* (l.c.). In sweeps, 30 Sept. and 6 Oct., 4; in hunt for *L.19*, 1 Feb., 50; in support of 10th Sloop Flotilla, 21 Feb., 63; in Operation H.R.A., 25 Mar., 118, 119, 125, 126, 127, 128; collides with *Cleopatra*, 25 Mar., 123, 124; reinforces Dover Patrol, 17-20 May, 169.
- Unione* (It. s.s.). Torpedoed by *U.66*, 10 April, 87.
- V.1* (s/m). Inside Heligoland, 19-23 Feb., 65; in the Bight, 10-15 Mar., 115; off Terschelling, 8-14 May, 165.
- Vala* (decoy ship). Based at Milford, April, 89.
- Valpa* (armed tr.). Mined off the Humber, 19 Mar., 67.
- Van Stirum* (transport). Sunk by *U.24*, 25 Dec., 37.
- Velox* (t.b.d.). Mined 3 miles north-west of Nab Light Vessel, 25 Oct., 17.
- Vennachar* (Br. oiler). Torpedoed without warning, 6 April, 86.
- Vesuvio* (Br. s.s.). Torpedoed, probably by *U.B.18*, 6 April, 98.
- Vice-Admiral Commanding, Battle Cruiser Fleet*. See under Beatty.
- Vice-Admiral Commanding on the Coast of Ireland*. See under Bayly.
- Vice-Admiral Commanding, 1st Battle Squadron*. See under Burney.
- Viking* (t.b.d.). Damaged by mine, 29 Jan., 53.
- Ville du Havre* (Fr. s.v.). Sunk off Ushant by *U.32*, 7 Mar., 73.
- Vindex* (aircraft carrier). In Operation A.R.H., 18 Jan., 46; in second attempt at A.R.H., 28 Jan., 47; to participate in air raid on Ostend and Zeebrugge, 71; in air raid on Zeebrugge, 20 Mar., 117; in Operation H.R.A., 25 Mar., 118, 119, 120, 121; in Operation XX, 4 May, 156, 159, 160.
- Vimifreda* (Span. s.s.). Torpedoed without warning by *U.45*, 30 April, 94.
- Volksdorf* (Ger. minesweeper). Mined off mouth of Elbe, 134.
- Volscian* (Br. s.s.). Mined near North Knock Buoy, 16 Oct., 13.
- Wagenführ*, *Lieutenant-Commander*. Commanding *U.44*, in South-west Approach, 31 Mar.-2 April, 85.
- Waistell*, *Captain Arthur K.* (Captain (S)). Considers it unlikely that *E.6* sank German cruiser, 24 Oct., 8; ordered to send three submarines to cruise in Kattegat, 18 Nov., 25; in *Fivedrake*, 18 Jan., 46; considers that *E.29* sank enemy t.b.d., 14 Feb., 62; receives orders dealing with possible German landing on Belgian coast, 71; accompanies Harwich Force, 6 Mar., 107; to maintain continuous watch in the Bight, 110; remarks on mining of *H.8*, 114.
- Wandle* (defensively armed s.s.). Encounters *U.B.27*, 29 April, 155.
- Warspite* (battleship). Collides with *Barham*, Dec., 28.
- W. E. Brown* (fishing smack). Destroyed by submarine, 21 Feb., 56.
- Weigelia* (minesweeper). Mined off Dover, 28 Feb., 54.
- Welcome Star* (net drifter). At capture of *U.B.26*, 5 April, 98.
- Wharton*, *Mr. Walter S.* (skipper, R.N.R.). Commanding *Telesia*, encounters a submarine, 23 Mar., 102.
- Whitgift* (Br. s.s.). Sunk by *U.67*, April, 91.
- Wiesbaden* (Ger. l.c.). Supposed torpedo attack on, 18 Dec., 29.

- Willie* (Br. s.s.). Destroyed by submarine, 16 Mar., 77.
- Wilson*, *Dr. Woodrow* (President of U.S.A.). His attitude toward German submarine methods, 93.
- Wünsche*, *Lieutenant-Commander*. Commanding *U.70*, operating in South-west Approach, middle of Mar., 80.
- Wylie*, *Mr. Thomas C.* (skipper, R.N.R.). Commanding *Endurance*, awarded D.S.C., April, 98.
- Young Harry* (fishing smack). Sunk by *U.B.17*, 6 Mar., 100.
- Zealandia* (battleship). Ordered to Mediterranean, 5 Nov., 9.
- Zent* (Br. s.s.). Torpedoed without warning, 5 April, 86; by *U.66*, 89.
- Zinnia* (sloop). Engages *U.44*, 28 Mar., 84.
- Zylpha* (decoy ship). Scrutinised by submarine, probably *U.66*, 5 April, 89.

**LIST OF NAVAL STAFF MONOGRAPHS (HISTORICAL)
ISSUED TO THE FLEET.**

C.B. 917	..	Vol. I	..	Monograph	1. Coronel.
				"	2. German Cruiser Squadron in Pacific.
				"	3. Falklands.
				"	4. <i>Goeben</i> and <i>Breslau</i> (super seded by Monograph 21).
C.B. 917(A)	..	Vol. II	..	"	5. Cameroons, 1914.
				"	10. East Africa, to July, 1915.
C.B. 1585	..	Vol. III	..	"	6. Passage of B.E.F., August 1914.
				"	7. Patrol Flotillas at commencement of war.
				"	8. Raid on N.E. Coast, December 16, 1914.
				"	11. Heligoland Bight, August 28, 1914.
				"	12. Dogger Bank, January 24, 1915.
C.B. 917(B)	..	Vol. IV	..	"	15. Mesopotamia.
C.B. 917(C)	..	Vol. V	..	"	14. First Australian Convoy, 1914.
				"	16. China Squadron, 1914 (including <i>Emden</i> Hunt).
				"	17. East Indies Squadron, 1914.
				"	20. Cape of Good Hope Squadron, 1914.
C.B. 917(D)	..	Vol. VI	..	"	18. Dover Command. I.
C.B. 917(E)	..	Vol. VII	..	"	19. Tenth Cruiser Squadron I.
				"	25. The Baltic, 1914.
C.B. 917(F)	..	Vol. VIII	..	"	21. The Mediterranean, 1914-1915.
C.B. 917(G)	..	Vol. IX	..	"	22. Atlantic, 1914.
				"	26. Atlantic, 1915.
				"	27. Battles of Coronel and Falkland Islands.
C.B. 917(H)	..	Vol. X	..	"	23. Home Waters. Part I.
C.B. 917(I)	..	Vol. XI	..	"	24. Home Waters. Part II.
C.B. 917(J)	..	Vol. XII	..	"	28. Home Waters. Part III.
C.B. 917(K)	..	Vol. XIII	..	"	29. Home Waters. Part IV.
C.B. 917(L)	..	Vol. XIV	..	"	30. Home Waters. Part V.
C.B. 917(M)	..	Vol. XV	..	"	31. Home Waters. Part VI.

