大正五年十月英駐秘第二六號

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ヂヤットランド海戰教訓英文

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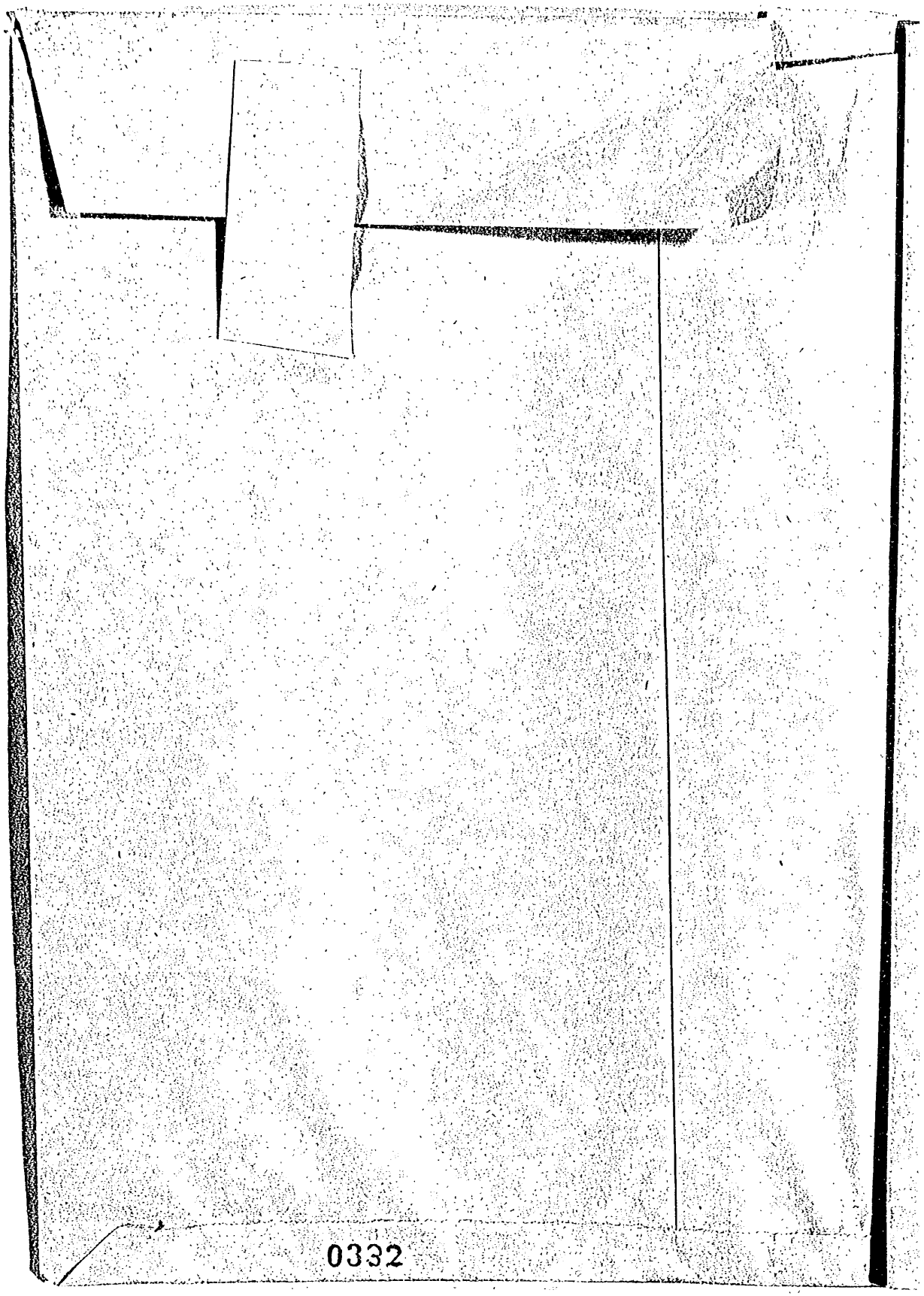

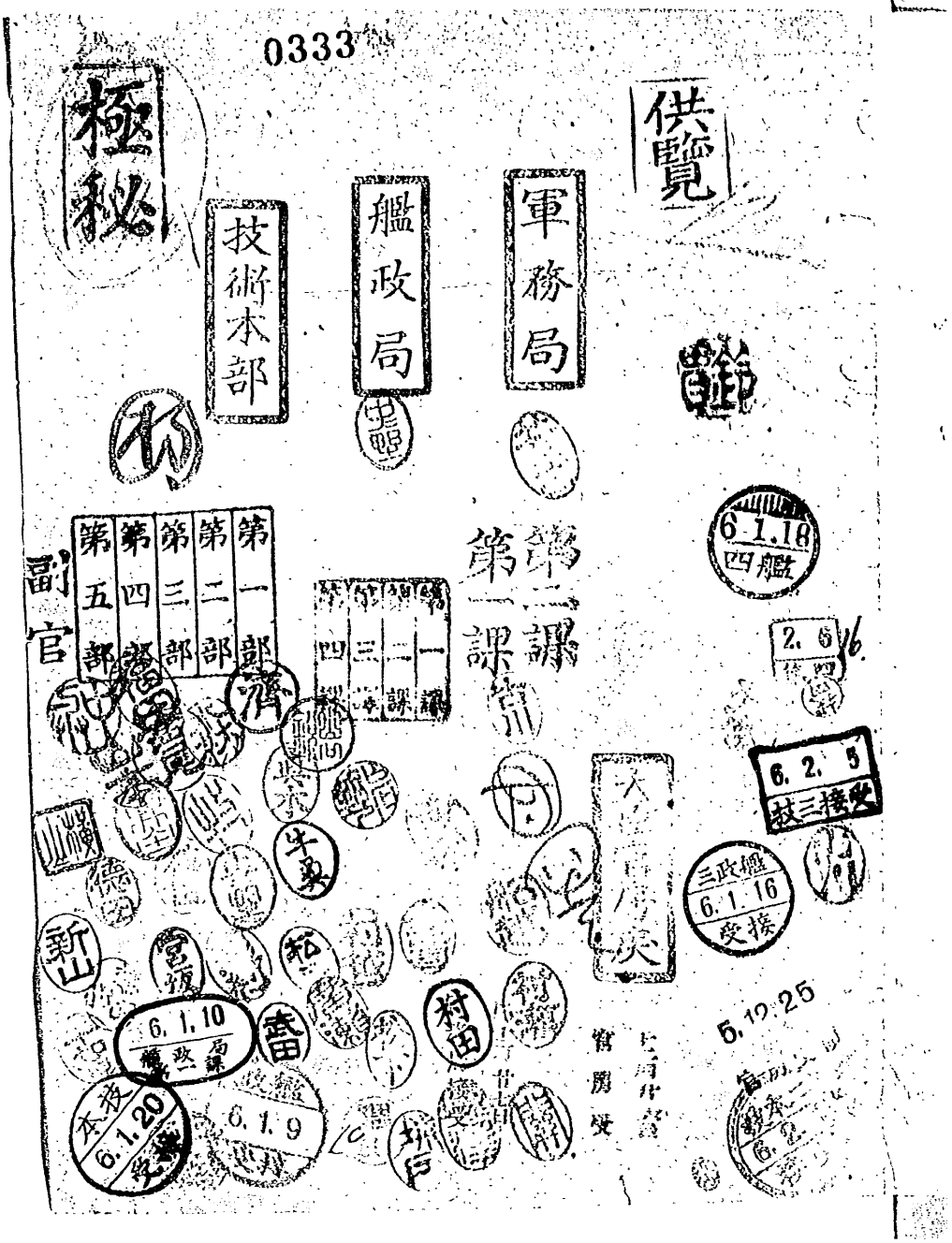

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供覧

軍令部

軍務局

英海秘第二六號

大正五年十月二十日英國大使館附舟越楫四郎

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一、「ゴヂヤットランド」海戦教訓英文

一、同右附圖

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REMARKS AND LESSONS TO BE LEARNT ON THE BATTLE OF JUTLAND.

Arranged as follows:-

I. BRITISH SIDE.

Offensive. Armament.

Gunnery.

Torpedo.

Defensive (a) Protection (Tactical).

(b) Protection (Material)

II. ENEMY SIDE.

Tactics employed. (Gunnery).

III. NIGHT ACTION.

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B R I T I S H S I D E.

OFFENSIVE ARMAMENT.

GUNNERY.

Under the weather and light conditions of this action, the British system of fire control was put to the severest test imaginable, and on the whole it may be said to have stood the test successfully, in that it proved our ability to inflict heavy damage on the enemy, even under conditions most difficult for us and most favourable to him. At the same time these conditions have emphasized one most important point, viz: the necessity of rapid and early hitting.

2. (1) Rapid Ranging.

At the commencement of the recent action it is known that the fourth salvo from an enemy ship was fired after 1½ minutes. This shows that the enemy have a system of ranging by a succession of rapid salvoes. There are undoubtedly great advantages in this method as compared with waiting for the fall of shot before firing the next salvo.

3. While, therefore, there is no great difference in accuracy in their opening range as compared with ours, they have undoubtedly, greater chances of first hitting. It is therefore recommended that this form of attack should be countered by a "ladder" system of salvoes - the general idea of which is as given below. Though the ladder system appears, at first sight , to be extravagant of ammunition, this is not the case; on the contrary the present system has shown itself to be so when the enemy is zigzagging. Firstly, because the rate of spotting is not sufficiently quick to give the necessary indication as to change of enemy's course. Secondly, because experienced shewed that a correct rate was only achieved at considerable intervals for short periods.

4. (ii). Ladder system of finding or re-finding the target.

On opening fire. Range, deflection and rate sf to be calculated as at present, but 2 or 3 salvoes (according to the time of flight) to be fired in rapid succession without waiting to spot fall of shot. Sights to be adjusted as follows:-

1st salvo:- A determined amount below the estimated range.
2nd salvo:- Mean or estimated range.
3rd salvo:- A determined amount above the estimated range.

5. Should these combined salvoes not cross the target, repeat the ladder until the target is crossed. It is not for a moment intended that the Control Officer's hands should be tied, in any way, by a hard and fast rule; according to circumstances it may be best to fire a three salvo ladder before spotting, or to fire two ladders of two salvoes each - much must depend on how soon the target is crossed. In considering this system it must be borne in mind that on several occasions on 31st May the enemy re-appeared from the mist, and fire was immediately re-opened before a single range-finder reading had been obtained. These conditions have now been experienced so frequently that they cannot be considered other than usual.

6. The Control Officer using this system, would decide on the number of salvoes in the ladder and the size of the steps by the information received from the rangefinders in precisely the same way that he now is guided as to the size of the bracket. This ladder should be repeated until the target is crossed, (by which it will be known within what limits the range lies), then the ladder should be repeated with reduced steps until one salvo straddles the target. As soon as the straddle is obtained deliberate fire should be opened as at present, until the target is entirely lost, and then we consider that the ladder system is the quickest way of regaining touch.

(iii). Rate finding and keeping.

From the difficulties experienced by the Control Officers, and from the observation of light cruisers the fact is established that the enemy altered course frequently, but on what system there is no evidence. Generally speaking the rate was in error, due to this, but during occasional intervals it was correct and hitting was established for a short time. The action, taken through all its phases, appears to show that more value was obtained from rangefinders by some ships than by others, and that at such times as the enemy was on a steady course undoubted assistance was received from the plot. It is strongly emphasized that the enemy system of continuously altering course defeats any system of fire control based on rate-finding for the reason that by the time the plot has established a rate it is no longer applicable. It is considered that eventually a fully developed range-finder system will give quicker information than any other, as to the movements of the enemy, i.e. an alteration of range will tend to be known in advance of firing rather than after the process of spotting has been resorted to. A system by which the mean of the range finder readings is transmitted direct to the sights would cope with this, and every effort towards advance in such a direction is imperative. Whether this can be achieved with the existing service rwngefinders is doubtful, except under abnormally favourable conditions. Under misty weather conditions there can be no certainty of obtaining ranges and when these conditions obtain fire must be opened instantly with a guessed range, such as "visibility range". Owing to the enemy frequently altering course, it is necessary to anticipate large alterations in deflection by closely observing the enemy, and noticing when he appears to be altering course.

If the enemy is on an approximately parallel course it is advantageous to keep the mean point of impact abaft the usual point, so that a small turn, or the commencement of a big one, will not throw a salvo already fired entirely off for direction. For the same reason bold corrections for elevation are necessary as soon as the enemy is observed to be altering course. This is particularly necessary when straddling, as it is probable that the enemy will then alter course at once. The rate of fire must be increased. It is a matter for further consideration how this can best be effected, but it is essential to use plenty of ammunition to obtain an early hit.

8. In the Senior Officer's ship of every squadron heavy or light, there should be an experienced officer whose sole duty it is to keep the senior officer informed, during the action, on gunnery matters other than those upon which his attention is at the moment rivetted. For example, the following are important points which can only be observed to the best purpose by some officers who has no other duty:-

(a) When at a suitable range for opening and re-opening fire.
(b) Whether the squadron is keeping at the desired fighting range from the enemy.
(c). The general effect of our own and the enemy's fire from time to time, and any necessary signals as to concentration of fire or whether any enemy ships appear to be unfired at.
(d) When it is desirable to make use of destroyer's smoke. In the heat of an action so many other points have to be considered that these may be overlooked unless an organization for such details has been prepared, and this is especially the case when the action opens and attention tends to be distracted by watching the result of one's own gunfire.

9. The necessity was shown for all ships to have an observation officer, whose sole duty it is to notice and record matters of importance and interest during the action.

POSITION OF CONTROL OFFICERS.

10. The opinion of Control Officers as to the best position from which to control is nearly equally divided. It is, however, pointed out that both in "LION" on 24th January 1915, and in "WARSPITE" on 31st May 1916, a heavy concentration fire absolutely prevented any view from the gun control tower, and control from this position was impossible. It is therefore recommended that all ships should develop the use of their

foretops as, at least, an equally important position as the gun control tower, and that all ships should attach the greatest importance to the development of this position, both as regards protection and communication, and that this point should be considered in future construction.

FATIGUE OF CONTROL OFFICERS ETC.

11. Fatigue or eyestrain of either Control Officers Director Layers or Rangetakers was not experienced to any inconvenient extent, but ships were seldom continuously engaged for more than three-quarters of an hour.

STATE OF CONTROL INSTRUMENTS.

12. Reports show that Control Instruments generally were unaffected by the action - only one rangefinder being reported as getting seriously out of adjustment.

DIRECTOR FIRING GEAR.

13. That Director firing is absolutely essential in all Light Cruisers is the unanimous opinion as the result of the action. The reasons are :-

(a) To prevent our Light Cruisers being outranged by German Light Cruisers as occurred frequently on 31st May.
(b) Efficient direction of armament for training both day & night.
(c) Use in rough weather.

ALLOWANCE FOR LOSS OF M.V.

14. The majority of ships made continuous allowance for the loss of M.V. during the action. It is considered most important that this should be arranged for on the dip corrector scales in all ships.

USE OF AIRCRAFT.

15. Constant practice is necessary to ensure efficiency in passing information as to the movements of enemy ships for the use of control officers.

EFFECT OF OWN SHELL.

16. Bearing out the experiences of previous actions, hits with heavy shell were seldom seen, especially with Lyddite Armour Piercing which constituted the chief proportion of shell fired from Battle Cruisers; Lyddite Common especially from Light Cruisers, shewed up well.

T O R P E D O.

17. As regards the Torpedo lessons to be learnt from this and other actions the following appear to be the main points:-

Owing to the bad visibility and smoke produced (intentionally or otherwise) on 31st May, it was the general experience that these causes militated against a clear appreciation of the general torpedo situation being formed, with the result that a certain number of attacks were not delivered which otherwise would have been. Another factor tending to delay on our part the extensive use of torpedoes was the enormous number of ships and squadrons present, many of whom were on different courses and all making for the same area, the result being that in some cases ships refrained from firing for fear of endangering their own Fleet, and when the range had cleared the enemy had often disappeared into the mist.

A somewhat new factor in T.B.D. warfare was that of both Fleets making bolt attacks in broad daylight, but the attacks of the German Flotillas were often not pressed home to the best advantage and the result must have been somewhat disappointing to them.

18. Other points of interest may be summarised as follows:-

(a) The success in a "browning" (i.e. firing at a mass of ships instead of one single ship) attack depends on the number of torpedoes fired at about the same moment.

(b). This emphasises the necessity for every effort being made for loading the torpedoes into the tubes quickly.

(c). As free a hand as possible should be given to the ships of a squadron to fire their torpedoes when an opportunity occurs, and ships should always take advantage of the earliest reasonable opportunity and not try and save their armament for an ideal opportunity which may or may not eventuate.

(d) The rate of fire of torpedoes must be increased so as to take the fullest advantage of any opportunities offered.

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D E F E N S I V E.

(a). TACTICAL.

19. To have the best light is an enormous gunnery advantage. All gunnery officers emphasise the extreme difficulties when firing to the Eastward on the 31st May, when, on the contrary, (as observed by ships not then engaged) ships to the Westward made a splendid target, this must be taken into consideration in future tactics.

20. Alterations of own course did not hamper the control and director layers to any great extent, and it should be understood that in this respect Gunnery must meet the requirements of tactics. It is imperative for ships to slightly alter course for defensive purposes; when to do this must be left to the discretion of Captains of ships.

21. Owing to the comparatively small spread of the enemy's salvoes, considerable immunity from shell fire can be obtained from independent alterations of course on the part of individual ships at the discretion of their Captains, care being taken so as to regulate the zig-zags that the general line of advance is maintained, and that the ship's own firing is not rendered too difficult.

22. The enemy appear to concentrate at the turning point when turns in succession are made, and therefore ships should avoid turning exactly in the wake of their next-ahead, so far as this is consistent with maintaining the formation of the squadron.

23. There appears to be a very general opinion that increased distance up to four cables between ships would be an advantage under many conditions, and would give more freedom for altering course to avoid torpedoes and gunfire, and also under bad conditions of smoke.

24. The credit from the extraordinary immunity from torpedo hits experienced by our ships in this action was undoubtedly due to the very vigilant look-out kept aloft backed up by excellent means of communication between the Look-out positions and the Conning-Towers together with the fine seamanship and prompt use of the helm to avoid the very many torpedoes which approached our ships. This, very fortunately for us, was rendered less difficult than it otherwise might have been by the fact that all the German torpedoes showed a very visible track in the smooth sea. At least 50 and possibly more torpedoes were avoided in this way.

25. A comparatively small amount of ammunition is required from the secondary armaments of ships to repel destroyer attacks by day. It is improbable that destroyers can be prevented from firing their torpedoes, but a sharp look-out combined with a burst of fire will ensure that they are fired at extreme range and so lessen the chance of a successful attack.

26. Some ships complain of interference from our Torpedo Destroyers' smoke. Where a submarine screen is necessary, a position well ahead appears to meet requirements, and the higher the speed of the screened squadron the further ahead the screen can be placed to keep down submarines. Again, in such a position they are advantageously placed for delivering and countering torpedo craft attacks, smoke interference will be reduced, and they will also be ready to make smoke if required.

D E F E N S I V E.

(b) MATERIAL.

27. So far as material is concerned, it may be well to point out the steps taken in our ships which are in the nature of precautions due to experience in action. The principal of these may be stated as the fitting of handing scuttles to magazines to enable the doors to be kept closed while passing ammunition, together with other steps for the prevention of cordite fires, such as the introduction of steel boxes on gun decks for ready charges and more extensive use of screens around hoists, etc.

28. As increased protection against shells falling nearly vertically at long range, additional plating has been added on the middle decks of battleships and battle-cruisers, and, in some cases, on the upper deck

to improve the chances if exploding shells as soon as possible after they enter the ship, and to protect the vitals more effectively from shell splinters etc.

29. It is understood that fires produced by the shell explosions were in no cases of serious moment, and were easily dealt with and extinguished by means of the ordinary appliances in the ships.

30. Only one big ship was struck by a torpedo so far as is known, and, in that case, although the extent of the explosion was very considerable, its effects were successfully excluded from the vital parts of the ship by the ordinary structure, although it may be observed that the position of the blow was a favourable one in this respect.

31. With existing designs of turrets it is impossible to safeguard the Handing room from the flash of shell burst, or from cordite flash caused by shell burst, in the gun house or working chamber.

i. Magazines must therefore be able to withstand flame under pressure, and in this connection it is pointed out that the bulkheads of "Q" Magazines in "LION" were considerably buckled, although they were supported by the water which, by then, had probably completely flooded the magazine.

ii. Doors opening inwards into the Magazine from the Handing room are extremely dangerous and should be altered immediately.

iv. The clearance between the trunk and the floor of the walking pipe space should be screened by strong flash plates, fitted so as to prevent the flash of a shell penetrating the turret armour going down from the turret, but so as to allow escape of gas pressure from the Handing room.

v. As regards turret handing room hatches, it is a very debatable point whether these should be securely closed or not. In "Q" turret of the "LION" it was open and relieved the pressure set up by the explosion of several full charges in the handing room; if this hatch had been closed it is probable the Magazine bulkheads would have been blown in, observing that they are already distorted. We therefore recommend that handing room hatches should be closed but not clipped, so as to prevent flame coming down and to relieve pressure going up.

The type of handing scuttle finally decided to be fitted must be designed to withstand the pressure mentioned in (ii) and it is highly undesirable that the handing scuttle of airlock should contain more than one quarter charge at a time, owing to the consequent danger pf bursting airlock.

vi. It is too dangerous to the safety of the ship to keep the magazine hatches of the secondary armament open in action, except when actually obligatory for replenishing the ready supply kept in cases at the guns. Whenever it is possible, handing rooms with airlocks must be fitted without delay to all 6" and 4" magazines. This alteration is still more vital in the case of Light Cruisers where the magazine must of necessity always be kept open when engaged.

vii. For secondary armament flame proof stowage for 20 single charges must be provided at each gun, the ordinary ammunition cases being used to replenish this ready supply whenever required. Dredger hoists should never be used for cordite, but only to replenish shell when the ready supply is exhausted. At other times they must be kept closed down. A similar type of flame proof case is also required in Light Cruisers, and in addition these must be used for transport from the magzines to the battery and for stowage on deck in all weathers.

viii. The danger of a chain of cordite conveying fire from the gunhouse to the magazine is invited by the system of permanently attaching the igniters to the charges.

It is suggested to place the igniter on the rear quarter charge (only) whilst on the gunloading cage tray, immediately before ramming home, a wooden packing piece being fitted in rear of the cordite compartment of the gunloading cage so that on delivery of the cordite there is enough clearance between therammer head and rear quarter charge to affix the igniter. This important question is also entirely applicable to handworked B.L. guns,

ix. There is a strong expression of opinion that some extremely rapid method of flooding is required for all cordite positions in a turret or battery outside the magazine.

Mantlets, splinter plates, blast plates, wire nets, etc., proved of great value and saved certain ships from grave injury.

x. It was proved in Light Cruisers that on the upper deck a rope mantlet saturated with water prevented the flame of a bad cordite fire reaching other charges at the top of and in a neighbouring ammunition trunk, and in addition saved the supply party. The fullest use should be made of this method, and that so far as possible every gun with its ready supply of ammunition and every supply opening should be completely screened by saturated mantlets.

32. Armoured shell gratings proved highly efficient, and their use for protecting the glacis, together with extra plating on the lower deck, requires immediate and thorough consideration. A glacis forms a very grave danger from the enemy's long range fire.

33. To enambe small fires to be promptly and efficiently dealt with, fire parties and guns' crews should be supplied with fearnought masks and gauntlets. Fearnought screens should be fitted between the guns athwart ships to check the spread of fire along the battery. All escapes and armoured doors must be entirely closed.

34. All wing-oil-tanks form a valuable protection against hits below armour, and they should so far as possible be kept full.

35. No case occurred of our own shell being detonated due to enemy's fire, although in three ships shell burst within a few feet of them, and in some cases the projectiles were dented, and driving bands cut, but it was shown that very grave damage may result from the ignition of cordite in the 6-inch battery.

E N E M Y S I D E.

TACTICS EMPLOYED. (GUNNERY).

36. The general impression is that at first fire was very rapid and accurate for range, but frequently bad for line, the spread was as a rule very small. It appears to be uncertain whether the spread was not occasionally opened out intentionally either by pairs of guns or singly, certainly in some cases the enemy fired salvoes in pairs of turrets. In this connection it is interesting to note that no ship which survived the action appears to have been hit by a complete salvo, but on several occasions ships were undoubtedly hit by two shells in one salvo which struck within a few feet of each other.

37. Evidence shows that both instantaneous salvoes and some form of very rapid ripple were in use. It appears that one ship at least fired by individual when damaged. The Light Cruisers certainly fired by Director.

38. Evidence is very inconclusive as to what extent the enemy's early hitting and rangekeeping were dependent on the accuracy of their rangefinders, but, undoubtedly, on some occasions the enemy's opening ranges were not accurate, and when our ships slightly altered course, salvoes fell off and some time was taken in regaining the range.

39. Many officers noted the efficiency with which the enemy concentrated a rapid fire from more than two ships on a particular ship or on the turning point of our line.

40. The general impression is that the enemy's fire in the Battle Cruiser section fell off gradually, but whether this was due to our fire conditions of light or range, is quite uncertain. In the second phase of the action the enemy's fire was undoubtedly slow and spasmodic but the light conditions were then entirely reversed, and this is probably sufficient to account for this lack of response to our fire.

41. On the contrary it must be remembered that on the 24th January the enemy, after being severely hit for a long time, suddenly increased his rate and accuracy of fire and never fell to pieces in any way.

42. Although heavy ships were infrequently hit by shell of small calibre, the enemy made no great use of their secondary armament, except against light cruisers and destroyers. There is no evidence as to whether their secondary armament was fired by director or not.

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N I G H T A C T I O N.

43. Although the evidence is not conclusive, it appears that the situation experienced by the 2nd Light Cruiser Squadron on the night of 31st May was, approximately as follows:-

Two forces approached on converging courses, the enemy being to westward could be seen, but, there being doubt as to their identity, a short period elapsed trying without success to identify them, the challenge was then ordered to be made, but shortly afterwards enemy switched on a combination of coloured lights at the masthead. "SOUTHAMPTON" then switched on searchlights and opened fire, upon which the whole of enemy line (five ships) did the same. The other three ships of the 2nd Light Cruiser Squadron did not switch on searchlights but used the enemy lights as a point of aim. The German lights were high, widely separated and were on their object before switching on, and appeared to be controlled by Director and Master switch.

44. No more than two lights appeared to be used in any ship. Enemy appeared to fire at and between our searchlights as practically all the hits in the "SOUTHAMPTON" were made between them. It appears that all five enemy ships concentrated on the "SOUTHAMPTON" and the second ship "DUBLIN", whereas the other two ships were not hit and were able to develope a very effective fire. As far as can be ascertained, fire was opened by both squadrons at the same moment. Three of the "SOUTHAMPTON'S" guns probably opened at the wrong ship. The engagement lasted for about three and a half minutes, the enemy using "rapid" independent".

45. Lights should never be switched on if it can be avoided thus denying the enemy a defined point of aim, whilst firing at his lights if he used them, remembering that his lights are high. It is considered essential that all ships should have arrangements for training their searchlights as well as their guns on to a suspicious vessel, ready for instant attack, before making the challenge. If searchlights must be used, then in one position only, the use of two searchlights widely separated gives away the position of the ship and her alterations of course. As searchlights form a focus for enemy fire, those on the bridge should not be used if it can be avoided. It appears that the best position for our own single searchlight would be right aft. A portable mounting could be used in calm weather. Searchlights should be fitted high up, with the operators beneath them and suitably protected against splinters.

46. The method of firing recommended to be employed is training by Director, with individual laying. Undoubtedly some form of indirect training is essential. Open sights fitted on the side of gun shields were of the greatest value in getting and keeping guns on the target.

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(極秘)

英海秘第二六號

「チャットフィールド」海戰教訓附圖 十五葉

右軍令部第三班保管

海軍

(成田納)

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詔官

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