

Class of June, 1920

Thesis

TACTICS

Submitted by

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Naval War College
Newport, R. I.
15 February, 1921

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THESIS

T A C T I C S

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CAPTAIN C.A.ABELE, U.S.N.

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THE BATTLE OF JUTLAND.

The strength of the contending forces was as follows:-

<u>BRITISH</u>		<u>GERMAN</u>		<u>BRITISH</u>
No.	Displacement	No.	Displacement	Displacement Superiority
BB 28	647,550	16	363,360	1.78 to 1
CC 9	196,900	5	118,710	1.66 " 1
CL 26	108,290	11	44,726	2.42 " 1
DD 78	77,200	77 or)	60,300	1.28 " 1
	1,029,740	more	587,096	Total displacement superiority
		probably 72)		1.75 to 1

In addition to the above the Germans had 6 OBB and the British 8 OCA and one mine laying destroyer.

Comparing the strength of the capital ships, taking into consideration possible concentration but omitting other qualifying factors such as smoke, gas, etc., we find as follows:-

<u>Comparison of Strength</u>				(18,000 yds.)	
		<u>Hitting Power</u>	<u>Life</u>	<u>Fighting Strength</u>	<u>Ratio</u>
3:48 pm)BR. 6 CC		6x.8=4.8	6x11=66	316.8	1.5
to					
4:05 pm)GR. 5 CC		4x.8=3.2		209.0	
		1x.6= .6	5x11=55		1.00
		3.8			
1 concentration.					
4:05 pm)BR. 5 CC		5x.8= 4.0	5x11=55		
to					
	4 BB	4x1.3=5.2	4x20=80	1242	7.00
		9.2	135		
4:38 pm)GR. 5 CC		4x.6= 2.4		176	1.00
		1x.8= .8	5x11=55		
		3.2			
4 concentrations.					
6:16 pm)BR. 28 BB		28x1.3=36.4	28x20=560	26754	2.37
to					
	7 CC	7x.8 = 5.6	7x11= 77		
		42.0	637		
6:34 pm)GR. 16 BB		16x1.3=20.8	16x20=320		1.00
	5 CC	3x.8 = 2.4	5x11= 55		
		2x.6 = 1.2			
	6 OBB	6x.2 = 1.2	6x11= 66		
		25.6	441	11289.6	
8 concentrations.					

The above comparison is not an accurate one for the reason that a considerable number of German ships carried nothing larger than eleven inch guns and none larger than twelve inch, of which they carried but eighty-eight, while the British carried two hundred guns of more than twelve inch calibre. It is therefore seen that the British fleet was greatly superior to the German.

The German had 16 U boats stationed at strategic points to observe the movements of the British Fleet, and also ten airships ready for the same purpose. Only five of the airships ascended before or during the battle and saw nothing. This might have given the Germans negative information of some value. The U-boats furnished no useful information, in fact one sent rather misleading information, as U-66 sighted a British battle squadron 70 miles east of Kinnaird Head, steaming northeastward. This information led the German commander-in-chief to believe that the British

^{were} uninformed as to his movements, and to the conclusion that he might meet with a detachment of the British fleet.

- (a) The British fleet had left its port in the evening of 30 May for rendezvous to the westward of Skaggerrak, at which they were to arrive at 2.00 p.m. 31 May. The rendezvous for the Battle Cruiser fleet was 65 miles to the southward and eastward of that for the Battle Fleet. Actually the two fleets were not at the appointed rendezvous at that time; they were 73 miles apart, both being to the northward and westward of their appointed rendezvous.

The German fleet had left Jade Basin in the early morning of 31 May and had steamed to the northwestward out of sight of the Danish coast, passing through the swept channel in the mine fields near Horn Reef lightship. At 2.00 p.m. the German Battle Cruiser Squadron was 50 miles ahead of the German Battle Fleet, 29 miles to the eastward of the British Battle Cruiser Fleet and 90 miles off the Danish coast. Admiral Jellicoe had very accurate information of the contemplated movements of the German Fleet. This is indicated by the fact that he had with him his entire available force; that the Battle Cruiser rendezvous was practically on the German Battle Cruiser's course; that he had informed the B.C. fleet commander that he would proceed, after junction towards Horn Reef, and that upon report of sighting enemy forces he immediately sent Battle Cruiser Squadron Three towards the Skaggerak. At 7.00 p.m. 30 May Jellicoe had received Admiralty telegram No. 434 containing the instructions, "You should concentrate to the eastward of 'Long Forties' ready for eventualities.

Admiral Scheer states that the German Fleet was conducting an operation towards the Norwegian coast, the plan being for the Battle Cruisers to show themselves off the Norwegian coast and during the night operate in the Skaggerak, the Battle Fleet to support this operation.

- (b) The strategic mission of the British fleet was to maintain command of the North Sea; its tactical mission; to destroy the German Fleet.

The strategic mission of the German fleet was ; to deny the enemy command of the North Sea, and the minor mission; to force the British Fleet to seek action; its tactical mission was; to engage the British fleet decisively under conditions favorable to itself.

- (c) The contact of the Battle Cruisers had no effect upon these missions. To the British was granted the opportunity to accomplish theirs. The same may also be said of the Germans; as, although their Battle Cruisers were overmatched and had to retire they were leading the British Battle Cruiser Fleet up against their Battle Fleet.

The contact of the main fleets did not affect the British strategic nor tactical missions, nor did it affect the German strategic mission, but it did alter the German tactical mission. Being encumbered with a squadron of slow weak ships and being confronted by an overwhelming force the German tactical mission passed from offensive to defensive and became; To return to their bases using retiring tactics.

(a)

FIRST PHASE.

From 31 May 2.00 p.m. to 6:16 p.m.

At 2:00 p.m. the fleets were in positions as stated above.

The German Fleet was in two parts. The Reconnaissance Force in the lead under Vice Admiral Hipper was composed of the five Battle Cruiser (Scouting Division I) Scouting Division II comprising four light cruisers and a Destroyer Force, comprising Flotillas II, VI, and IX, lead by the light cruiser Regensburg.

The Battle Cruisers were in column at 700 meters distance on course 337° speed 25. Two flotillas of destroyers were deployed in five groups, each led by a light cruiser, in a semi-circle of some two miles radius about the head and flanks of the column, while the remaining flotilla was probably acting as an anti-submarine screen close aboard the battle cruisers.

The main German Fleet was in column, distance between ships 700 meters, distance between squadrons 3500 meters, order of squadrons III, I, II, that is, strong, intermediate weak. The fleet flagship was the eighth ship and led Squadron I. The course of the German Battle Fleet was approximately north, speed fourteen knots. Accompanying the Battle Fleet were Scouting Division IV comprising five light cruisers and a destroyer force consisting of half Flotilla I, Flotillas III, V and VII led by the light cruiser Rostock. The light cruisers were used as a screen ahead, probably in a similar manner to those with the Battle Cruisers. The destroyers were formed about the squadrons as an antisubmarine screen. It is not thought that there were enough to permit of groups such as accompanied the Battle Cruisers, judged by the number used to screen the Battle Cruisers. (eleven)

The British Battle Cruiser Fleet was steaming in an easterly direction until 2.17 p.m. when it changed course to N by E, the formation then was three columns, the Lion leading the first Battle Cruiser Squadron; the second Battle Cruiser Squadron, three miles ENE from the Lion, and the fifth Battle ~~Squadron~~ Squadron was five miles NNW from the Lion. The 1st Battle Cruiser Squadron was screened by a light cruiser and ten destroyers of Flotilla XIII; the 2nd Battle Cruiser Squadron by six destroyers of the Harwich force and the 5th Battle Squadron was screened by a light cruiser and nine destroyers of Flotilla I. There was an ESE scouting line composed of the 2nd, 3rd and 1st Light Cruiser Squadrons and the plane carrier Engadine, at five miles scouting distance and bearing SSE from the Lion, interval eight miles. One light cruiser acted as linking ship. This whole scouting line comprised thirteen vessels.

The British main fleet was disposed in line of division columns. Divisions were disposed from left to right in natural order, 1st to 6th. The Divisions were screened by the 4th, 11th and 12th destroyer flotillas. The 4th light cruiser squadron was stationed three miles ahead of the fleet. On the flanks of the fleet were the four attached light cruisers. Sixteen miles ahead of the Battle Fleet was a scouting line N 40° E composed of eight armoured cruisers at 8 miles distance, each of these cruisers being screened by a destroyer. Twenty miles ahead of the fleet was the 3rd Battle Cruiser Squadron screened by two light cruisers and four destroyers. The fleet was on course S 50° E, zigzagging, speed of advance 14 knots.

At this time the weather was clear, with a light NW wind, and the sea was smooth.

At 2:20 p.m. the Galatea flagship of the British 1st Light Cruiser Squadron and easternmost ship of the Battle Cruiser Fleet Scouting line reported two enemy vessels ESE apparently stopped and boarding a neutral steamer, whereupon Beatty turned his fleet to course SSE for Horn Reef, sending a plane to scout NNE. Jellicoe despatched the 3rd Battle Cruiser Squadron towards Skaggerak, ordered the fleet to raise steam for full speed and ceased zigzagging. At 2:35 the Galatea reported a large amount of smoke "as from a fleet" bearing ENE, followed by a report that the vessels were heading north, whereupon the course of the Battle Cruiser Fleet was altered to the Eastward and NE towards the smoke. The 1st and 3rd light cruiser Squadrons formed a scouting line ahead and the 2nd Light Cruiser Squadron joined the screen about the Battle Cruiser Fleet. At 3:30 the British sighted the German Battle Cruisers and accompanying destroyers. The Engadine's plane returned from its flight to the NNE at this time but gave no useful information. The 5th Battleship Squadron was 10,000 yards from the Battle Cruiser Fleet. The weather was favorable, wind NW (light) visibility good, and sun behind the British forces. Speed was 25 knots. The 1st and 3rd Light Cruiser Squadrons had moved to the northward and were some 18000 yards NNW from the 5th Battleship Squadron.

It must be noted here that, while the Galatea's report of "smoke as from a fleet" was received at 2:35 Beatty continued on in original formation at 19.5 knots and failed to close up the 5th Battleship Squadron which squadron had ample speed to have closed up by 3:30 when SD-1 was sighted. Had Beatty done this the whole course of the Battle of Jutland would have been different. Scouting Division 1 might have been destroyed. It is possible that Beatty in his estimate of the situation, considered that his six battle cruisers were stronger than the German five battle cruisers and therefore held the 5th Battleship Squadron back to the northward and westward in the hope that if he was able to cut off Hipper from returning to Horn Reef on the support of his battle fleet, then the 5th Battleship Squadron would be in position to close in on him from the northward and westward, thus ensuring the destruction of SD-1.

The German light cruiser Elbing of SD-II which was on the left flank of their Battle Cruisers under Hipper, proceeding to the westward to investigate a neutral steamer sighted the Galatea at 2:20 and at 2:28 Hipper was informed that eight British light cruisers were in sight. SD-II proceeded to attack them. Hipper went ships left to course 235° and made SW'y and W'y courses until sighting the Elbing engaged with the British Light Cruisers; he at 3:02 formed column on course about 320° which was gradually changed to 300°. At 3:20 Hipper sighted the two columns of British Battle Cruisers which were observed to be forming a single column and a few minutes later recalled SD-II and at 3:30 counter-marched. The range was now about 26000 yards, bearing of German Battle Cruisers from British about 50°. Flotilla IX was in the van and SD-II covered the rear.

After 3:30 both battle cruiser forces were steaming on easterly courses, slightly converging. The British Battle Cruiser Fleet formed line of bearing to the South eastward to avoid smoke and perhaps to bring their line normal to the enemy's bearing, then deployed to the southward into column, which move was followed immediately by the German going ships right 40° and steadying in line of bearing formation on course 165°. Beatty came around to a somewhat converging course and

both sides opened fire almost simultaneously at about 17000 yards range at 3:48 p.m. The Germans opened on the five leading ships, neglecting at first the rear ship, the Indefatigable. Their fire was very effective. At 3:53 the range was 13,500 and Hipper went ships left 45°, steadying on course about 120°. At 3:54 Beatty went column left to about 158°. By this time the British ships were being hit heavily, the Lion, Tiger and Princess Royal had received serious hits. Beatty then at 4:00 changed to course 168°, the range being 16,500; but Hipper went ships right to course 135°; this however was not enough to close the range, which rapidly opened so that at 4:06 the Derflinger had to cease fire due to guns having reached extreme elevation. The Von der Tann which had originally opened on the New Zealand later shifted her fire to the Indefatigable, probably because closer and at 4:06 that vessel blew up and sunk as the result of a salvo. About 4:00 Hipper first sighted the 5th Battleship Squadron to the rear of the British Battle Cruisers. SD-II was driven off to the northward and eastward by that squadron and could not immediately gain its station with SD-1.

At 3:40 Jellicoe learned that five German Battle Cruisers had been sighted. He immediately changed course to close the Battle Cruiser Fleet. Full speed was ordered, and by 4:00 p.m. the Fleet was making 20 knots. Also at 4:00 p.m. the 3rd Battle Cruiser Squadron was ordered to reinforce Beatty.

Scheer got his first report of the British heavy ships being sighted at 3:35 p.m. He immediately closed up to 500 meters between ships and 1000 meters between squadrons. At 3:45 he learned that Hipper was engaged with six British Battle Cruisers on a southerly course so that at 4:05 he changed course to NW and speed to 15 so as to bring the British between his force and Hipper's.

At 4:08 the British Battleship Squadron came into action at a range of about 18,500 yards between the Barham leader and the Von der Tann rear ship of SD-1. In the earlier part of the action these vessels had apparently been hidden from the Germans by the smoke. At this time the British Battle Cruisers and SD-1 were out of range of one another. At 4:10 SD-1 went ships right 40° to course 175° whereupon at 4:12 Beatty came round to 130°. At this time the range was 21,000 yards but rapidly decreased due to the 45° convergence of courses. Destroyer attacks were then launched on the part of the British by twelve boats supported by light cruisers and on the part of the Germans by fifteen boats supported by the Regensburg. It is probable that the British boats were first to start as the resulting close range engagement between the two flotillas occurred within range of the secondary batteries of SD-1.

The range was now decreasing and at 4:17 SD-1 again opened on the Battle Cruiser Fleet; Leutzow on Lion or Princess Royal Derflinger on Queen Mary; Seydlitz on Tiger, Moltke on New Zealand and Von der Tann was firing at Barham. At 4:20 the range to the Battle Cruiser Fleet was 15,000 yards and to the Barham 17000 yards. As the ranges were decreasing rapidly Hipper went ships left into column on course 162° Beatty changed course to 147°. The courses were then converging 15° only. At 4:22 Seydlitz shifted fire to Queen Mary which was thus being concentrated upon by two ships. At 4:26 she blew up and sank. At 4:27 the range was 13,500 yards to the Battle Cruiser Fleet and at 4:30 it was 12,700, while to Battleship Squadron V it was 17,300. At 4:30 Hipper went ships left 42° to course 120° either to avoid torpedoes from the British destroyers which had then reached a favorable position for firing, or to open the range, or for both purposes. At 4:33 he

again changed course to the Eastward so that at 4:36 the range to the Battle Cruiser Fleet was 17,600 and to Battleship Squadron Five was 20,500 yards. By this time Hipper had sighted the German Battle Fleet and course was changed towards the Battle Cruiser Fleet, SD-1 steadying on a two point line of bearing on course 192°. At 4:37 Beatty changed course to 127° to close the range but at 4:42 sighted the German Battle Fleet and counter-marched to the right completing the turn at 4:45, apparently not under fire. The Lion was then 18000 yards from the Leutzow and the New Zealand was 19,500 yards from the Koenig the leader of the German Battle Fleet.

Beatty now made a rapid estimate of the situation. He was confronted by the whole German Fleet of overwhelming superiority to his force. The Grand Fleet was fifty miles to the northward and westward. Of his battle cruisers only four remained and they were all seriously damaged. He therefore came to the decision to retire at maximum speed on the Grand Fleet, fighting a retiring action. He hoped thereby to lead the German Fleet to the Grand Fleet. His plan of action was to place the battle cruisers in the van and the 5th Battleship Squadron in the rear.

By 4:30 the British destroyers had gained a favorable position for attack and turned in column to the NE towards SD-1. They were met by the German destroyers supported by the Regensburg and a sharp action ensued. The British boats were heavier armed and two German destroyers V-27 and V-29 were sunk. Two British destroyers Nomad and Nestor were damaged, the latter by the Regensburg, and both were later sunk by the German battle fleet. The crews of all these boats were picked up by the Germans. The German destroyers Flotilla IX and Half Flotilla III fired twelve torpedoes at ranges from 9,000 to 11,000 yards. The British destroyers apparently did not fire so many torpedoes.

At 4:12 Scouting Division II had formed column on course 110° and at 4:20 went ships right 55° to course 165°. It had been forced to this detour to escape the fire of the 5th Battleship Squadron. It continued on a southeasterly course.

The 1st and 3rd Light Cruiser Squadrons trailed on, a considerable distance in the rear of the 5th B. Sqd. The 2nd L.C. Squadron led the Battle Cruiser Fleet and by 4:45 came under the fire of the German Battle Fleet at a range of 16,500 yds. At 4:20 Scheer changed course of the German Battle Fleet to West to bring the Battle Cruiser Fleet between him and SD-1, but as the maneuver was being executed he got word of the 5th Battleship Squadron entering the engagement and immediately changed course to North and went ahead full speed to assist Hipper. At 4:30 he sighted SD-1.

The British main fleet was at the time of Beatty's counter march, 50 miles to the northward hastening to his support. The 3rd Battle Cruiser Squadron with a screen of four destroyers and two light cruisers was steaming south by east at 25 knots to the assistance of the Battle Cruiser Fleet.

At 4:45 the Indefatigable and the Queen Mary had been sunk. The Tiger had had two turrets hit, the Lion had had one turret destroyed and had received several other hits. The Princess Royal had been hit forward and the New Zealand and Barham had each received one hit. The damage to the German battle cruisers is not known except that the Derflinger received three hits.

During the fighting to southward and probably after the entry of the 5th Battleship Squadron into the engagement the Germans used artificial smoke to cover their changes of course Jellicoe states. It is possible that their aim was to obscure the view of the 5th Battleship Squadron.

Upon the Battle Cruiser Fleet countermarching at 4:45 Hipper continued, and at that time the Derflinger was firing at the Princess Royal at 18,800 yards. At 4:50 Hipper formed column and countermarched to the right and steadied on course 343°. The 5th Battleship Squadron had continued ahead passing between the Battle Cruiser Fleet and SD-1 and countermarching to the right at 4:57, following astern of the Battle Cruiser Fleet.

At 4:45 the leading German battleships were firing on the 2nd Light Cruiser Squadron which approached to 16,500 yards then went ships left and took a north westerly course out of range. None were hit. The leading German battleships then opened on the 5th Battleship Squadron at 18,700 yards. At 4.49 Half Flotilla XI fired torpedoes, undoubtedly at the 5th Battleship Squadron and withdrew outside the battleline. SD-II which had taken a Southwesterly course at about 5:00 p.m. headed to the NW to take position at the head of SD-1. The British 13th Flotilla also withdrew from between the fighting lines and fell in astern of the 5th Battleship Squadron. At 5:00 Beatty turned to course 325° to open the range, the 5th Battleship Squadron following the movement. The 2nd Light Cruiser Squadron held its northwesterly course until 5:15 when, being out of range, it headed to the northward to cover the rear of the 5th Battleship Squadron.

At 5:00 SD-1 went ships left about 18° to course 325°, the leading ships firing at the Battle Cruiser fleet at ranges of 20,000 yards, while the rear ships probably fired at the leading ships of the 5th Battleship Squadron, at 17,000 yards. At this time the German Battle Fleet was also on the same course, fleet speed 20. Battleship Squadron III was drawing ahead, in order to hold the 5th Battleship Squadron in range, but only Division V, the Koenig Class could do so, and they maintained fire at about 19,000 yards.

The visibility now began to decrease. The wind shifted to the SW. By 5:12 the Battle Cruiser Fleet could not see SD-1, and Hipper had shifted his fire to the 5th Battleship Squadron where the range was about 14,000 yards.

At 5:30 Beatty changed course to 15° towards the signalled position of the British battle fleet. At 5:35 the ranges were as follows:-Battle Cruiser Fleet to SD-1, 17,000 yards, 5th Battleship Squadron to SD-1, 14,000 yards and to Div. V (Koenig) about 19,000 yards. From 2nd Light Cruiser Squadron to German battle fleet about 19,000 yards.

At 5:36 SD-II sighted the Chester of the 3rd Battle Cruiser Squadron to the NE and engaged her at 6,000 yards. The Chester damaged retired NE'ward and SD-II at 5:55 came under the fire of the 3rd Battle Cruiser Squadron at 10,000 yards. The 3rd Battle Cruiser Squadron had turned to the NW'ward at 5:40. Rear Admiral Bodicker of SD-11 seems to have mistaken these ships for the head of the British fleet as the Argincourt was reported astern of them. He fired torpedoes and beat a hasty retreat, making a smoke screen to cover ^{his movements}. His destroyers also made an attack on the 3rd Battle Cruiser Squadron which caused the ships of that Squadron to maneuver to avoid torpedoes. Scheer from this contact drew an erroneous estimate of the situation. He concluded that the British Battlefleet was to the northeastward

of him instead of to the northwestward, and undoubtedly he concluded that at the time SD-11 reported, it was steaming NW'ward. At 5:40 Hipper went ships right 90° which brought him on a northeasterly course, his reason being that British destroyers had gained a favorable position for torpedo attack. Probably for the same reason Scheer at 5:45 slowed to 15 knots on course 352° and reformed his force which had become somewhat scattered during the pursuit. At 5:42 Hipper again came under fire of the Battle Cruiser Fleet, and at 5:50 changed course north, engaging the 5th Battleship Squadron at about 15,000 yards. At this same time the Defense of the British Battle fleet scouting line opened fire on SD-11 at 16,500 yards, but appears not to have been identified due to the low visibility. SD-11 continued to within 8000 yards of Battle Cruiser Squadron 111, then went ships right 90° coming into column on a SE'ly course. During this turn it came under a severe fire from the Defense and Warrior. At 6:01, at 12,000 yards range SD-11 made a smoke screen but the Wiesbaden was damaged to such an extent as to lose her motive power, and the Pillau was badly damaged but able to remain in formation. SD-11 then went column right to a SW'ly course to rejoin SD-1. At 5:55 Hipper went ships right 90° and again at 6:01. About this time the British destroyer Onslow made an attack, but she was disabled. Hipper continued around to the right and a little after 6:10 completed the circle and was then on a NE'ly course a short distance ahead of the German battle fleet. It seems reasonable to suppose that this movement on the part of Hipper was due to the new German estimate of the situation resulting from the contact of SD-11 with the 3rd Battle Cruiser Squadron. The decision appears to have been to concentrate and go to the eastward across the stern of the British fleet, they at that time thinking the British fleet was heading NW and that the 3rd Battle Cruiser Squadron was the head of the column.

At 6:00 the German Battle Fleet, which by that time had come in sight of SD-1 changed course to NE, and by 6:10 when three divisions had made the turn, report was received that the Wiesbaden was disabled, and that the destroyers which had supported SD-11 reported a line of at least 20 British battleships steaming in a southeasterly direction. Mist and smoke concealed the British battle fleet from Scheer. By 6:12 SD-1 was in column on a NE course when Scheer went ships left two points to assist the Wiesbaden, but in a few minutes he came under a heavy fire and realized that he was confronted by the British Fleet. He says the "entire arc from N to E was a sea of fire. The flash from the muzzle of the guns was distinctly seen through the mist and smoke on the horizon, though the ships themselves were not distinguishable." He went back to column and changed course away from the British to course 80°. SD-11 came under the British battle fleet fire at 6:15 and changed course to eastward when it was attacked again by the Onslow and also by four destroyers attached to the 3rd Battle Cruiser Squadron. The Onslow was rendered hors de combat, and the Shark and Acasta were badly damaged. At 6:16 the Defense and Warrior which had been firing at the Wiesbaden came under fire of the German battle line at 6000 yards. The Defense blew up and the Warrior made her escape to the westward, but so damaged that she sank the next morning.

At 5:35 Beatty had headed round to NE and was beginning to cap Hipper; and by 5:55 when Hipper went ships right 90°, Beatty had drawn well up on his bow. Beatty then took an easterly course also, which he maintained until he observed the deployment of the British battle fleet and Scheer turned ships left to assist the Wiesbaden. His range then from the leading German battleships was about 8000 yards. Beatty had sighted the British Battle Fleet about 6:00 p.m.

The 5th Battle Squadron which had in the meantime failed to close with the Battle Cruiser Fleet sighted the Marlborough leader of the right flank division of the British fleet at 6:06 and the remainder of the division a few minutes later. As in battle formation under the conditions then existing, Evan-Thomas's station was at the end of the battle line he decided to take position ahead of the Marlborough, dropping the Battle Cruiser Fleet. At that time his distance from the German Battle Fleet was about 12,000 yards.

The 3rd Battle Cruiser Squadron after the torpedo attack upon it, had scattered, two ships turning right and one left. About 6:10 Hood sighted Beatty and at 6:16 hoisted signal to his squadron to form column and turned to take station ahead of the Lion. The British battle fleet had in the meantime been proceeding on a SE by E course at 20 knots until 6:02. The reasoning of Jellicoe here is hard to follow as his report of the battle is defensive and he brings in data that was not known to him until after the battle to cover up and excuse his indecision at the time. The British service of information was poor. Those who were in contact and had information, either imparted it only partially or not at all. Vessels which should have given information went into action and failed in their mission of supplying information. Doctrine seems to have been lacking in the British Fleet so that there was not proper co-ordination of effort. Before going into the movements which brought the British Fleet into action it is well to review the information Jellicoe received which finally led him to his decision as to deployment.

Between 5:00 and 6:00 p.m. - Reports made by Commodore Goodenough of 2nd Light Cruiser Squadron.

4:45 Beatty in the Lion (From this and the preceding "plots" were made of the German Fleet position.)

5:45 Comus of 4th Light Cruiser Squadron, ahead of Fleet reported heavy gun fire to southward, and a few minutes later gunflashes bearing SSW.

5:50 Wireless from Defence, near west flank of Battle Fleet scouting line, reporting ships sighted in action bearing SSW and heading NE.

5:50 Wireless from Goodenough of 2nd Light Cruiser Squadron reported enemy Battle Cruisers bore SW from their battle fleet. About the same time- Black Prince, westernmost ship of the scouting line reported Battle Cruisers in sight bearing South, distant five miles- signal at time 5:40.

5:56 Marlborough- Sir Cecil Burney- reported strange vessels in sight bearing SSW and steering E.

6:00 Marlborough (Burney) reported vessels sighted to be British Battle Cruisers, three or four miles distant, Lion leading.

6:00 Iron Duke (FF) sighted British Battle Cruisers bearing SW, distant five miles, steering E across the bows of the British Battle Fleet. Visibility was such that the number of ships was not noted.

Flashes of gunfire were visible from ahead round to the starboard beam, and the noise was heavy and continuous. Battle Cruisers seemed to be hotly engaged.

6:05 In reply to a message sent at 5:55 asking what he could see Marlborough (Burney) reported "Gun flashes and heavy gun fire on the starboard bow."

6:06 Lion- Beatty reported German Battle Cruisers bore SE.

6:07 Marlborough- Burney reported 5th Battle Squadron in sight bearing SW.

6:11 5th Division under fire.

6:14 Lion- Beatty reported "Have sighted the enemy's Battle Fleet bearing SSW." This was in answer to signal made to Lion at 6:01 and repeated at 6:10.

6:15 Barham- Evan-Thomas reported by wireless enemy battle fleet in sight bearing SSE (Distance, course and speed not given in this or preceding signals)

From the foregoing information available to Jellicoe it would seem that he should have had a comprehensive view of the situation at 5:50.

Jellicoe lays much stress on the fact that the signalled position of Beatty was out by the Iron Duke's reckoning eleven miles, that is, that he was eleven miles to the westward of the position he had signalled. Jellicoe gives this as the principal reason for his delay in deploying the fleet, and another reason for uncertainty, a report from Goodenough of the 2nd Light Cruiser Squadron that the German Battle Cruisers bore SW from their battle fleet, this at 5:50.

Had Jellicoe's plotting been at all efficient he would have known that the German Battle Fleet could not possibly be to the Northeast of the German Battle cruisers; as, at the same time as Goodenough's report, Jellicoe received the Black Prince's report and the Defenses report. The German battle cruisers were making 25 knots and the British somewhat more. Jellicoe himself says he thought the best German battleships capable of only 20.5 knots. At 5:50 the German battle cruisers had not yet gone about, so had not then done anything to befog the situation, and a comparison of positions at that time would have shown the utter impossibility of 20.5 knot battleships getting to the NE'ward of battle cruisers then in sight from units of his own fleet whose absolute position according to his own reckoning he definitely knew.

However, granting that he was still befogged at 5:50, at 6:00 he himself sighted the British Battle Cruisers heavily engaged. Had he compared their position with the reports of the Defense and Black Prince he again could have gained a comprehensive view of the situation.

On the other hand he preferred to wait until someone told him definitely where the German fleet was. As a matter of fact Beatty probably did not see the German battle fleet again until about 6:10 after he had gotten around well on his new easterly course. Likewise Evan-Thomas also had lost sight of the German battle fleet and did not see it again until after 6:10 when he was heading to the Eastward and the German battle fleet was heading NE.

It is very apparent that the numerous reports coming into Jellicoe were not appreciated at their full value, were not placed in ~~juxta~~ position, and the worthless and conflicting ones eliminated.

The result of this lack of efficiency or co-ordination in his staff work was that he had no conception of the situation until 6:14 when he should have had it certainly at 5:50 or when he was ten miles further away from the German fleet. In other words his scouting vessels had been of little use to him up to this point.

Jellicoe seems to have been possessed with the idea of maintaining his approach formation until he made sight contact with the enemy battle fleet, in spite of the low visibility, which he estimated to be not more than about six miles in a southerly direction.

"In order to gain ground to starboard, with a view to clearing up the situation without altering the formation of the Battle Fleet" as he says, he at 6:02, went heads of column South, slowing to 18 knots to permit of rear vessels closing up. At 6:06 Beatty signalled that the German Battle Cruisers bore SW. Jellicoe now concluded that he would find the German battle fleet on his starboard bow, so at 6:08 swung heads of columns to SE and at the same time signalled the destroyer flotillas to take battle position No.1 which placed one flotilla 3 miles on the starboard bow of the Marlborough, one 3 miles on the port bow of the King George V, leading Division 1, and one flotilla two miles on the port flank of Battleship Division 1. This disposition would indicate that Jellicoe anticipated at this time deployment on the left flank.

Jellicoe says that these destroyers were greatly delayed in attaining their stations due to the subsequent alteration of course by the fleet to the southward and southwestward?

Finally at 6:14 when Beatty reported the German Battle Fleet bearing SSW, Jellicoe came to his decision as to deployment. He had been worried about his right flank which was his weak flank, for fear that the enemy might strike that flank. His heading south at 6:02 seems to have been a belated effort to change his line of bearing which was unfavorable for the enemy's direction which movement on account of the close proximity of the enemy battle fleet, had to be abandoned so as not to be caught in the midst of a maneuver when other movements might be immediately necessary. Jellicoe states that he had first contemplated deploying on the right division to bring the fleet into action more rapidly and gives most excellent reasons for not doing so, but which of course would not have applied had he deployed at 5:50. Among these are the close proximity of the German Fleet - the consequent proximity of the German destroyers, on assumption that they were at the head of the German Fleet - weak squadron in the van, concentration on the van, and on divisions in succession as they approached the turning point - it taking four minutes for each to come in turn to the new column - also the danger of being capped.

One and perhaps the controlling reason and which Jellicoe does not mention, was his desire to get between the enemy and his line of retreat. Nor does Jellicoe mention the great advantage in visibility assured by his deployment to the left.

So, after assuring himself that the enemy was heading to the NE'ward, Jellicoe decided to deploy on his left flank to course SE by E. By this decision each division in succession was forced to execute a 90° turn, first to the left and then to the right

in a period of about twenty two minutes, during seventeen of which speed was reduced to 14 knts, causing the ships to jam up and many to have to stop their engines. Undoubtedly had the visibility to the NE'ward been as high as it was to the SW'ward permitting Scheer to have formed a correct estimate of the situation the British Fleet at this time would have suffered a catastrophe.

At 6:14 the Marlborough's 6th Division came under gun fire and opened up at 6:17 on ships of the Kaiser class at 13,000 yards. At 6:20 the Iron Duke and other British ships opened fire on the Wiesbaden, which fired torpedoes at the British line about this time.

At 6:30 Iron Duke opened fire on the leader of vessels of the Koenig class 20° forward of starboard beam at 12,000 yards range. Other ships of the 4th Battle Squadron opened fire at about the same time, followed shortly afterwards by the 2nd Battle Squadron in the van, which reported engaging enemy battle cruisers as well as battleships.

The course on deployment was SE by E but the leader of the column, King George V had shortly after deployment changed course to SE to close the enemy, all ships following on this course.

The 5th Battle Squadron went ships left about at 6:19 and tailed in astern of the 6th Division. In making the turn the Warspite's helm jambed, due to a German shell, and she headed for the German fleet and was severely damaged but was finally able to make off to the westward and took no further part in the battle.

Beatty with the Battle Cruiser Fleet continued at high speed keeping away to the NE'ward and changing to the southward of East when the German fleet changed to the eastward and at 6:22 the 3rd Battle Cruiser Squadron fell in ahead in obedience to signal from Beatty and opened fire on SD-1, at 8000 yards range. By 6:30 the Battle Cruiser Fleet had cleared the Iron Duke and three minutes later cleared the entire battleship line. The 3rd Light Cruiser Squadron staid with Beatty and by 6:30 was several thousand yards inside the Battle Cruiser Fleet and in position to use torpedoes against the German battle line. The 2nd Light Cruiser Squadron remained with the 5th Battle Squadron. Jellicoe states that the flotillas were not in station ahead until 7:10, it is difficult to imagine what they were doing during this period. The other British cruiser Squadrons were on the disengaged flank near the van of the battleship column.

At 6:25 the Lutzow was heavily hit and on fire and the Germans were unable to make out the firing ships until 6:30. By this time the SD-1 had commenced to go column right to course south. Scheer states that now - "The Queen Elizabeth fired diagonally from port; the ships of the main fleet, which Jellicoe had brought up, from (forward to) starboard". In other words he had failed in the accomplishment of the results expected from his previous decision which he had put in operation at 6:00 p.m. - he had failed to cross the stern of the British fleet, instead he had apparently run up against the center of it. He now had to act quickly- he therefore rapidly made a new estimate of the situation.

1. SD-II was out of sight ahead so that if the German fleet went column right to the southward it would be between the two battle lines.

2. British ships firing at the knuckle in his column, if

a change of course to southward were made, would have advantage of enfilade fire.

3. In case of a parallel fight on a southerly course, the British would have the advantage of better visibility.

4. The range to his knuckle where the leading division turned to the southward was only 13,000 yards- too close for maneuvering.

5. New Battle Cruisers had joined in the battle (Scheer seems to have confused Beatty's ships with Hoods, thinking Hood was leading the British battle fleet NW'ward and as he had not had the Battle Cruiser Fleet in sight since about 5:00 he thought it was a new force of Battle Cruisers coming down from the north)

6. Four armoured cruisers had come down from the north.

7. His destroyers which had attacked the 3rd Battle Cruiser Squadron returned and reported twenty battle ships standing to the SE, hence the British Fleet had counter-marched.

8. If the British Fleet attempted to hold its cap it would be subjected to severe torpedo attack and could not counter-attack.

9. If he continued in retirement to the westward, there was still so much daylight remaining, that if any ship was damaged and had to fall out, it was sure to fall into the hands of the enemy.

10. Wind was now SW by W- Force 3 favorable for smoke screens.

11. His appearance on the north flank of the British column would be a great surprise to the enemy.

His decision was:- to retire, permit the British fleet to pass south and then cross the stern of the British Battle column.

This decision, to be executed, required a correct estimate of the position of the British fleet, its speed and course. Estimating as he did that he faced nearly the middle of the British column, by turning about in half an hour he would be well clear the stern of the column and have it at a great disadvantage while maneuvering under his fire for its new deployment.

At 6:30 Scheer began the execution of his decision. He went ships right about although at the time of execution of the signal his leading division was headed south, his next three east, and the last two northeast, and he was under heavy gunfire. The long column of twenty-two ships had thus two angles in it, one of 90° and the other of 45°. The turn was made to the right causing a shortening of the line. Scheer states that the Germans had drilled at just such evolutions. There is no questioning the fact that the German fleet was much more flexible than the British.

At 6:30 SD-1 sighted the Invincible leading the 3rd Battle Cruiser Squadron and the Derflinger opened on her at 8500 yards and at 6:33 the Invincible blew up.

SD-I and II executed Scheer's signal and both probably were then steaming in lines abreast to the westward. The Leutzow now dropped out of formation having been hit by a torpedo, about 15 heavy shell, and 60 of all calibres. She was escorted by the

1st Half Flotilla and a few other boats. The Seydlitz about the same time was also torpedoed, but remained in formation. These hits might have been scored by the Onslow, the boats attached to the 3rd Battle Cruiser Squadron, or more likely by the 3rd Light Cruiser Squadron which had gained a favorable position for firing torpedoes at a moderate range.

When the Battle Fleet turned to the Westward Flotilla III advanced inside the lines laying a smoke screen, but upon observing that the British Fleet was not pursuing, retired. Three boats apparently not getting the signal to retire, or especially directed advanced to within 7000 yards of the British formation and fired six torpedoes. One of these torpedoes may have hit the Marlborough at 6:54. In this advance V-48 was sunk and the Shark was probably sunk in the same operation at 6:55. The Wiesbaden appears to have had a charmed life, and continued her resistance, lying dead in the water.

The entire German Fleet continued to the westward until 6:55 pm, during which time it was out of range and view of the British. At 6:50 Hipper left the Leutzow on a destroyer for the Derflinger, but her radio was gone, he then tried the Seydlitz but hers was gone also, and he had to remain on the destroyer until 9:00 p.m. when he boarded the Moltke.

At 6:55 the German Fleet went ships right about Scheer again attempted to execute his original decision to cross the stern of the British Fleet. Again he had misjudged and ran up against the British column, this time, however, further towards its rear.

SD-1 was ordered to operate with full strength on the enemy leading point (that is, the knuckle the British Fleet would make in going about to counter Scheer's crossing its stern) All torpedo flotillas were ordered to attack, and provision was made for rescuing the Wiesbaden's crew. It is apparent that if things had worked as Scheer contemplated he would immediately have the whole British Fleet going about and maneuvering to avoid his cap. Hence a destroyer attack in force under such circumstances might be expected to yield the maximum return. But he was too soon. At 7:05 he came under heavy fire from ahead and on both bows and SD-1 and Div. V began to suffer severely. At 7:12 Scheer signalled SD-1 "At the enemy". At 7:13 SD-1 proceeded under a terrific fire to the SE, shifting at 7:15 to South. At that time the range to the British Battle Cruisers was 9000 yards and only 8500 to the Iron Duke.

At 7:12 the fire on the head of the German Battle Fleet had become extremely heavy and effective. The Koenig, Grosser Kurfurst and Markgraf received numerous hits of the heaviest calibre. Division V therefore turned column south.

Flotillas VI and IX carried out their attacks supported by SD-II and SD-IV with the result that the British turned away to the SE'ward. When Flotillas III and V went out they came into combat with British light forces and retired, all flotillas made heavy smoke screens. The boats told off to rescue the Wiesbaden's crew encountered heavy fire from the 2nd Light Cruiser Squadron, 5th Battle Squadron and were attacked by destroyers and so had to retire without accomplishing their purpose.

By 6:33 the Battle Cruiser Fleet had passed clear of the Battle Fleet and speed was then increased to 17 knots. At 6:38 the 6th Division was in column and the deployment was complete. The course was SE. At 6:50 on signal, divisions changed course to south as the range was opening.

At 6:45 the Marlborough saw torpedoes and at 6:54 was hit by one. At this time the German fleet was not in sight. Apparently the British Fleet during this time (perhaps on the driving home of Flotilla VI and IX's attack when the German Fleet went about at 6:30) got into confusion; as, about 7:00 it became necessary for Jellicoe to order the column reformed. It was probably this confusion in the British column that retarded the British destroyer flotillas reaching their station in the van until 7:10. About the same time Beatty reported sighting the enemy to the westward. Jellicoe says:- "Our alteration of course south had meanwhile brought the enemy's line into view once more." This would indicate again that the plotting and tracking work of his staff was useless, and as a result that he utterly failed to comprehend the situation. It was his proceeding at 14 knots until 6:33, and then the delay attending the confusion of his column and necessary reforming at about 7:00 o'clock that so retarded his fleet's advance that when Scheer expected to pass his stern, evidently estimating his speed at about 20 knots, having mistaken the Battle Cruisers for the head of the column, when actually they were only going at speed to gain position at the head of column, the blanketed battleships being invisible to the Germans, He again had his T crossed. Had Jellicoe maintained even 17 knots from the moment of deployment until 7:15 it is probable that Scheer would have crossed his stern. Jellicoe could make no decision because he had no grasp of the situation.

The British ships opened up heavily on the German ships along the whole line and from 7:00 to 7:30 the battle ships and battle cruisers were in action at ranges varying from some 15000 yards in the van to 8500 in the rear. At 7:05 "the whole battle line was turned together three more points to starboard to close the range further" but on report of a submarine being sighted and a flotilla of enemy destroyers supported by a cruiser bearing S 50° W from the Iron Duke it went back into column on course south at 7:10. Fire was opened on the destroyers at ranges of 10,000 to 6500 yards, when they turned down the line and retired under a heavy smoke screen. At 7:23 the fleet turned by divisions to the left two points, followed immediately afterwards by another turn of two more points to the left. Twenty torpedoes passed through the British column, "mostly through the 1st and 5th Battle Squadrons" as Jellicoe states, although in detailing those reported he mentions none seen by any other battleship divisions. By 7:33 the Fleet was brought to a course S by W. The total amount by which the range was opened from the South course was about 1,750 yards. The 4th Light Cruiser Squadron and 11th Flotilla arrived in the van at 7:15 just in time to counter a German torpedo attack, the enemy's flotilla being sighted 30° forward of the Iron Duke's starboard beam at 9000 yards distance. Also the 4th, 1st and 5th Battle Squadrons engaged this German Flotilla. Torpedoes were fired at the 4th Light Cruiser Squadron. In the turn away the German Fleet was lost to view, it being observed counter-marching by ships of the rear division but Jellicoe did not know that fact; he states, "No report of this movement of the German Fleet reached me, and at first it was thought that this temporary disappearance was due to thickening mist."

Scheer now realized that he had again failed in the execution of his decision to cross the tail of the British column so he withdrew for another attempt. By 7:17 all seven ships of Battle Squadron III were heading south and the Fredrick der Grosse was at the pivot; the signal for ships right about was then successfully executed by the entire battle fleet; the flagship in order to give more room at the pivot, went left about, and the long column was thus formed in inverted order. At 7:18 having commenced the turn of the Battle Fleet, he ordered SD-1

to withdraw and course was set at 260° . This maneuver was a repetition of that executed at 6:30. During the turn the Derflinger fired a torpedo at 9,000 yards. At 7:20 the smoke from the burning Leutzow hid the ships from the British line. The British battle fleet had practically ceased firing and the Battle Cruiser Fleet continued firing at increasing ranges. The second torpedo attack was made at 7:40 by Flotilla III and it encountered the 2nd Light Cruiser Squadron and a Division of the 12th Flotilla at the rear of the British column and retired without loss after a skirmish. In this fleet attack, in addition to the ships of Division V the Derflinger and Seydlitz were severely handled and greatly reduced in fighting value. S-35 was sunk.

The firing ceased about 7:25 and the German Battle Fleet was disengaged. Scheer now, as his destroyers and light cruisers returned, got a good plot of the relative position of the entire British Fleet and was in a better position than at anytime before to execute his first decision to cross the stern of the British Fleet. Scheer carefully concealed his intentions to cross the stern in his last attack by heading southward and then going ships right about. This move of turning the head of the column to the southward also had the tendency to support the torpedo attack towards the British head of column. Now in the lull in the fighting Scheer made another estimate of the situation. It was nearly dark.

The enemy might be expected by attacking with strong forces, and during the night with destroyers, to force him to the westward in order to again take up the action in the morning. He was strong enough to do it. If he could cross the stern of the British Fleet the way was clear for him to Horn Reef where he would be safe behind his mine fields. There was no chance of crossing ahead of the British Fleet. The enemy was moving to the southward and westward.

The Leutzow must be saved if possible and also the crew of the Wiesbaden.

The enemy's movements were favorable to his purpose, but his intentions must be obscured to the enemy. Scheer says, "The fact that our forces turned to the westward must have led the English Admiral to assume that our main fleet had taken a westerly course, and made him follow in that direction. The fact that we at the same time put Squadron II in the rear, and with the new leader Squadron I, again took a SE course, resulted in Admiral Beatty's forces passing west in front of us, ^{and ultimately} losing contact." Scheer therefore came to the following decision. To retire to the westward. Reform his line, cross the enemy rear and return to Horn Reef direct. His plan was to place Squadron I in the van, SD-I in the rear, station SD-II ahead of the column, and SD-V on the right flank; and destroyers to cover the advance on an arc from ENE to SSW, some as screen for the fleet, a detail to stand by the Leutzow and a further detail to search for the Wiesbaden and return via Skagerrak.

In pursuit of his decision he retired to the westward until about 8:20 when he hauled- to, heading south, and probably slowed down to reform and reorganize his forces. At this time and perhaps while in the midst of reorganization, SD-I was sighted by the Battle Cruiser Fleet and fired on SD-I, turned column right, to a northwesterly course heading between Squadron II and Squadron I. SD-I was pretty much shot to pieces and not fit for much more fighting. Squadron II had fallen behind in the retirement to the westward and was just coming down to take its regular station at the head of the battleship column (its station when the column was reversed as it was then) Squadron II continued to the Southward

probably to indicate to the enemy that the German idea was still to go to the southward, but the fire upon it becoming heavy and not being able to see the enemy went ships right 90° and hauled off to the westward. This was the first time that Squadron II was under fire. The Holstein and Pommern were each hit once. Battle Squadron I followed SD-I. SD-II ahead of SD-I came under fire at the same time and hauled off to the westward. SD-IV to the westward of SD-II went ahead to reconnoitre, at 8:30 encountered ships of the Hampshire class and after a short engagement retired to the northwestward. All the torpedo and light cruiser attacks were followed by retirement under cover of smoke screens. This ended the day engagement for the Germans.

Jellicoe says that, "At 7:41 the enemy battle fleet being no longer in sight from the Iron Duke, course was altered 'by divisions' three points more to starboard (namely SW) to close the enemy, and single line ahead (column) was again formed on the Iron Duke on that course." At 7:40 Beatty reported that the enemy bore NW by W from the Lion, distant ten or eleven miles, and that the Lion's course was SW. At 7:54 Jellicoe received a signal from Beatty, "Urgent submit van of Battle Fleet follow Battle Cruisers, we can then cut off the whole of enemy's Battle Fleet." About the same time Jellicoe received other reports of enemy battleships to the westward of his position and at 7:59 fleet course was changed by divisions to West "to close the enemy." At 8:10 Jellicoe ordered Jerram with the 2nd Battle Squadron to follow the Battle Cruiser Fleet, but Jerram replied that the Battle Cruiser Fleet was not in sight. At 8:30 the light failing the fleet was brought into column on course south.

The Battle Cruiser Fleet was not in action from 7:20 until 8:20 when the German Fleet was located by the 1st and 3rd Light Cruiser Squadrons. The Germans were held under fire from 8:22 to 8:28 at a range of about 10,000 yards; they turned away and were lost to sight by the 3rd Light Cruiser Squadron at 8:38 steaming to the westward. This was the end of the day action for the British.

Jellicoe now made an estimate of the situation. He states-,

"The situation, which had never been really clear to me owing to the fact that I had not seen more than a few ships at a time, appeared to be as follows, etc."

He was between the enemy and his bases whether the enemy shaped a course for Horn Reef, via Heligoland direct, or via the swept channel along the coast of the West Frisian Islands. The enemy was well to the westward, also that damaged ships might have fallen out to the northward.

He had more to lose by a night action than he had to gain.

The German searchlights were better than the British.

Maximum effect of guns of the secondary battery could not be attained because all ships were not equipped with director firing.

His own destroyers were not an antidote at night since if disposed for counter torpedo attack they would certainly be taken for enemy destroyers and be fired on by his own ships.

Night action by capital ships was a matter of chance and not of skill.

The greater efficiency of German searchlights; greater number of torpedo tubes, and superiority of destroyers would give the Germans an initial advantage in a night action.

By stationing destroyers astern "they would be in an excellent position for attacking the enemy's fleet should it also turn to the southward with a view to regaining its bases during the night --- secondly, they would also be in position to attack enemy destroyers should the latter search for our fleet with a view to a night attack on the heavy ships; finally they would be clear of our own ships, and the danger of their attacking our battleships in error or of our battleships firing on them would be reduced to a minimum."

Visual signalling at night might disclose to the enemy the position of the fleet.

Concentrating the fleet would give a smaller target and be more difficult for enemy destroyers to find.

A southerly course would best keep the fleet between the enemy and his bases. Such a course would take him to a central position, between Horn Reef and Terchelling which he estimated would give him a strategic position at daylight from which to cut off the German retreat. He therefore came to his decision.

To avoid night action by capital ships.

To concentrate his fleet.

To maintain course south.

To operate defensively.

From a consideration of Jellicoe's movements and orders it is to be observed that:-

His service of information was poor.

His plotting and tracking was useless.

His fleet was out of hand.

He did not know the whereabouts of his Battle Cruisers during a considerable portion of the latter stages of the daylight action.

He failed to use his destroyers aggressively.

His tactics were defensive.

31 May 8:38 p.m. to 1 June 5:00 a.m.

Jellicoe continued on course SW in column until 9:00 pm when 8:38 pm) on signal the fleet went into line of Squadron columns at one 31 May) mile interval. From right to left the squadrons were, 2nd, 4th to) 1st, and 5th. The Battle Cruiser Fleet less 2nd Light Cruiser 5:00 am) Squadron about 15 miles to the westward of the Battle Fleet, 1 June) accompanied by the 1st and 3rd Light Cruiser Squadrons- the 2nd Cruiser Squadron between the Battle Fleet and the Battle Cruiser Fleets, 4th Light Cruiser Squadron ahead of the Battle Fleet, 2nd Light Cruiser Squadron astern of the Battle Fleet and the destroyer flotillas; 11th, 4th, 12th, 9th, 10th, and 13th were disposed from west to east in that order five miles astern of the Battle Fleet.

From Jellicoe's account of the subsequent night action, and from his tracks of the units, it would appear that the 9th, 10th, and 13th flotillas were considerably scattered, and their whereabouts more or less unknown.

At 9:32 the mine laying flotilla leader Abdiel was sent to mine an area in the vicinity of the Vyl lightship over which it was expected the German Fleet would pass if it attempted to regain its base during the night via the Horn Reef.

Shortly before 9:00 p.m. the 2nd Light Cruiser Squadron was attacked by destroyers. Jellicoe states that the report of this attack was made to him shortly after 9:00 p.m. but that immediately thereafter a further report was received that the enemy had been driven off.

At 9:55 Jellicoe received a message from the Admiralty:- "Three destroyer flotillas have been ordered to attack you during the night" The 11th, 4th, and 12th flotillas were in action in the order named during the night.

10:04 11th made contact with German Light Cruiser Squadron.

10:20 2nd Light Cruiser Squadron made contact with German Light Cruiser's .

11:30 4th Flotilla attacked enemy cruisers steaming southeasterly course.

12:00 M. Remainder of 4th Flotilla steaming SE made contact with German Battle Squadron II- sank. Pommern.

12:30 a.m. boats of the 9th Flotilla were attacked by an enemy cruiser.

1:05 a.m. Castor of the 4th Flotilla made contact with an enemy destroyer.

1:45 a.m. 12th Flotilla made contact with six enemy battleships of Kaiser class and at 2:00 a.m. attacked at 3000 yards range.

The 12th Flotilla leader reported contact by radio but Iron Duke failed to receive the report.

2:25 a.m. One boat of this flotilla made an independent attack on same enemy battle squadron.

2:35 a.m. A boat of the 13th Flotilla made contact with and attacked four enemy battleships of the Deutschland class.

2:00 a.m. Burney in command of the 1st Battle Squadron reported Marlborough could not maintain fleet speed of 17 knots. He transferred his flag to the Revenge and the Marlborough left the formation. Throughout the night the 1st Battle Squadron had been ~~1st~~ behind station, and as a result the 12th Flotilla which was station astern was some distance to the northward of the other destroyer flotillas.

At 2:47 as dawn was breaking the battle fleet counter-marched to ~~the~~ course North.

Jellicoe says, " From the Battle Fleet it was evident shortly after dark that ~~our~~ destroyers were in action. Star shells were fired with great frequency by the enemy and they produced a very brilliant illumination, leaving the enemy ships in complete darkness and not revealing their positions."

At 10:41 the Admiralty informed Jellicoe of the course and speed of the enemy and of its opinion, in view of these facts, that the enemy was returning to his base. At 3:29 a.m. the Admiralty again gave Jellicoe the position, course and speed of the German Fleet.

Nowhere does Jellicoe state that he ordered an attack by his destroyers on the German Fleet and it is evident that had not the German Fleet accidentally run into his destroyers they would have suffered no danger from any of Jellicoe's dispositions except perhaps from the four submarines previously stationed off the Horn Reef lightship and the mine field planted in the vicinity of the Vyl lightship.

The British losses during the night were:- Sunk; 11:00, Black Prince, gunfire of German battleships; 11:30, Sparrow Hawk, rammed by Broke, later sunk. 12:00 Fortune, sunk by gunfire of Battle Squadron II; 12:15 (?) Ardent sunk by battleship gunfire; 12:30, Turbulent rammed by enemy cruiser: Damaged- 10:20 Southampton and Dublin, gunfire of enemy cruisers; 11:30 Tipperary and Broke, enemy cruiser gun fire; 12:30 Petard, cruiser gun fire.

After the last attack on his forces which came from the Southeastward Scheer concluded the time was ripe for executing his decision and probably steamed East until 9:06 when he set his course SSE $1\frac{1}{4}$ E and speed 16 knots, heading for the swept channel through the mine fields to the southward of Horn Reef. His forces were disposed in accordance with his plans. The second, fifth and Seventh and part of the sixth and Ninth were the only flotillas used in attack. It is probable the others had used up their torpedoes. Scheer states regarding the destroyers- "the boats had various nocturnal fights with enemy light forces. They never sighted the main fleet.----Flotilla II which had been stationed at the most northerly part of the sector, was forced back by cruisers and destroyers and went round by Skagen; At 2:00 o'clock when day broke the other flotillas collected near the main fleet." It is doubtful that Flotilla II was driven off as Scheer states, it seems more probable that this flotilla was sent out to rescue the Wiesbaden's crew.

Scheer's greatest fear was that the British fleet would counter-march as he thought it had done at 6:00 p.m. He states:- "Other attempts to bring the Admirals ahead were abandoned owing to the darkness and lack of time. The conduct of the line was entrusted to Captain Redlick on the Westfalen." Regarding the night operations he says:- "The enemy attacked from the East with both light and heavy forces during the night almost without ceasing. Scouting Divisions I and II and the ships in Squadron I in particular were to ward off the attacks. The result was excellent. To meet these attacks in time, bring the enemy under fire and by suitable maneuvering evade his torpedoes, demanded the most careful observation onboard the vessels. Consequently the line was in constant movement, and it required great skill on the part of the Commanders to get into position again, and necessitated a perpetual lookout for those maneuvering just in front of them. Very little use was made of the searchlights. It has been proved that the fire from the attacking boats was aimed chiefly at these illuminated targets."

The German losses during the night were:-

10:45 Frauenlob during fight with British cruisers.
11:00 S-32 hit in boiler but made Danish waters.

11:30 p.m. Rostock and Elbing engaged with enemy destroyers. The Rostock was torpedoed but remained afloat until 1:45 a.m. when on appearance of British cruisers she was blown up and sunk. The Elbing in breaking through the line of Squadron I was in collision with the Posen and badly damaged. She remained afloat until 2:00 a.m. and upon appearance of enemy forces was blown up and sunk. The crews of both these vessels were saved.

2:20 a.m. Pommern torpedoed and sunk.

2:50 a.m. Destroyer V-4 struck a British mine and sank.

G-40 while carrying a part of the Leutzow's crew was damaged and had to be towed.

Scheer states that on arrival at Horn Reef, "The Frankfurt, Pillau and Regensburg were the only fast light cruisers now available----" It would therefore appear that the remaining vessels of Scouting Division IV which had not been under fire before 8:30 when they came under fire of the Battle Cruiser Fleet, the Stettin, Muenchin, Stuttgart and Hamburg, had been severely handled, either then or during the night.

The German fleet arrived behind the minefields off Horn Reef at 3:00 a.m. and then stopped for half an hour awaiting the Leutzow, but on receipt of a message at 3:30 that the Leutzow had sunk proceeded to its bases.

During the night the Germans sent up five Zeppelins for an early reconnaissance. At 3:10 L-11 sighted the British fleet, about the center of the line. Terschelling- Horn Reef, some what scattered and at 4:20 sighted the Battle Cruiser Fleet coming up from the SW. The wind was fresh from SW; it was foggy with visibility from one to two miles. L-24 at 2:00 a.m. sighted a flotilla of British destroyers and reported sighting at 3:00 a.m. in Jammer Bay a unit of twelve ships, steaming rapidly to the South. (It is not known what this unit was unless it was some British cruisers sent to search for their own cripples, or for German cripples- Jellicoe states there were none of his ships there)

Upon counter-marching at 2:47 the British fleet was rather scattered. Jellicoe had with him the 2nd, 4th, and 1st Battle Squadrons, less the 6th Division. He was not in touch with either his cruisers or destroyers. The visibility was low, not more than three or four miles. Jellicoe states--" I considered it desirable under these conditions --- to form a single line (column) accepting the danger of submarine attack on a long line in order to be ready for the enemy's Battle Fleet, if suddenly sighted.----- Partly on account of the low visibility, ^{and partly} because of the inevitable difference in dead reckoning between the ships, due to their many movements in the course of the action and in the night considerable difficulty was experienced in collecting the fleet. This applied particularly to the destroyer flotillas, as they had been heavily engaged, and their facilities for computing their positions under these conditions were only slight. But the same difficulty was experienced with all classes of ships, and although awkward, the fact did not cause me any surprise. The cruisers were not sighted until 6:00 a.m., the destroyers did not join the Battle Fleet until 9:00 a.m. and the 6th Division of the Battle Fleet, with the Vice Admiral of the 1st Battle Squadron, was not in company until evening."

Hence Jellicoe estimated the situation and concluded that, in view of the scattered condition of his fleet, the low visibility, the fact that his fleet had been sighted at 3:40 by a Zeppelin and that his position was thus known to the German Fleet, the fact that the Admiralty had reported the German Fleet enroute to Horn Reef, and therefore that it would arrive there at daylight, it was not desirable to close Horn Reef at daylight as he had intended, nor to renew the action.

At 4:10 the Battle Fleet was formed in line of divisions, disposed abeam to starboard, in order to widen the front and reduce the risk of submarine attack. At 4:25 the Dublin reported contact with an enemy cruiser and two destroyers. This was probably the Regensburg with the damaged G-40, and another destroyer.

At 4:45 a.m. the Battle Fleet was in Lat. 55:29 N; Long. 6:02 E, 44 miles 261⁰ from Horn Reef. At 5:00 the Commodore of Flotillas with destroyers was in Lat. 55:48 N; Long. 6:22 E or twenty-four miles 34⁰ from the Battle Fleet. At 5:15 the Battle Cruiser Fleet joined the Battle Fleet.

		<u>LOSSES (Sunk)</u>			
<u>GERMAN</u>				<u>BRITISH</u>	
	<u>Name</u>	<u>Displacement</u>		<u>Name</u>	<u>Displacement</u>
CC	1. Leutzow	26,180	(	Queen Mary	26,350
OBB	1. Pommern	13,200	3(	Indefatigable	18,800
				(Invincible	17,250
OCA				(Defense	14,600
			3(	Warrior	13,550
				(Black Prince	13,350
CL	4.(Wiesbaden	5,400			
	(Elbing	4,500			
	(Rostock	4,900			
	(Frauenlob	2,700			
DD	5.(V-4	570	(	Tipperary	1,430
	(V-27	640	(	Nestor	890
	(V-29	640	(	Nomad	890
	(S-35	700	8(	Shark	935
	(V-48	750	(	Turbulent	1,100
			(	Fortune	965
			(	Ardent	935
			(	Sparrowhawk	935
TOTALS	11	60,190	14		111,980

Tonnage proportion of loss 1 German to 1.86 British

(Vessels severely damaged)

CC	4.(Derflinger	25 hits	Lion	many hits
	(Seydlitz	25 "	1 Tiger	considerable hits
	(Moltke	5 "	tor-Princess-	"
	(Von der Tann	4 "	pe-Royal	
			do New Zea-	several hits
			land	

<u>GERMAN</u>				<u>BRITISH</u>	
<u>Name</u>				<u>Name</u>	
BB	4. (Koenig	6	hits	Warspite	30 hits
	(Grosser-			Marlborough	torpedoed
	(Kurfurst	7	"	Berham	5 hits
	(Markgraf	13	"	Malaya	8 hits
	(Ostfriesland	1	mine		
DD	(G-40	Engines	damaged	Onslow)
	(S-32	Boilers	"	Acasta	) required towing
				Broke)
				Defender)
CL				Southampton	numerous hits
				Chester	badly damaged

(Vessels moderately damaged)

BB	2. (Helgoland	1	hit	Colossus	1 hit
	(Kaiser	1	"		
OBB	1. (Holstein	1	"		
CL	5. (Frankfurt	4	small cal. hits	Calliope	
	(Pillau	1	large "	"	Dublin
	(Stettin	2	small "	"	
	(Munchen	6	" "	"	
	(Hamburg	4	" "	"	

In addition several ships were hit: Several British light
by small caliber shells fired by Brit-:cruisers and destroyers were
ish destroyers during the night action:also somewhat damaged.
and a few destroyers were hit and :
slightly damaged. :

Personnel Losses

<u>GERMAN</u>		<u>BRITISH</u>	
Killed	2400	Killed	6,447
Wounded	400	Wounded	564
TOTAL	2800		7,011

Personnel proportion of losses
1 German to 2.5 British

RELATIVE STRENGTH OF FORCES ENGAGED.

Discussion

A comparison of the strength of the forces engaged has been made at the beginning of this paper which deduces the relative strength at three periods of the engagement when differing numbers of capital ships were engaged. At no time in the battle were all the forces in contact fully engaged. It is a curious fact that from the time of deployment of the British Fleet at 6:16 to the end of the daylight engagement, only one British battleship was hit by a German shell; this was the Colossus. Owing to the manner in which the German Fleet approached the British Fleet, it subjected itself to a heavy direct concentrated and enfilade fire, to which it could return but little and that little under the most disadvantageous circumstances of being concentrated upon. Due to these circumstances, the low visibility obtaining, especially during the period after 6:16 p.m. and turning away, the whole gun power of neither side was brought into play at any one time, except that of the German Battle cruisers during the engagement with Beatty's Forces, and that of Beatty's forces for a very short period before and after their turn to the northward upon sighting the German Battle Fleet at 4:42.

Visibility

In the battle cruiser action, and until the entry of the British battleship fleet into the battle, visibility conditions favored the Germans. From 6:16 on the British had the Germans silhouetted against the bright Western sky and normally had the more advantageous visibility conditions. But the wind by that time had shifted to SW and the smoke and gas of battle drifted towards the British lines; also the German destroyers and light cruisers made smoke screens and the German battleships and battle cruisers while turning away, were reported to have made "artificial fog" which rendered firing on them practically impossible. After 7:15 the British cruisers and destroyers at the head of the British column seriously interfered with the the leading battleships on account of the amount of smoke and gas they emitted.

Securing and Transmission of Information.

The securing and transmission of information was much more successful with the Germans than with the British. The Germans had developed this service to a considerable degree of reliability. They used to the utmost the facilities at their command. Scheer's destroyer advances against the British fleet were primarily for information as to its disposition, as that information was absolutely necessary to facilitate the escape of the German Fleet. At two points Scheer might have had better service. The report of SD-II that the Argincourt followed the 3rd Battle Cruiser Squadron and the failure of SD-I to inform him of the identity of the Battle Cruiser Fleet at 5:50 p.m. led Scheer into an incorrect estimate of the situation at that time.

On the British side, on the other hand, securing and transmission of information were not so well developed. A mass of signals were handled by the Iron Duke, the British flagship, but it would appear that there was too much concentration.

Matters which should have been handled by subordinate commanders appear to have been passed on to the Commander-in-Chief. So much information came into the fleet flagship that important matters were lost sight of in the mass of less important. Nor were the means available for obtaining information used to the utmost. The large destroyer force and the great superiority in light cruisers might well have been utilized in holding contact with the German Fleet. There appears to have been a lack of doctrine in the matter of the securing and transmission of information.

Deployments.

Beatty's deployment at 3:30 p.m. was perhaps sound. He had, with his six battle cruisers, a considerable gun superiority to SD-I. He was not aware of the greater vulnerability of his ships.

The deployment of SD-I at about the same time was sound. It was calculated to bring the British force in contact with the German main body.

The German main body was deployed to the westward shortly after receipt of information that SD-I was engaged with six British battle cruisers, but this was changed to the northward immediately upon receipt of word that a division of battleship had entered the action. It seems the best disposition that could be made under the circumstances. The deployment of the British battle fleet at 6:16 has already been discussed. This deployment has been adversely criticized, but at the time it was made there does not appear to have been any other logical deployment to make.

The German deployment to the eastward in column at 6:00 and again at 6:45 were sound, based on the information at hand. If the information had been correct the result of both would have been to place the German Fleet in positions of great tactical advantage, as things developed it got into most disadvantageous tactical positions.

Comparison of Material.

<u>GERMAN</u>		<u>BRITISH</u>
CAPITAL SHIPS		
Guns (main)	12"	Larger calibre 13"-15"
(secondary)	generally larger 5.9	4"
Torpedoes	more	
Armour (outside)	heavier, more extensive	partial
(inside)	throughout further inboard due to greater beam	partial
Subdivision	Greater, insuring greater internal protection.	
Deck protection,	Generally thicker	
Speed		greater

In the German ships greater attention had been given to watertight integrity.

German ships had greater length of life. The British ships had been built to fit their docks whereas the German docks were built to ~~accommodate~~ their ships.

The Germans had efficient delayed action fuses which insured detonation after penetration whereas the British were lacking in such fuses. The Germans were equipped with efficient star shells for night action which obviated almost entirely the use of searchlights. The British ships were not so equipped. The Germans had a better system of night recognition signals. The Germans had better range finders.

GERMANS

BRITISH

Destroyers

Type		larger
Speed		greater
Armament	6 torpedoes	4 torpedoes
	3" guns	4" guns

Employment of Smoke Screens

German destroyers and light cruisers used smoke screens in practically all the day attacks and for covering their retirements. Ships of the battle line also made "artificial fog" to cover their retirements when they had come under heavy fire. The British appear not to have used smoke screens to any marked extent, this of course is explainable by the fact that after the battle cruiser engagement the wind was favorable to the Germans.

Effect of Torpedo Fire.

The number of British torpedoes fired was 85. The number of German torpedoes fired is not known but British sources put it at 66. Scheer admits the following ships torpedoed:- Pommern, Frauenlob and Rostock, and that the Elbing in attempting to avoid torpedoes was lost in collision with a German battleship. The Leutzow and Seydlitz were also torpedoed.

The only British vessels torpedoed were the Marlborough and Shark.

The losses by torpedo therefore were much greater for the Germans than for the British; but it was largely due to the persistent torpedo attacks of the Germans against the British battle fleet, and the fear of the German torpedoes on the part of Admiral Jellicoe that enabled the German fleet to retire to the safety of its bases.

Influence of Possible Mine Fields Upon the Movements of the Two Fleets.

From the moment that Scheer realized that he was up against the main British forces his object was to reach the security of his mine fields. Jellicoe's object was to prevent his doing so. Jellicoe had a fair idea of the location of the German mine fields and had laid down a line extending from Horn Reef towards Terchelling, to the eastward of which British vessels were not to pass.

It was due in a large measure to these mine fields that the German fleet made its escape, as the British forces feared to pursue when the German Fleet shortly after daylight made the mined area.

The employment of Battle Cruisers.

When contact was first made the German Battle Cruisers were engaged on a raiding expedition. In the nature of things, their operations also partook of the character of contact scouting. The British Battle Cruisers were engaged likewise in contact scouting.

Upon the contact being made the battle cruisers of each side engaged. This is sound principle. They likewise reported contact. When the British 5th Battle Squadron entered the action the German Battle Cruisers attempted to avoid action with that squadron and advised the CinC of the situation. In the same manner Beatty reported the presence of the German Battle Fleet.

After contact with the German Battle Fleet the German Battle Cruisers acted in accordance with sound principle. Upon contact being made with the British 3rd Battle Cruiser Squadron, Hipper's Battle Cruisers supported the reconnaissance.

Beatty conducted his Battle Cruisers to the head of the British column where they should be.

During the action of the main fleets the German Battle Cruisers occupied the van and supported the reconnaissance of the destroyers and light cruisers.

The British Battle Cruisers operated to maintain contact.

The employment of light cruisers and destroyers have been covered in the narrative of the battle. Scheer used his much more aggressively than did Jellicoe or Beatty with the result that he had a much better grasp of the situation. His escape is primarily due to his better information service.

Conclusion

Tactical principles involved.

Battle Cruiser action:

Sound tactical maneuvers;

Beatty's deployment to the southward:

Hipper's deployment to the southward.

Beatty's counter-march to the northward.

Unsound tactical maneuvers;

Beatty's failure to close up the 5th Battle Squadron between 2:35 and 3:30 p.m.

Beatty's failure to equalize the range with the 5th Battle Squadron after the sinking of the Indefatigable. Evan-Thomas' delay in counter-marching the 5th Battle Squadron thus permitting himself to come under the fire of the German main body.

Beatty's failure to equalize the range with the 5th Battle Squadron on the German Battle Cruisers on the run to the northward.

Battle Fleet action:

Sound tactical maneuvers;

Jellicoe's deployment to the southeastward on the left flank division at 6:16.

Beatty's taking station ahead of the battle fleet upon its deployment.

The British principle of turning away to avoid a torpedo menace.

Scheer's maneuver to cross the stern of the British Fleet.

Scheer's placing his battle cruisers in the van.

Scheer's use of destroyer attacks to extricate his fleet from a "cap."

The German use of smoke screens.

Scheer's disposition of his fleet for the night.

Unsound tactical maneuvers;

Jellicoe's detachment of the 3rd Battle Cruisers Squadron at about 2:30 p.m.

Jellicoe's approach with line of bearing not normal to bearing of the enemy.

Jellicoe's delay in deployment.

Jellicoe's slowing to fourteen knots while executing his deployment, causing his ships to "bunch up" and many of them to stop their engines.

Jellicoe's handling the battle fleet as a whole in turning movements to avoid torpedo menaces instead of leaving those movements to the individual initiative of the Squadron Commanders.

Jellicoe's failure to maintain a "cap" when he had attained it.

Jellicoe's failure to use his light cruisers and destroyers aggressively thus thwarting enemy destroyer attacks, and maintaining touch with the enemy.

Beatty's independent operation after 7:10 p.m. and until about 9:24 p.m.

Jellicoe's disposition for the night- entirely defensive.

The failure of Jellicoe to attain his mission was due to the following causes:-

Lack of a true doctrine of war.

Disregard of the principle of the initiative of the subordinate.

Poor service of information.

Poor tracking.

Poor co-ordination.

Lack of flexibility in his fleet.

Lack of an aggressive spirit.

Indecision.

CAA/LCM 2 March, 1921.