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By Comdr. J. J. Craven.

LESSONS IMPRESSED BY THE STUDY OF THE BATTLE OF JUTLAND.

1. The importance of the influences of weather and sea on navigation and tactics. (There is always tendency to overlook these in academic consideration of the subject.)

When the weather is thick, navigation is difficult, ships get lost, uncertainty commands, and coordinated wide-spread operations, when in contact with the enemy, are impossible, particularly on the part of small craft which are not navigated with the precision of larger units.

(Attention may be invited to the mechanical tracker as an aid to navigation in trying occasions, when there is much maneuvering and attention centers on other matters than dead reckoning.)

2. Low visibility, so frequently encountered at sea enhances, the importance of always having the dispositions of the fleet, when cruising, such as will guard against surprise on the part of the enemy, but permit instant advantage to be taken of any situation in which an antagonist happens to be encountered. Low visibility may frustrate the efforts of the tactician when in contact with the enemy. It may promote a succession or series of isolated combats between groups of ships or units, on which occasion the strength of the individual units would be exceedingly important.

3. In former periods of history, the smoke of the artillery had a controlling influence on tactics of large bodies of ships engaging in battle; today the ^{funnel} ~~fuel~~ smoke is perhaps a most important interference experienced on the field of battle. A smoke screen perhaps saved the German fleet.

The ability to control the output of smoke from their funnels is a most valuable characteristic of oil-burning vessels.

4. The influence of speed now is of tremendous importance in sea affairs:

(a) It widens vastly the area of operations.

(b) It enhances the value of time.

(c) Speed with ability to maneuver furnish the best defense against the submarine and the torpedo.

(d) It supplies a means for perhaps controlling or imposing the "rate of change of range", a supreme detail in long range gunnery.

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5. The importance of skill in gunnery was again clearly demonstrated in ^{this} the battle. Appliances for assisting to keep "the range" when it is long and the "rate of change of range" on ~~what~~ ^{which} depends "rapidity of hitting" in battle are necessary. Improvements in gunnery at sea now depends, probably more than on anything else, on the ability to "keep the range".

6. It is believed to have been clearly shown that any success which may be ascribed to the Germans ~~in this battle~~ may be ascribed to their precision not only of movement (as when the evolution of "ships about" was performed) but in details gunnery Reports indicate that German patterns of salvos were smaller than British, with small "patterns" and less range errors than their adversaries the Germans seem to have landed their salvos first which is believed to account for the quick destruction of the two battle cruisers belonging to Admiral Beatty.

7. The importance of collective fire control of a group of ships was clearly demonstrated. Concentration of ships is valueless without concentration of artillery.

8. Reports indicate that the Germans have clear ideas as to the importance of freedom from casualties such as jammed or distorted advance mechanism, incidental to prolong firing and the excitement of battle.