Class of 1923

(4)

Thesis

TACTICS

Submitted by

Commander H.R. Stark, U.S. Navy,

Room C-12.

Naval War College
Newport, R. I.
28 April, 1923

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CLASS OF 1923.

THESIS.

T A C T I C S.

Submitted by

Commander H.R. Stark, U.S. Navy.

NAVAL WAR COLLEGE
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- THESIS on TACTICS -

It is proposed to handle this subject under the following outline:

(1) Meaning of the term "Tactics."

(2) Objective of "Tactics."

(3) Preparation, brief general discussion.

(4) Tactical principles.

(5) Summary of (2), (3) and (4).

(6) Then, bearing in mind the foregoing, as guides, for the Naval Battle; Discussion of the Naval Battle under the following heads:-

(a) Brief outline.

(b) The Weapons.

(c) Types of vessels.

(d) The phases:- Engagement, approach, development, deployment, follow-up.

(e) Station of Commander-in-Chief.

(f) Summary of a General Battle Plan.

(7) Then, with our ideas generally covered and condensed by the summaries (5) on pages 10 and 11, and (6) (f) on pages 31, 32 and 33, proceed to apply them for:-

(8) The Special Situation - BLUE versus RED; and

(9) " " " - BLUE " ORANGE.

(10) " " " - Analysis of Jutland.

(1). MEANING OF THE TERM "TACTICS".

The term "Tactics" as herein used refers to the - - "How to use the different arms in fighting; it tells how one ought to fight" - - "the art of fighting on the field of battle." We have grand or combined or major tactics which include the collective employment of all arms, surface, subsurface, and aircraft, after contact, to destroy the enemy in battle and constitute the whole concern of the high command on the day of battle. Also we have minor tactics which has to do with only a part of the whole and is the concern of the subordinate commander. It is with combined tactics that we are here chiefly concerned. The term contact is employed in a broad sense, meaning such proximity to the enemy as affects fleet formations and movements in anticipation of, and during battle.

(2). OBJECTIVE OF TACTICS.

The objective is Victory in Battle, victory complete and conclusive - Destruction of the Enemy.

(3). PREPARATIONS.

As a preliminary, I make the following quotations which are so pertinent to the subject under discussion:

> "A human body that is solid, self-contained, well-proportioned, neither fat nor emaciated, is fit to fence. But before it becomes a champion fencer, it must be taught first what lunges and parades are and then how to deliver them. It is trained by the methodical daily practice of appropriate exercises. Similarly a naval force, constituted structurally and organically in the best possible way for winning, must, if it is to be fit to win, train itself for battle maneuvers, for maneuvers in front of an opposed free will. FIGHTING REGULATIONS deal with (a)The formations, evolutions, and transformations of the field of battle. (b) Gunnery. (c) Signals in action. (d) Scouting, and work of light vessels outside the battle.
>
> "Lastly, the regulation formations must be such as will facilitate (a) the collective employment of our weapons and the development of our firepower, and (b) the making and taking in of signals -- the first imperative, the second more or less subjunctive.
>
> "But above all, formation must never, under any diagrammatic or geometrical pretexts whatsoever, take precedence of action. It must be and remain supple and articulated. It must be a 'rallying-point', as

Nelson called it in the Trafalgar Memorandum. We can no more demand the parade precision of peace-time in our battle formations than we can expect school-of-gunnery percentages of hits when the target hits back. The whole secret of victory does not reside in geometrically accurate firing-lines, - far from it. The signal of formation will be (like those of Nelson and Collingwood) above all else an indication of the type of combat that the commander-in-chief intends to fight." - Baudry-Naval Battle.

"The requirements of battle are: the will to fight and the means of doing so, an object, a plan, and the desire to win." - Maillard.

The foregoing covers the whole general scheme of things.

A naval force - trained, TO FIGHT, TO WIN.

How trained - first taught. Education and training are brothers in the war game. They march hand in hand on the field of battle. Both are essential to the best tactical results. To study the game, then by practical application or execution, to test one's opinions - and - repetition, modification - study - practice - until all become convinced of the correctness of the deductions, and train to think soundly, to act accordingly - and alike. This leads naturally to team work, or indoctrination, which essentially is thinking and acting together to a common understanding and conviction on the broad general scheme of things - the fundamentals. These ideas of fighting and winning, education, training and indoctrination, or mutual understanding must beget confidence, and in their turn morale, loyalty and initiative, and discipline. It would be difficult to say which is the best order in which to place them. They constitute the factors that weigh most heavily for success in perhaps the greatest variable of all the forces, or means, to be employed - namely - MAN. These and kindred qualities of leadership, etc., were discussed in the paper on Command, and elaboration here would be out of place - but it must never be forgotten that these things are vital, that it is man which animates all, and who in the last analysis as shown by all great

campaigns, and battles, is the most vital factor. No matter what we may have in material, in complements, in the machine, the whole art consists in the knowing how to make skillful use of it - and MAN is the user, the master, material, the servant. When man gives way, the instrument becomes lifeless, useless, all subject to enemy will, but so long as man refuses to see defeat, or put it the other way - - so long as he demands and sees victory and victory only as the outcome of his effort - so long and so long only will the forged instrument serve the purpose for which created. These qualities must be attained before the day of battle, because when the emergency or the battle is on, it is too late to shape its destiny; its fate has been sealed beyond change, during the preceding months and years.

> "(Napoleon) 'It is not some familiar spirit which suddenly and secretly discloses to me what I have to say or do in a case unexpected by others; it is reflection, meditation.'"
>
> "The truth is, no study is possible on the battlefield; one does there simply what one can in order to apply what one knows. Therefore, in order to do even a little, one has already to know a great deal and to know it well." - Foch - Princ. of War.

Granting then that, in preparation; - study, training, indoctrination, morale, initiative, loyalty, etc., etc., are necessary - - - where or what is the general guide on which to develop, and from which to draw upon and apply to the solution of the many and variable aspects of the Naval Battle. We thus come to

(4) -TACTICAL PRINCIPLES-

Concentration.

The fundamental principle in Tactics is generally known under the brief phrase as "Superiority at the point of contact." It comes under the general head of "Concentration." It has been expressed in various ways, for example:-

> "The ideal to be aimed at is the greatest possible effect in the shortest possible time over

the smallest possible area."

"Relative superiority is the key of all decisive battles, whether by land or sea."

"Superiority, mental, moral and physical, at the points of contact."

"Get there 'firstest with the mostest.'"

"The first and main principle of modern tactics is:- the greatest possible number of men must be brought to the place where the decisive blow is to be struck."

"When you wish to fight a battle assemble all your forces, do not neglect any."

Victory is assured by superior forces; by the choice of a favorable moment, that is to say of the moment when one is strongest and the enemy weakest; by the choice of the suitable place, that is to say of the place where one is strongest and the enemy weakest.

This relative superiority must exist in the form of relative superiority in destructive effect, and it must be brought about before the enemy can block it, and be maintained with increasing effect, until the enemy's destruction is accomplished. Whether the points of contact be major or minor, the principle remains the same.

We may well ask - How attain this superiority; what to employ - -

(a) Offensive Tactics, because they carry with them the initiative (along with many other admirable features) which imposes one's own will on that of the enemy and compels him to conform to one's own plan instead of having to conform to his.

(b) Indoctrination which insures co-ordination of effort, unity of action, a clear comprehension of the collective employment, and general plan, and the proper role of each group by the personnel of that group.

(c) Formations of concentration taken up by vessels of one's own fleet with respect to each other;- positions of

concentration by one's own fleet with respect to the enemy fleet. Supposing these fleets to be arrayed in straight lines, positions of concentration necessarily imply that these opposed straight lines converge; the favorable position for one's own fleet is then to be nearer the point of convergence than the enemy is to it. Carry this out to its best position, and it results in obtaining a "T" or capping the opposing line.

(d) As a first cousin to (c) or the capped or partially capped line, concentration or superiority may be similarly gained by isolating a part of the enemy. Isolation may be obtained in numerous ways as by actual cutting off, or perhaps, merely visual, as by smoke. It all comes back to the basic principle of concentration and superiority at point of contact.

(e) Associated with (c) and (d) and applying particularly to the battle line in an endeavor to gain superiority at point of contact is:- The maintaining of the battle line perpendicular to a line from its center ship to the nearest ship of the enemy; or, if enemy is not in sight, then approximately at right angles to the bearing on which it is expected the enemy battle fleet will be sighted.

(f) To effect "(e)", on entry into action, one has to bear in mind particularly the first two phases of battle tactics, the approach, and the deployment. Line of division columns has been found and is generally recognized as the best formation for approach for the heavy ships of the battle line. The enemy's position changes rapidly, and as information is received, the course and line of bearing of the leaders of divisions must be adjusted so as to secure the most favorable approach in the shortest possible time. The formation on drawing near, must lend itself to rapid deployment so as to obtain the greatest number of guns

to bear, with the least possible delay, against a section of the enemy. Such rapidity of entrance also tends to "surprise and confound" and to gain moral superiority as well as superior position, priority of fire, and relative gun superiority.

(g) Surprise, speed, rapidity of movement, quick decision, and continuity of action, tending to gain relative mental and moral superiority.

(h) Priority of fire, which is "superiority" at the outset - and then continuous with maximum effectiveness. To hit the enemy before he can hit back - the initial advantage is more than likely to progressively increase. The more one hurts the enemy, the less will the enemy hurt in return.

(i), (j), etc., etc., in many other ways.

SINGLENESS OF PURPOSE.

Exclusiveness of purpose - clearly another corollary of the broad principle of concentration. The will to win. The precise conception of the result to be obtained. The intelligence that directs towards a single object all one's material forces and which advances towards it without deviating, and which will not be denied.

THE ELEMENTS.

To take all possible advantage from wind, sea and light.

The windward position has the great advantage for light craft, particularly destroyers, in that in delivering their attack they run with the sea rather than buck it; thus retaining their full speed over the ground, at a time when the time element is so vital. Those coming from leeward on the other hand may be much slowed down, thereby increasing enormously the difficulties of attack. Hence the easier problem, from windward, of getting in the initial torpedo attack - earlier concentration - saving of

precious time. The windward position also carries with it ability to employ smoke tactics, for offense or defense. It is also advantageous from the standpoint of spray. The spray from enemy shells falling short will drench vessels to leeward, perhaps to considerable annoyance, while those to windward suffer no such difficulties. Smoke and gas, however, from windward vessels, drifting between the lines may cause a good deal of inconvenience in gun laying. The windward position then is not an unmixed blessing, but it is believed its advantages so far outweigh its disadvantages that, other things being equal, it will usually be sought by the high command.

The angle of vessels to the sea affects their steadiness, hence the gun platform. Thus the compass course determines, in any kind of a seaway, the roll, pitch and yaw, and is therefore a material factor in gunnery. One should seek, therefore, so far as compatible with other factors, to fight on courses that will give one a maximum of steadiness, and to the enemy a maximum of unsteadiness.

Light may become a great factor, indeed, perhaps a decisive factor during twilight hours - first, before sun up - and just after sun down till dark. Vessels at these times may be silhouetted against a light horizon, while their opponents are in relative darkness. The danger of such silhouette is therefore apparent, and should be avoided. At other times any inconvenience from sun glare may be largely nullified by ray filter lenses.

- SMOKE TACTICS -

Mention of smoke tactics has been made - it may be employed offensively and defensively.

Offensively:- One may use it to smoke up a part of the enemy line so that it can not see to fire - while all one's own vessels may continue to fire at the remainder of

the enemy line - - concentration. To attack under cover of a smoke screen - thus obtaining relative immunity from damage during such advance - and imposing surprise on the enemy.

Defensively:- To cover retirement; or to temporarily observe movements for reorganization or to shield from attack.

It must be remembered, however, that smoke is a two edged sword. In the hands of those who know how and when to use it, it may be of enormous advantage. In the hands of those having only a little knowledge, it is a dangerous weapon. Particularly here must one see the battle or at least that part of it affected by a prospective smoke screen, as a whole. Its beneficial effects in one quarter may be far outweighed by its damage in another. Here again we come back to knowledge, training - plan.

-INFORMATION-

Mention has been made of the "approach" and the "deploy" and the "enemy's rapid change of movement." One must have early information to act intelligently as to best deployment. Similarly one must provide for flow of orders within the command. Means, then, must be employed for obtaining such information, and disseminating such as is necessary. If while so doing this we can deny or hamper the enemy's efforts along similar lines, so much the better.

-INITIATIVE-

The initiative of the subordinate, tempered by loyalty is essential to successful prosecution of Battle Tactics. All great and successful Leaders have granted much in this direction. Kindred qualities are the willingness to run risks - to dare - self-reliance.

-SIMPLICITY (including flexibility) - and RAPIDITY-

"The characteristics of battle tactics are simplicity and rapidity. Simplicity, because the field of battle is not suited to such a disturbing element as complication; rapidity, because that is

the only way of getting ahead of the enemy. These two conditions fix bounds that tactics can never exceed without departing from the right path." - Daveluy.

-THE OFFENSIVE SPIRIT-

Before leaving this part of this paper it is desired to lay some final stress on the - offensive spirit - in the shape of quotations:

"So let us lay it down as an axiom that the essence of tactics is offensive action. Everything is concentrated and consecrated to the purpose of victory."- Bellaire.

"To fight the enemy is nothing -- we must beat him. We must mean to win." - Baudry.

"He who engages in battle with the fixed determination not to be the first to yield is already half victor." - Darrieus.

"That unhappy admiral knew not Bulow's fine saying: 'One is never whipped so long as he refuses to believe that he is.'" - Darrieus.

"'To seek the enemy, to come up with him and to beat him with superior forces,' and this sums up very well, in fact, the true conception of war." - Darrieus.

"Defensive battle never brings about the destruction of enemy forces. The will to conquer; such is victory's first condition, and therefore every soldier's first duty; but it also amounts to a supreme resolve which the commander must, if needs be, impart to the soldier's soul." - Foch.

"The conclusion of the old theory, then, was: in order to conquer, you must have superior numbers, better rifles, better guns, more skilfully chosen positions. But the French Revolution, Napoleon above all, would have answered: 'We are not more numerous, we are not better armed; but we will beat you all the same, because, thanks to our plans, we will manage to have superiority in number at the decisive point; because by our energy, our instruction, the use of our arms, fire and bayonet, we will succeed in stimulating our own spirit to a maximum and in breaking yours.'

"These theories, which men had believed to be accurate because they had been entirely based on certain and mathematical data, had in fact the misfortune of being radically wrong; for they had left aside the most important factor of the problem, whether in command or execution, namely, that factor which animates the subject, which gives it life: man, with his moral, mental, and physical facilities." - Foch.

RETIRING versus ADVANCING TACTICS.

Will be discussed later in the PLAN. It is merely

desired to call attention here that the foregoing discussion applies equally to both forms of tactics. To win decisively is the big thing in either case. Therefore with this spirit pervading, and knowing what one intends to do - and how - the offensive is in no way violated by employment of retiring tactics. Whichever form be employed - the objective is the same - destruction of the enemy - the spirit the same - offensive - and the method selected should merely serve, in the most expeditious manner, to accomplish the same end - the method is the servant - not the master. The foregoing shows the necessity for preparation, study and understanding on the part of the personnel, and we may briefly summarize to this point - -

(5) -Summary of (2), (3) & (4).

To prepare beforehand - not to wait till day of battle.

Sound education.

A clear recognition of the objective.

Training.

Indoctrination - co-ordination - unity of effort.

Morale - fostering of the will to win - in all hands.

Initiative and loyalty.

Discipline.

The most important factor - MAN.

The most important tactical principle - Concentration - Relative superiority, mental, moral and physical, at the points of contact.

The great superiority of the offensive - over the defensive.

The power of Surprise - to surprise and confound.

Advantage of formations facilitating rapidity of movement and deployment - - movement - mass - and weapons.

Ability to take in at a glance a situation and to come to a quick and correct decision.

The vital factor of - time - never waste it.

Priority of fire - its advantages.

Exclusiveness of purpose.

Effect of weather conditions - wind - sea - light.

The value of the windward position versus leeward position.

Possibilities in Smoke Tactics.

Information Service - to be well developed.

Simplicity, flexibility and rapidity, essential to successful battle tactics.

To get most out of tactics - leadership must grant much initiative to the subordinate - mutual support must be more or less automatic. This requires the subordinate to have a good understanding of the Chief's intentions - and - freedom to act.

Objective - victory - "great results carry little ones with them."

(6) ANALYSIS OF WEAPONS - ROLES - and PHASES in BATTLE.

(a) -Brief Outline-

We may now ask what are the weapons man has at his service, what roles shall he assign them, individually and collectively - in Battle. To do this it will first be necessary to commence with a glance at the nature of the whole, because it is particularly necessary that in the consideration of any of the parts, their relation to the whole should be kept constantly in view.

The operations looking to and embracing fleet action comprise (5) separate phases. (1) the approach towards enemy area; (2) development of the enemy; (3) deployment for engagement; (4) engagement; and (5) the "follow up." Of these the vital phase, to which all else should contribute, and on which all hangs is the "engagement." It is this, then, the engagement phase, that must be constantly kept in view; this, the key. Hence it is here we must first determine the plan of tactics, the "How to fight", to be followed - having decided which - the tactics for the first three phases must be tuned in contributory harmony. The follow-up is the final stage, and must be relentlessly pursued to obtain victory, final and complete. We may proceed, then, first to examine the weapons which the engagement employs.

(b) -THE WEAPONS-

Navy weapons consist of guns, torpedoes, bombs and mines. Of these the gun still remains the key weapon, that to which we look most in battle for destroying the enemy; that, then which has the key position around which the others revolve, and to which the efforts of the others are made to contribute. However, the interdependence of these weapons is very great. Overwhelming preponderance in any

one type may bring about decisive results. Conversely, or put in another way, failure of our type whether from numbers, or improper handling or what not, may likewise bring disaster to the whole. It is well to remember that when one fights, one must use all one's weapons to the best advantage. Here, as elsewhere, all efforts must be co-ordinated - each contributing its share to the sum total, which must be relatively superior to the enemy's sum total at the points of contact -- concentration -- to the destruction of the enemy.

(c) -TYPES OF VESSELS FOR BATTLE-

To carry these weapons to combat on the sea, types of carriers or ships, surface, sub-surface, and air, have been designed, each type taking its form so as to give the primary weapon assigned to it the most favorable surroundings for its effective use. When different types of weapons are carried on a single type we usually find one of these weapons dominates the type, and the others are given secondary consideration. We thus find -

Battleships - designed primarily for carrying great guns, and all the offensive and defensive features of these vessels centre in the effort to bring these heavy guns to bear on the enemy in the most effective manner, and to continue them in action until the enemy is defeated. Hence also we find heavy armor to protect these guns and the ships vitals - all to the same end - effective use of the great guns. In addition to the primary weapon, these vessels carry a number of lighter guns for use against enemy's light craft, particularly for torpedo defense - this again for the sole purpose of keeping the vessel in action for the employment of her primary weapon against the enemy capital ships. Also we find torpedoes as a secondary offensive weapon, to be used if opportunity,

created or chance, presents. Again we find airplanes to assist the big gun as, for example, by seeking information for it as in scouting, by bringing it on the target, as by spotting, by aiding it as by bombing its opponent, and by protecting it as by denying enemy planes any of these functions.

Battle Cruisers - also designed primarily for carrying great guns, but having much greater speed than battleships, at the sacrifice of armor, the reasons for which will be taken up later. Secondary weapons same as for battleships.

Light Cruisers - designed to carry intermediate caliber guns, also torpedoes and probably mines. It has high speed and little or no armor. Thus while its guns are its primary weapons against enemy light cruisers; its torpedoes and mines are primary against capital ships; its speed important in all cases, is also of great strategic value. It may also carry air-planes. These vessels are of medium size.

Destroyers - primary weapons - torpedoes - for use against enemy capital ships. Secondary weapons - small guns - to assist them if necessary to fight their way to an area where they may launch their torpedoes. Secondarily, these small guns to assist them beating off enemy destroyer attacks against our capital ships, or for self defense. Also an auxiliary weapon - depth bombs - to attack submarines threatening our capital ships. These vessels of small size, no armor and of high speed.

Mine-Layers - Light mine-layers are vessels of the destroyer type, torpedoes being replaced by mines, to be used in battle by mining ahead and across path of enemy capital ships. Also mine-layers of medium size carrying a large number of mines, primarily for mining areas near land, but

possibly also in a fleet action incident to an overseas expedition.

Submarines - primary weapons torpedoes, for use against enemy capital ships, Of small size, moderate speed, they depend on stealth and surprise to get home their weapons.

Aircraft Carriers - primary weapons air planes for bombing, torpedoing enemy capital ships, scouting, spotting, fighting off enemy planes. Similar to battle cruisers except planes instead of great guns.

(d) -THE PHASES IN BATTLE-

THE ENGAGEMENT.

Having briefly noted the means for the engagement we may nor proceed to examine the "How to use them," - what tasks to assign to each in battle - and also their collective use - in other words the Plan or Tactics of the key phase - Engagement.

As we have shown it desirable to consider the key phase of battle operations - engagement first - so, for the same reason, we survey first the key weapon of the engagement - the major caliber guns, or, the battleships - which have been and are believed still to be the main strength of naval power, before considering the contributory weapons. They, the battleships, play the key role. Their satellites, the battle cruisers, light cruisers, torpedo craft, mine craft, air craft, play the accompaniment, in order to enable the battle line better to do its work, while they hamper and injure the enemy battle line to the best of their ability. We may here quote Lanning:

> "We have as the dominating phase in battle the gun fight between heavy ships, which fight establishes the main line of battle. Then we have the attacks on the battle line by vessels carrying torpedoes or mines, the idea of which is to make the enemy heavy ships either accept the torpedo or mine menace or else pay a decisive price in gun fire in maneuvering to avoid it. Against such attacks we have the counter made by fast light cruisers which by their speed

and superior gun power can prevent the surface torpedo craft or mine layers from obtaining the position to deliver their attack. Again we have the attacks of the submarines which are directed against the heavy ships and which are countered by anti-submarine craft carrying depth bombs. Finally we have air attacks which can be countered only by air attacks but which can be prevented if the air craft carriers are attacked in such a way that they can not launch their planes.

"From the foregoing, it appears that what we call tactics is in reality the movements or actions necessary to insure getting home the attacks of one's own weapons while preventing the enemy from getting his attacks home. As before stated the common center for each side in an engagement is the engaged battle lines, and the approach and deployment for battle must be such as to not only establish one's own heavy ship line to the best advantage for engaging that of the enemy but also such as to place the ships carrying other weapons where they can deliver their attacks in co-ordination with the gun attack at the same time that they prevent the enemy delivering his....."

It would be well, at this point, to read again the guiding principle for the following - - - "Concentration." "Relative Superiority." (See bottom page 3 to page 6 - (i), (j).

BATTLESHIPS.

To gain priority of fire. To bring all one's heavy guns to bear upon the enemy, while denying similar action to him - Relative superiority. Formation for this approximate - column. Position - the "T" or capping, or as near to it as possible. To endeavor to obtain these objects, see guides pages 5 and 6, paragraphs (c) to (h). Superior speed is here of great assistance.

A battle line gaining a "T" or near "T" has such an overwhelming strength position that the opposing line will do everything in its power to prevent it. Except in such a profound surprise as gave Jellicoe almost a perfect "T" at Jutland - seldom may one expect a battle line to accomplish this of its own means, as superior speed, its principal means of obtaining it - at least on entry into battle -

will seldom be sufficient. One has only to turn away to nullify a considerable excess of speed, thus to prevent the success of a capping effort, and maintaining lines nearly parallel and normal.

The vital feature of the turn away is its angle. If it be abrupt, a knuckle may result - giving great opportunity for concentration - result, relative superiority - for ships in the rear of the knuckle may be thrown out of range thereby.

The knuckle then being so disastrous to a battle line on which imposed - and battle line speed normally insufficient to impose it - one naturally looks to other means than that contained within the battle line itself to turn the head of the enemy column, or produce a knuckle.

NOTE: Quotations from "Lanning on Tactics may be frequently interspread herein. He has stated so clearly and simply, what at present is my firm conviction with regard to many phases of the naval battle, that to attempt, in my own poor language, to express these points, would be but a poor imitation, and weaken the presentation. No apology therefore is needed for setting down my own convictions, in accordance with tactical principles heretofore expressed, in the clearest way I have at my command.

"...The types that can be used for such purposes are (1) the heavy gunned and fast battle cruisers, and (2) the vessels carrying torpedoes or floating mines. By the proper use of these types their weapons can be brought to bear on the enemy line forcing him either to change his course and sacrifice gun fire to avoid the menace, or to accept the menace and the destruction of ships it imposes. In either case the advantage gained may prove decisive hence tactics, to be sound, must be such as to give one that advantage while denying it to the enemy. Let us see how forces should be used to gain it while at the same time they prevent the enemy from doing so."

BATTLE CRUISERS.

"Battle cruisers, like battleships, have guns for their primary weapon. Their high speed enables them to do what battleships can not do, - obtain the capping position or approximate it. However, lacking heavy armor and having but few guns, they dare not engage battleships ship for ship, but must by their speed attain a position from which they can

bring

bring their full broadsides to bear while the enemy, unless he maneuvers, can return the fire with but few guns. Hence in battle, battle cruisers have their greatest value as a "fast wing," fighting from advantageous positions against either end of the enemy line, but preferably against the head, and causing the enemy line to suffer either from the cruisers' guns or from those of the other heavy ships as he maneuvers to parry the cruiser attack. It is this that determines the disposition and employment of battle cruisers in a general engagement and we therefore accept it as a tactical principle to use them as a fast wing, preferably ahead of the battleship line, with a mission to attack the enemy battle line from an advantageous position and destroy his ships by gun fire or force them to maneuver so the battleships can do so.

"From the advantageous position battle cruisers take at the end of the line, they play a dual role in the engagement. Not only are they placed well to attack the enemy heavy ships but from that position their great speed and gun power enable them to protect the ends of their own column from all kinds of surface attacks. A fleet with battle cruisers has many advantages. It is not only able to hit the enemy and hit him hard at his weakest points - his flanks - but at the same time it has a most powerful defense against any attacks on the flanks of its own line. For all their strength however, one should always remember that battle cruisers can fill their dual role only when they are within the support of their own battle line. Worked in close co-ordination with that line they can do much to the enemy line while at the same time protecting their own, and in this lies their strength. But to use them properly and have them always sufficiently supported requires the closest cooperation with the battleships and in the difficulty of doing this lies their weakness. This point must not be overlooked for should the mutual support fail, both the battle line and the battle cruisers open themselves to destruction in detail."

DESTROYERS.

"In the same way that battle cruisers, through their speed, can gain a position favorable for attacking a battle line with heavy guns and force it into a knuckle or cause it to divide or maneuver under fire, lighter craft of high speed can gain a similar position from which, by attacking with torpedoes or mines, they too can force the same advantages on an engaged enemy."

The torpedo comes next to the heavy gun in importance. Its great destructive power, combined with its mobility and long range, constitute in it a grave menace to a line which must stand the attack of a flock of these weapons. Hence the great importance of the destroyer, which, while one of the sattelites, is certainly, like the battle crui-

ser, - one of the first magnitude.

The great vulnerability of the destroyer renders it imperative, that the time it remain under heavy fire be reduced to a minimum. This means that once the destroyer leaves the protection of its own line, it must be a top speed dash to its firing point, if it is to succeed in the discharge of its torpedoes; and also its return after such discharge, must be rapid if it is to get out alive - - - all this in a daylight action of normal visibility. At night, or protected by smoke, the element of lesser visibility may cloak its movements with a considerable degree of safety, though the accuracy of its approach and firing may be correspondingly reduced.

The chief opposition we may reasonably expect to a destroyer attack is gun fire from enemy light and battle cruisers and battle line. The chief weapon against the destroyers from all three of these types is the gun of secondary caliber, with a maximum effective range against destroyers of about 12,000 yards. Hence to remain first outside of this range until ready for attack, and, when attacking, to run the gauntlet of as few of these guns as possible and for the shortest possible time is essential to the most effective effort. With this of course we must remember the purpose of our attack - destruction of the enemy battle line, or forcing it to maneuver under fire. The greater the number of our targets from any given firing point, and the quicker our torpedoes may reach their targets once launched, - - - the greater will be the chance for hitting. From the foregoing general considerations, and from the fact that "the positions least open to enemy gun fire are those on the flanks of his line, destroyers or mine layers sent ahead of an enemy heavy ship line to fire long range torpedoes or plant

a mine field have excellent opportunities to compel the enemy to maneuver under fire or accept the menace of their weapons. This fact gives us the key to the employment of such craft in battles and it becomes a principle of tactics to so employ them. Destroyers like battle cruisers have their stations ahead, that they may strike if the enemy continues on his course, and astern, in case he turns about."

A vital question in this connection is -- HOW FAR AHEAD shall we station them? My small experience in game room work to date has convinced me that for the most part, those of us engaged in handling the destroyers have stationed them too far ahead; they have frequently been chewed up on their way to attack by the enemy battle cruisers and light craft. Situations analagous to drawing the ends of a foot-ball team way out with the result of the dash getting through just outside tackle, or the main line, have been frequent, and have proved most successful. Why - - - because a start from this position gives maximum amount of protection, better co-ordination with the line, reduction of the vital time element in the approach for launching, and a lesser gauntlet to run. Having become convinced of this, my first attempt in support was to send out a division of battleships to protect the destroyers from enemy light craft and battle cruisers and facilitate their attack by engaging such enemy craft, thus diverting enemy attention from our destroyer attack. However, suppose the enemy, to meet this, detach a division from his main line to engage our advanced division. We are then where we started unless we move another division out - - suppose enemy again counters with a division - - carrying this out to its logical conclusion we soon have the main bat-

tleship line close up under our destroyers so as to give the best advantage to the destroyer attack. Even so, such disposition in no way affects the integrity of the battle line or compromises any other movement.

The foregoing leads one to the general conclusion that attacking destroyer divisions should be placed fairly close to - and ahead of - the battle line. Particularly necessary does such disposition appear for BLUE - with no battle cruisers to oppose those of his two naval rivals, also with his inferiority in light cruisers.

Another employment for destroyers is the purely defensive role of "anti-submarine" defense. So great has become the respect for submarines, that it appears necessary to surround the capital ships with a screen against submarines. The mission of vessels assigned to this screen is to detect and destroy or thwart enemy submarines in their attempts to torpedo the capital ships. The primary weapon of vessels so engaged is the depth bomb, secondary, the gun of small caliber. Destroyers are the only vessels, we have at present, available and suitable for such work during battle. Hence we may expect to see, in the early stages at least, a number of destroyers diverted to the formation of these anti-submarine screens.

Obviously, destroyers while performing this duty are little likely to find opportunity to use their primary weapon - the torpedo - as the positions they occupy are not suitable for launching and carrying home attacks.

Therefore, destroyers which have made their attacks and discharged all their torpedoes, should relieve the destroyers in the anti-submarine screen as soon as practicable, in order that these too may get in their torpedo attacks on the enemy battle line.

Thus the position of the types of ships designed to carry and to drive home the principal weapons in the naval battle will be, according to the foregoing:- (a) opposing battleships in approximately parallel columns and abeam of each other; (b) all or the major part of the Battle Cruisers ahead of the battleship line and in position to concentrate on enemy head, the remainder astern to concentrate on enemy rear; (c) the light attacking craft, destroyers and fast mine layers between the battleships and the battle cruisers, on both flanks, major portion ahead. "From these positions each type will endeavor to hit the enemy heavy ships with the full power of its weapons, overcoming outside resistance as may be necessary to accomplish the desired end. Approximately such will be the general plan in a normal fleet engagement."

LIGHT CRUISERS.

> "In a normal naval engagement, other things being equal, the force that can get the concentrated attack of its several weapons home quickest has every prospect of winning the engagement, and prevnet the enemy getting such a concentrated attack home each side counters the various parts that go to make it up. Such counters, however, are not always carried out by ships of the same type as the attackers. The counter to heavy ship attacks is generally made by heavy ships, but the counter to the attacks of destroyers and light mine layers is made by ships of the cruiser type, by battle cruisers from their position as a fast wing and by light cruisers which have the speed of destroyers and very much heavier batteries....."

Hence close to and supporting the destroyer position, we place light cruisers whose mission it is "to cover their own light craft in their attacks at the same time that they protect their own heavy ships against the attacks of the enemy light craft." With this disposition and use of the light cruiser type, we have the full general plan, in accordance with our basic tactical principles, for using surface types for attacking enemy heavy ships while protecting own.

SUBMARINES.

SUBMARINES.

"Like the torpedoes of surface craft those of submarines, to be effective must be launched from favorable positions, but owing to the limitations imposed on submarines by their low submerged speed and their inability to observe, gaining that position is most difficult. Their great strength lies in the element of surprise contained in their attack but their success is largely dependent on their original disposition as the battle opens and on the movements of the enemy thereafter. Hence no fixed principles can be laid down for their use in battle. All that can be done is to start them out in a favorable position and draw the enemy heavy ships to them so they can attack. This they do at every opportunity with a view to destroying the enemy heavy ships or throwing them into such confusion that surface craft can destroy them.... Their mere presence in a certain area may be sufficient to deny its use to the enemy."

Fundamental principles of concentration, co-ordination, apply here as always.

AIR CRAFT.

The principle here of "firstest with the mostest" is especially important. While air craft seek to add their blow to the sum total, with the same end in view - destruction of the enemy fleet - it is believed they can not delay their attack for a close co-ordination in the time element with the major gun attack. The reason is that they may carry or launch their weapons at a much greater distance from the fleet than can any other type. Thus to wait longer than is necessary to insure their proper role against the enemy, just for the purpose of time co-ordination with the ship-gun-action, might, and probably would result in the loss of the initiative, which, other things being equal, should prove fatal to - control of the air - so essential to their tasks. These tasks previously touched upon, (see bottom page 13), are briefly;- seeking information, scouting; bombing and torpedoing enemy capital ships, and plane carriers; spotting; while denying to enemy air craft these functions. Thus we may expect a bitter struggle for air supremacy ushering in

the engagement phase.

The fleet at present carries its air planes on the types heretofore mentioned, - except destroyers and submarines, - also, and in the future, probably the major part, on air plane carriers. The mission of these carriers is to see that their planes are available at the time and place, when and where, their planes may best accomplish their get-away for fulfilling their tasks. The carriers must then, be in comparative safety, and out of the gun fire theatre.

Carriers' planes can serve the information task better than the combatant ships' planes can, as they can get away and land with greater facility at any time. The combatant ships' planes will generally be the last planes launched, probably during the late approach, or deployment stage, as once up they can not return to their home ships until the gun action has ceased. This late launching should insure their maximum time in the air during the engagement phase. Therefore, as a general rule, we may expect the carriers' planes to perform the initial scouting and information service - later to combine with planes from other surface craft in the combat and fire control (spotting) work - according to developments.

The train is also being equipped to carry fighting planes, and in an overseas expedition these planes also will be available for battle, and will be used in the combat stage of the air tactics.

Above the sea's surface, then , as under it, air craft and submarines, while aiming directly or indirectly at the enemy's battle line, as do surface craft, are nevertheless relatively independent of the surface craft, as to close co-ordination in point of time of the initial blow.

This completes the survey of the key or engagement phase and we may now proceed to see how best to approach, develop and deploy in order to serve that phase as set down.

THE APPROACH.

Obviously the approach must be such as to facilitate the general plan. Elsewhere we have expressed the great value of surprise - conversely one can not afford to be taken by surprise. We have spoken of retiring tactics and advancing tactics, obviously, the same approach may not be to the best advantage in each case. Again approach formations certainly must be influenced some by certain information regarding the enemy - and may never be quite the same twice. Necessity for development of enemy forces may or may not seriously influence surface forces in the approach, according to how much we may depend on the air. Is the enemy seeking to engage, will he follow us in retiring tactics, what is his will to fight? Is the windward position paramount, or merely desirable? How much information will strategic scouting give us? Some sort of conditions are necessary for the general situation, and we will assume here that our general plan assumes both fleets to have all the types previously mentioned - both the will to fight to win - both strategic information only of an approximate position of enemy, hence only his general direction, not the exact, known - - both air force deemed sufficient for development of enemy - - and fleets, to all intents and purposes equal.

The battle line being the key position in engagement, it naturally follows that it is the key position , or base for the approach dispositions. It must not be surprised. What constitutes a surprise - - - we may answer - - - being struck by the enemy before it is in readiness to strike

back. There must then be some warning so as to be ready. It also follows that the more readily one may deploy into one's battle formation, the less danger of being taken by surprise. Tactical concentration must always be possible - in time - with a view to relative superiority.

To accomplish this our tactical principles (e), (f), (g), pages 5 and 6, require our battle line capital ships, on the approach, to be in formation line of division columns, and to maintain the line of bearing of the division leaders perpendicular to a line from our centre division to the nearest ships of the enemy battle line capital ships. Other types must be in the stations we have assigned them when engagement opens, but prior to the opening they must also occupy positions such as to locate enemy approach in time for one's deployment throughout, and to deny to the enemy the element of initial surprise attack of any kind. Obviously under the conditions we have laid down, of both sides seeking engagement, no far flung screens are necessary, as air force should, except for extreme weather conditions, be available, and a general state of readiness and anticipation existing throughout the fleets.

An outer screen of about 20 miles should suffice for all necessary warning. It should be circular, or on chords of a circle, in form, and its units should preferably be submarines, as they are good eyes, as it keeps them on the outer rim of our formation, making it easy to tell friend from foe, also, and primarily that it disposes of these vessels of restricted mobility to the best all around position to insure a reasonable number of them getting into action, no matter from what quarter we make contact. If one has not sufficient number of submarines to accomplish this outer contact screen, destroyers will be interspread

in the screen, or just in rear of it.

Next in rear of, or within, this outermost screen, and symetrically placed for supporting it, that is, generally on the arc of a circle (of about 15 miles radius) and concentric with outer screen, the light cruisers. Again, and similarly in rear of and in support of the light cruisers, the heavy cruisers. Next within, come the destroyers and fast mine layers, concentrated by divisions; - these form a protective screen, and on account of their proximity to the main body are well placed for concentration and deployment, more or less independent of wind condition, because they have a comparatively short distance to go to obtain their battle stations, regardless of direction of deployment. Inside of, but excentric to all, the battle ship divisions, with their anti-submarine screens, ready for quick deployment, probably from formation #3 or #4, according as visibility is normal or low. Close to and probably in rear of the battleship divisions, the carriers, from which position they may most readily attain a station on the disengaged side of the main body.

The different positions assigned in the foregoing paragraph are all based on the main body. To insure accurate maintenance of the formation as a whole, recourse must be had to linking up ships for tying up the parts to each other, in their proper relation to the whole. The reference point will be a ship located at the centre of the circles mentioned, and will be in advance of the main body by a distance depending on the time warning desired by the main body of approaching enemy craft. This formation is similar to that I used in Strat. III, - see Staff Record of Maneuver "Y" game Plate III, reference number 1079/1-23 of 4 Jan.1923.

This formation has the following main points; - equal

time warning from contact at any point (provided enemy speed is correctly estimated); admits of change of course in any direction without confusion, without high speed running, or distortion; equally easy to deploy on any heading. Therefore when we do not know whence the enemy may approach, this formation is the most adoptable and best meets all conditions.

DEVELOPMENT.

For this stage we have assumed air craft available from carriers - and minor tactics of the air should supply the necessary information. Should assistance from surface craft be necessary - the formation previously discussed will supply fast cruisers for this purpose.

DEPLOYMENT.

This is the change from the approach to the engagement. Mistakes made here may be difficult to rectify. The Commander-in-Chief having such an approach formation as we have described, and its units well indoctrinated, is not worried about his internal dispositions, which lend equally well to any direction. He will, however, have to weigh carefully wind, sea and light conditions. He will want early information of, and continuous thereafter, the enemy's dispositions and movements.

He will then have to decide on the deployment course that will give him the greatest advantage obtainable, in view of all these things. Having decided, he must communicate his intentions to his Force. This decision must not be made too early, as enemy reaction may lead him to a revision - too early a decision may embarrass him later on. Therefore the early stages of deployment must be such as to lend to a general position from which final and specific direction may be given and quickly executed.

In previous discussion we have shown the satellites

to be divided some ahead and some astern. The proportion is about 2 ahead and 1 astern. Therefore a general original disposition of deployment would give one-third on one flank, one-third on the other, and one-third in a position to be thrown either way the last moment (or when the Commander-in-Chief gives battle course), but, in time, to reinforce the van. Such a position would appear to be a middle one, and it would be, except for sea conditions which may modify it, or a general recognition of strong probability towards one flank which should be favored. Our small experience on the game board has shown that the commander-in-chief has frequently changed his mind as regards direction of fighting just before the fighting opened.

The submarine and the air force, as heretofore pointed out, must proceed more or less independently in general conformance to the battle line.

THE FOLLOW UP.

The objective is decisive victory - destruction of the enemy.

Thus when one fleet, finding itself hopeless of victory or an even break, and realizing that to continue is only playing completely into enemy hands, it will undoubtedly attempt escape. Such escape must be prevented by the victor.

We here will have pure offensive tactics, versus defensive tactics on the defensive.

The same general principles heretofore enunciated must be followed. The method changes according to the situation but not the guiding principles. The variations may be so many that no attempt will be made to discuss them in detail here, though this phase should be carefully studied from all angles, and the entire force indoctrinated

as to its tactics; for "he who fights and runs away may live to fight another day," and it is precisely that which the victorious fleet must prevent.

(e) STATION OF COMMANDER-IN-CHIEF.

We have shown the battleship line to be the base, the key position, depending upon which, and with reference to which, all other types take their que. It is evident that once the battle is on, the commander-in-chief can do little to control its many actions and reactions; his work, as already stated, is chiefly during the months and years preceding the day of battle, and again on the day of battle, in leading his fleet to, and deploying it to fight on a course which will secure for it the maximum amount of advantage from conditions obtaining. This reverts to estimating correctly the conditions and quick decision and execution. The control of the battle line is naturally, then, the key control - all hands are looking to it for direction for the -- on with the battle -- this being so, the more direct the control, the quicker will be its response to the chief's will; again, the conditions confronting it will be most readily appreciated and sized up by those in it - on the scene as it were - hence to appreciate, to decide, to execute with a maximum of speed, the control must be in the battle line. Here then it appears to me is the position for the Commander-in-Chief - the main battle line.

The foregoing roughly sketches an outline of the general plan from which we estimate special studies for specific cases as, for example, BLUE versus RED, or versus ORANGE, or for a study of JUTLAND.

We may summarize the foregoing, and accompany by sketches, which together with summary of tactical principles, may serve as a ready reference or general guide.

(f) SUMMARY OF A GENERAL BATTLE PLAN.

(1) To seek engagement, and to engage decisively.

(2) To make the most out of weather conditions, and to seek the weather gauge.

(3) To bring all surface types to action simultaneously; and to maintain the line of bearing of one's own battle line perpendicular to a line from one's center division to the nearest ships of the enemy battle line, and while so doing to draw ahead, aiming for a capping position.

(4) To maintain range that will afford our major caliber guns their most destructive effect.

(5) To seize every opportunity to drive home torpedo attacks on enemy battle line.

(6) To gain air supremacy.

(7) To make submarine and air attack according to circumstances, to destroy enemy capital ships and plane carriers.

(8) To maintain mutual support and co-ordination of one's own forces, while breaking down that of the enemy - on the surface - the subsurface - and in the air.

(9) To pursue relentlessly the follow-up.

(10) Employment of, or Mission of various Types:-

(a) Battleships:- Destroy enemy capital ships.

(b) Battle cruisers:- To operate as fast wings, on the flanks, to destroy, and to assist battleships to destroy, enemy flank capital ships, - - at the same time to protect flanks of one's own battle line from enemy surface ships' (all types) attacks.

(c) Destroyers and fast Mine Layers ahead: (major portion):- Attack head of enemy battle line, and plane carriers.

(c-1) Destroyers and fast Mine Layers astern: (minor portion):- Attack enemy capital ships in case

he reverses course.

Note: Mine layers report position accurately of fields laid.

(c-2) Destroyer Screens: - Protect capital ships from submarine attacks.

(d) Light cruisers ahead: - Support destroyer attack, deny enemy destroyer attack.

(d-1) Light Cruisers astern: - Guard rear, support rear destroyers in attack, in case enemy reverses course; also use for development or observation of enemy or both, if situation should require.

(e) Submarines: - Attack enemy capital ships and plane carriers as early and as often as opportunity offers, or as opportunity can be created. May assist in developing enemy.

Note: If due to stress of weather, air scouting and developing is impracticable, this will have to be done as noted above by Cruisers and Submarines.

(f) Air Craft from Carriers:- Scouting and developing; gain air supremacy; destroy enemy capital ships. Carriers unless otherwise directed, take station on disengaged side of battle line, keeping out of enemy gun range.

(f-1) Air-Craft Combatant Ships:- (1) From capital ships, spot and protect spotters; (2) from other combatant ships, assist capital ship planes or carriers, as situation requires.

(f-2) Air Craft Train:- Fighting for air supremacy.

Note: In general - get up air craft from ships other than carriers -- as late as situation permits, but before opening fire.

(11) To employ formations that will facilitate concentration - to gain positions for relative superiority - to the above ends.

(12) To indoctrinate all hands in the chief's plans as set forth, in order prepare man and material to their prescribed tasks.

(13) To trust much to the intiative and loyalty of the subordinate commanders.

(g) BLUE versus RED.

We now proceed to our first special Situation, BLUE versus RED, note wherein differences occur, and see what variations of the general plan are necessary to meet the special situation.

Without going into the reasons why, we may assume that the decisive naval theatre will be the "WESTERN ATLANTIC." This gives to BLUE all the advantages of effort near his homeland. Tactically this should mean the presence of all BLUE's forces on the field of battle in their best material condition; forces which could not get into an action on account of long distance away from a base, such as short radius submarines, destroyers, mine layers improvised or otherwise, and possibly air craft may be available to BLUE against RED - all should be utilized.

Briefly, previous study has shown that:-

In capital ships (including battle cruisers), RED is superior in numbers, gun power, fighting strength, and speed. Best ranges, for RED, about 24,000 yards and upward, for BLUE about 20,000 yards or less.

In Destroyers BLUE superior in numbers, torpedoes, fighting strength.

In Cruisers RED is superior in numbers, and gun power, provided he bring all to action. It may be noted BLUE

CLs much superior to RED CLs, but this local advantage much overbalanced by RED weight in other types. These being the counter to destroyer attack, superiority here goes largely to nullify BLUE destroyer superiority.

In Submarines, BLUE superior in total number. RED far superior in numbers of 17 knots and above, about 45 to 6, and therefore presumably for fleet action. Chance here, however, an important item.

In Mine Layers, for fleet action regard conditions approximately equal. RED has some submarine mine layers - BLUE none.

In the Air RED slightly superior.

Superiority in numbers gives opportunity for superior concentration, relative superiority.

Superiority in fighting strength, other things being equal, give superiority in destructive effect - victory.

Superiority in speed gives ability to:- join or discontinue action at one's own will , to fight at ranges of one's own choosing, to seize quickly a favorable opening or to get out of a bad hole, in general, a great tactical advantage in many respects.

Air supremacy, by virtue of being able to employ plane spot, confers enormous advantage, at the greater ranges, to the major caliber guns favored with it.

In general, RED has these superior qualities, the single offset being BLUE superiority in destroyers, largely countered, however, by RED superiority in cruisers. Nevertheless BLUE must get all possible advantage from his torpedoes.

RED then, by his speed and numbers, must bring his greater gun power against BLUE in all its weight and to its best advantage. BLUE must counter it, equalize it, beat it, by his torpedo and his gun closely co-ordinated

in effort.

We may conclude then that RED will decide:-

To preserve RED capital ship strength preponderance for, and to employ its full weight against, BLUE battleship line, by denying to BLUE the area from which BLUE may launch successful torpedo drives, or plant mine field menace, and by gaining and maintaining air supremacy.

We may conclude that BLUE will decide:

###To utilize preponderance of torpedo craft to reduce RED capital ship strength, while preventing RED from utilizing his torpedo craft from reducing BLUE capital ship strength, and with this assistance to beat him by gun fire.

Other things being equal, retiring tactics would serve this ### BLUE effort, turning to advancing tactics when the situation has developed favorably for them. Night destroyer and submarine attack just preceding the day action might also go a long way towards accomplishing this. The windward position then must be eagerly sought by BLUE.

We may assume RED will endeavor to hold range at about 24,000 yards, BLUE to 20,000 yards and under. Obviously low visibility would greatly favor BLUE.

RED might be embarrassed by convoys, but such is not considered here.

We may now examine these special points:

Retiring tactics:- BLUE has inferior speed. It would appear then that to adopt them would play into RED's game, he following at his own range, at his own leisure, and pound BLUE to pieces - - - turning away as necessary to avoid BLUE torpedo drives while BLUE frittered away his torpedoes. Could BLUE get torpedoes on RED's offside in such an engagement - that is, get RED between his torpedoes - partial success might ensue, but still the increasing pounding would go on - and such tactics by BLUE while being difficult of co-ordination - would - I believe

in the nature of things, be a killer on morale, difficult for our men to understand, and likely to be misinterpreted by them. Therefore I would not employ retiring tactics.

Night attack preceding day action. Night attack, I believe to be much of a gamble - too much, in my opinion, with the confidence I have in the torpedo, in proper hands for day action. Therefore I would preserve its full weight for the day action - - and for night, if any left, following day action. To get the full weight of my torpedoes home, I would stress the point heretofore made - especially necessary for BLUE, of keeping my destroyers close to head of battle line, and when the two battle lines were locked in engagement, to drive clear through my torpedo attack.

Windward position - gain of possible.

Range, 20,000 or under, drive for it; RED may hold us off, we can only make a determined try. Low visibility would be great good fortune, and instead of being a deterrent should be eagerly sought.

Summarizing, then:- day action, windward position if obtainable, advancing tactics, full and determined use of torpedo craft, range 20,000 yards and less, welcoming low visibility, and imposing these and the decision ## on page 35 on the Battle Plan Summary, pages 31 to 33, constitute BLUE's plan against RED. See sketches.

The formation for approach has been outlined, see page 28##.

For changing course while advancing in this formation, it is merely necessary to signal the new course and on the execute, all single ships change immediately to the new course, those in column (except main body) go column movement to the new course, the main body continues on old course to the formation pivot or reference point and then

changes to the new course. Thus the positions of single ships or groups of ships, formation, from a compass bearing standpoint, remain relatively the same - the old axis simply washes out - the new course automatically becoming the new axis. If for any reason the C-in-C should desire the old grouping around it, he has merely to order a designated vessel on the new axis, and all others take their original relative (not compass) stations from it. The formation is thus very flexible and simple. In emergency of course the main body may change course at once, on the signal for a general change.

For deployment from this formation, one sector proceeds to one flank, one to the other, one central to join the van as soon as definitely decided upon. This gives the two-thirds ahead, one-third in the rear combination. The direction of deployment automatically defines the van and the rear, and the sectors fall easily into their places in the most natural way. Thus if deployment is to the right of the course or axis being steered at the time, the sector immediately ahead and the right sector becoming the van while the left flank sector, which is the sector away from the direction of deployment becomes the rear.

For tactical scouting while advancing we depend normally and primarily on radial air flights from carriers for information desired; secondarily on an advanced screen of submarines, assisted by CLs if such assistance appears necessary.

(9) BLUE vs. ORANGE.

Second Special Situation.

Without going into the discussion again which we have just recently completed in Tactical V., also War Plan - BLUE versus ORANGE, we may set down the following deductions.

Theatre of operations - Western Pacific.

BLUE hampered by convoy - ORANGE foot free. Both navies have the major portion of their strength available for their broad aims, which for purposes herein we may say:-

ORANGE takes to be --- to frustrate BLUE penetration into Eastern Asiatic Seas in order to make ORANGE control permanent -- and that ORANGE effort to accomplish will be along lines covered by a decision, - - - - to weaken BLUE advance by continual harassment of increasing intensity, in order to deny BLUE establishment in position and strength sufficient to dispute ORANGE command of Eastern Asiatic Seas.

BLUE takes to be:- To establish the fleet in the Western Pacific, preparatory to gaining and exercising control over Eastern Asiatic Seas - - and for this a decision - To press in close concentration into the Western Pacific in order to establish the fleet in the Philippines for operations against ORANGE communications. This establishment carries with it a large naval train, the safe arrival of which we may assume essential for BLUE success, and, therefore, considerations for its safety are primary.

Thus ORANGE is pursuing a policy of attrition, which tactically encompasses everything from a very minor attack with any one weapon at any one point or points, all the way up to, any combinations of weapons in part or in total at any one or several points at the same or different times, and perhaps culmination in fleet major engagement.

Without citing the many possibilities for ORANGE, unencumbered, foot free, with superior speed so necessary to an attrition policy, it is apparent that BLUE, though on the defensive, must aim to be relatively superior at any and all points attacked, and to exploit, so far as is consistent with the safeguarding of his convoy, every tactical situation and turn it to his own advantage, thus making ORANGE attacks too costly for ORANGE to continue.

For BLUE to accomplish this requires close adherence to the principle of concentration, avoidance of being caught off guard or taken by surprise, eternal vigilance, close co-ordination, initiative, and full use of his interior lines. BLUE's formation then must lend itself to support these points - - - it must be simple, compact, yet flexible, lending itself to quick concentration and mutual support, ability to change course without confusion, and strongly screened. The general type of formation mentioned on page 28## may be adapted to meet these requirements, and is regarded as the best type to meet this special situation.

As to employment of types this proposed formation, the best disposition would appear to be outer protective screens of submarines and destroyers, backed up by an outguard of light cruisers, and in turn supported by a striking force of destroyers and battleships. Within the protection of these will be located the convoy with a defensive screen of BBs, OCAs, XOCs, air and mine craft and DD anti-submarine screens. Refer to sketches.

Previous study in strength factors has shown that BLUE, measured only on paper and with regard to naval engagement, is much stronger than ORANGE; overwhelmingly so in capital

ship strength. However, when the theatre of operations and the nature of the tasks are taken into consideration, BLUE superiority shrinks materially, and BLUE margin of safety becomes very small.

A detailed comparison of ORANGE and BLUE strength is appended hereto, taken from my solution of Tact. V, pages 1 to 15. Reference should also be made to Staff Solution Strat. V-A (Strat. 76), pages 3 to 19, where a very complete strength analysis is made.

It may be noted that:-

ORANGE foot-freeness, nearness to homeland, superiority in speed, gives her in the present instance all the power of initiative to strike or withdraw, in her own way, on a selected point or points at will, in such strength concentration as she wills, aiming always in an attritive policy at considerably relative superiority at contact. BLUE must meet this by superior concentrations from his interior lines --- in time.

Recall that when one fights, one should utilize all one's forces.

We may then take BLUE's plan to carry out his major intentions as expressed in paragraph ###, page 38.

To proceed in full force, with the entire expedition, in close concentration, and en route to direct naval effort to protection and safe transit of convoy.

To advance with all speed possible.

To protect convoy from surprise and attack by close protective and defensive screening.

To conceal one's own movements as far as possible so as to avoid action, but should such take place, either minor or major, to always be superior at threatened points, and to obtain decisive results.

To change course at dark in presence of threatened

night attack.

To augment ship effort with air reconnaissance and power of air offense; maintain air supremacy.

Note: ORANGE superior ship speed will not avail her in running away from air, bomb or air torpedo attack.

At all times to maintain mutual support and co-ordination of all the elements of the entire expedition - while breaking down that of all enemy attacks.

To employ formations that will facilitate concentration - to meet enemy attacks with relative superiority at all times and in all places.

To study and foresee so far as possible by discussion, conference, game board work, the many, many ways ORANGE may attack, so as to be forearmed mentally, morally and materially, individually and collectively, how best to defeat such attacks, bearing in mind the above broad plan.

To indoctrinate all hands in the Chief's plans, formations, and ideas, in order to prepare man and material for their prescribed tasks.

To trust much to the initiative and loyalty of the subordinate commanders.

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Deployment - if it may be called such - in this instance - will consist in effectively bringing about relative superiority as outlined in the foregoing - bearing in mind and observing the tactical principles and points heretofore discussed, whether the action be minor or major. Only in the case of major engagement against ORANGE I would employ battleships as wings ahead and astern, four each, under much the same mission as heretofore assigned to the Battle Cruiser role.

Changing course of formation will be as heretofore des-

cribed, the type of formation being the same.

As we are not seeking engagement, tactical scouting may be regarded as a protective measure, augmenting that of our protective screen. The air force will be depended upon for such as is necessary.

(10) ANALYSIS OF JUTLAND.

(Reference Plates by Frost).

Under this heading only a broad and brief discussion will be attempted - and that regarding only major points - as a means of testing out our principles and deductions.

Absence of air craft and submarines limited this battle to surface craft.

In the early part of this paper, considerable stress was laid on the point that the most important "factor which animates the subject, which gives it life is - Man - with his moral, mental, and physical characteristics;" - and therefore that his preparation, his training in, and his understanding, and possession of those qualities that make for leadership and success in high command were of paramount importance. We may look then to this as a background around which, to form an understanding of some of the happenings at Jutland.

A reading of Jellicoe's book can not but impress one that he was full of excuses accentuating his weak points and the German strong ones - feeling but little the enormous strength of his own fleet - that he feared the torpedo - that he had worked himself into a battle frame of mind of "how can I defend myself" rather than "how can I hit the enemy most severely" - that he failed to appreciate or at least to act in accordance with the principle that "Attack, not defense leads most quickly to the goal" - in fine that he lacked the fighting edge, the offensive spirit, the will to win. If such be a correct view, it was natural,

almost inevitable, that except in rare instances, this spirit would manifest itself throughout the fleet and in all its actions.

We may now proceed to examine the different phases of the battle in order of their sequence.

Approach and deployment:- In our discussion we have stressed the elements of simplicity, fexibility, rapidity, as essential in formations to facilitate movement, to expedite tactical concentration at deployment time, and to impose surprise; of linking up ships to tie together in their intended relationship the parts to the whole; of maintaining the line of bearing of battleship division leaders normal to that of the enemy; of stationing the satellites in positions from which they could most readily serve the general plan, etc., etc.

Now in examining the British Fleet in approach, we find it lacked ability for good concentration, because the parts were not tied together. It was not so much due to mere separation, as the advance forces, Beatty's, though well ahead, had speed superior to the enemy, also they had the enemy ahead and consequently they were not subject to being cut off from their main strength (or main body as we will term it) to the rear. The trouble was, the advance forces did not know accurately the position of their own main body, and consequently their main body did not know accurately, relatively to itself, where the advance force was.

Consequently, expeditions joining up of the two forces, Jellicoe and Beatty, at a desired point and bearing with reference to each other and to the enemy was likely to, and did fail. Facility then for ready deployment <u>for the whole</u> did not exist, inviting lack of mutual support and concentration, and tending to confusion and being surprised and such was the result. This lack of cohesive-

ness could have been obviated by linking up craft, which, however, were not provided.

The juncture was badly effected. Forces blanketed each other at a vital stage. Vessels were forced to decided changes of speed to avoid collision. At this time also, Jellicoe found himself in contact with the enemy fleet, and instead of it being ahead and his line of bearing normal to it as he expected, the enemy was on the starboard bow of his right flank division. (See figures 16 and 17). British tactics allowed only for deployment on a flank division, instead of also on a center division, which in point of time would have been so advantageous at this instant.

Jellicoe deployed on the left flank division, and there has been much criticism of this, chiefly on the ground that deployment on the right flank would better have supported Beatty, and held a better grip on the head of the German column. What the German reaction to such a deployment would have been, no one will ever know. The fact remains that the deployment as made gave Jellicoe a very favorable position. The trouble was not in the outcome, but in the faulty means for getting there - - undoubtedly by causing great sacrifice in gun fire and time.

Again in Jellicoe's own Force, the light forces had not been disposed with a view either for obtaining information, quick deployment, or for attack - but had been grouped close around his heavy units for defensive purposes only. Consequently, when in anticipation of early deployment, they were sent to the flanks for such deployment, and this happening to take place at about the time of juncture with Beatty and contact with the Germans, much confusion resulted.

All this resulted in loss of effective fire, and many

precious minutes, with darkness fast approaching; losses which may be charged to faulty approach formation, - defensive attitude on Jellicoe's part, - and in the last analysis - lack of preparation, by and of, the high commander. At this time, the British being to northward and eastward, and visibility low, their ships did not show up as did the Germans against the western sky - consequently, British confusion and bad tactics were largely covered by poor visibility, and the Germans unable to get the advantage in gun fire, that otherwise might have resulted.

Notwithstanding all this - the British fleet on deployment obtained almost a perfect "T" on the German battle line. Such a tactical position with a fleet of such superior strength was a situation that only an Admiral's fondest dreams might have fancied. This then ushers in the engagement phase of the two fleets as a whole, and we may now proceed to examine Jellicoe's use of this enormous advantage in position and power, after having consumed so many golden minutes in getting into this position.

Engagement:- We find from 6:10 to 6:35 P.M. (see figure 19) Jellicoe established with an almost perfect "T" on the German battle line, and with his superior speed and enormous superiority and concentration of gun fire, appearances all pointed to German annihilation. Visibility also favored Jellicoe. We find the Germans at this period with a pronounced knuckle in the battle line, due to the head of their battle line turning sharply to starboard (to the South East) in an effort to extricate itself, also German destroyers laying smoke for further protection. Conditions were such that it seemed the bounden duty of Jellicoe was to press for the absolute destruction of the German Fleet - things were so one sided and in his favor that he could afford to take even great risks, if necessary, to secure

the complete victory that lay within his grasp.

6:35 to 6:55 P.M., Figure 19: This period finds the German Fleet going ships right about in their further attempts to get away from the overwhelming advantage the British possessed. Beatty from ahead of Jellicoe's line follows their turn.

At 6:45 the German 3rd Flotilla fired 6 torpedoes. At 6:54 the Marlborough was torpedoed. The Weesbaden which was put out of action about 5:45 P.M. still lay between the lines and her destruction appeared close at hand.

At this time Scheer in his book states:

> "It was still too early for a nocturnal move. If the enemy followed us our action in retaining the direction taken after turning the line would partake of the nature of a retreat, and in the event of any damage to our ships in the rear the Fleet would be compelled to sacrifice them or else to decide on a line of action enforced by enemy pressure, and not adopted voluntarily, and would therefore be detrimental to us from the very outset. Still less was it feasible to strive at detaching oneself from the enemy, leaving it to him to decide when he would elect to meet us the next morning.
>
> "There was but one way of averting this - to force the enemy into a second battle by another determined advance, and forcibly compel his torpedo boats to attack. The success of the turning of the line while fighting encouraged me to make the attempt, and decided me to make still further use of the facility of movement. The manoeuvre would be found to surprise the enemy, to upset his plans for the rest of the day, and if the blow fell heavily it would facilitate the breaking loose at night. The fight of the Wiesbaden helped also to strengthen my resolve to make an effort to render assistance to her and at least save her crew."

6:55 to 7:15, Figure 20: At 7:04 Jellicoe learned from his light cruiser reports of Scheer's turn away and at 7:05 changes course 3 points to the westward in pursuit. However, this resolution did not remain with him long, for at 7:07 he turned 3 points to the eastward, Instead of meeting Scheer's bold ships right about and returning to face him under conditions so unfavorable to the German Fleet, Jellicoe on seeing this move together with the advance of

the German light forces supported by their battle cruisers, submitted to the will of Scheer and turned away. This turn away was at a time when Jellicoe held most all the trump cards - all the elements heretofore pointed out were still in his favor. The German Battle Fleet was suffering heavily from the enormous superiority of British gun concentration, was enfiladed, T'd, knuckled, silhouetted against the western sky, unable because of its being capped to utilize even the guns it had, and because of low visibility and the British fleet bearing to eastward, could not use them advantageously even if not T'd. Yet with all this Jellicoe, practically unhurt, was unwilling to risk a little to gain so much; his own safety rather than Scheer's destruction was uppermost in his mind - so he loosened his stranglehold, afraid to pay any price, and turned away. Scheer's will prevailed.

7:15 to 7:20 P.M., Figure 21: At 7:17 Scheer again for the 3rd time went ships right about, heading to the westward to withdraw, under cover of his light force attack, his destroyers getting off 21 torpedoes between 7:23 and 7:25 P.M. Jellicoe at 7:22 turned away 2 points , and at 7:25 2 points more, which turns away lost him touch with the German battle fleet and which he never again regained. To all intents and purposes the engagement ended at this point.

One may well ask - why were not the British destroyers out attacking the German battle line on their return to the eastward, imposing their will on the German fleet, keeping the German light forces so busy that they would have had no time for attack. The answer is simple - they were defensive employed, ruled by a defensive spirit - and the result is apparent -- non-decisive - non-productive.

In seeking an explanation, we may quote Jellicoe from his own book:

"The probable tactics of the German fleet had been a matter of almost daily consideration, and all our experience and thought led to the same conclusion, namely, that retiring tactics, combined with destroyer attacks, would be adopted by them. There were many reasons for this belief, and some of them were as follows:

"1. On each occasion when German vessels were met, they had immediately retired towards their bases.
"2. The tactical advantages of such a move were obvious. They might be enumerated thus:
"(a) The retiring fleet places itself in a position of advantage in regard to torpedo attack on the following fleet. The retiring fleet also eliminates, to a large extent, danger of torpedo attack by the following fleet.
"(b) Opportunity is afforded the retiring fleet of drawing its opponent over a mine or submarine trap.
"(c) Smoke screens can be used with effect to interfere with the observation of gunfire by the following fleet.
"(d) Considerations of moral effect will force the stronger fleet to follow the weaker, and play into the hands of the enemy."

"We were so certain that the enemy would adopt these tactics that in all the many exercises carried out by the fleet during the war, it was the invariable rule to indicate beforehand an assumed position of Heligoland, and the Flag Officer, representing the Commander-in-Chief of the High Sea Fleet in these exercises always deployed his Fleet in the direction of Heligoland and adopted retiring tactics. The difficulties resulting from the employment of these retiring tactics and the best method in the circumstances were, therefore, the subject of constant thought, both by myself and by all the senior officers in the Fleet, and the subject was very frequently discussed and worked out on the tactical board.
"The difficulty is, to a certain extent, <u>insuperable</u> if retiring tactics are employed in conjunction with a free and skilfull use of under-water weapons."

The underlining of the word "insuperable" is mine - it speaks volumes.

Regardless of any defense that may be made of Jellicoe relative to the foregoing, or his failure to keep touch during the night, it seems to me there can be absolutely none, for his conduct of the "follow up" phase <u>the morning after</u>. In fact there was no "follow up". It appears that he deliberately avoided the area, which on the following morning was almost certain to bring him to grips with the German Fleet again. His conduct seems inexplicable unless it be that he was content with the mere fact

that the Germans were retiring to port. --- Shades of Nelson: "If I had captured eleven sail and one escaped, etc., etc." It may again have been fear, insuperable fear of the German under water weapons - but as their torpedo supply was not inexhaustible, they surely could not have had many left after the yesterday's action - and again both sides could play at that game, if they were dominated by the offensive spirit, but Jellicoe was not - hence his fleet, Beatty excepted - was not.

Beatty's action preceding the entire fleet engagement has not been mentioned. It was a fine example of the offensive spirit that deserved a better ending. He delivered the German fleet over to his chief, after a long running fight and heavy losses, and he stayed with it from beginning to end. His chief failed - failed to support, failed to push home the fight to victory. Beatty could not do it alone. Result -- in short time the German Fleet was again ready for sea, it was always "in being," it supported the submarine campaign, it at least contributed to the Russian fiasco - but this enters the province of fancy.

As to Beatty's action, itself, he may be criticized for lack of co-operation and co-ordination and concentration of the battle cruisers and his battleships, but that is only an incident to the larger game.

The lesson for us is that to be drawn from seeing a great and superior fleet fail - a weaker one inflicting its will on the stronger - and to see clearly the outstanding cause, and for that purpose it is unnecessary to go into every detail.

The reason stands out in that:- One side knew the "how to fight" and the other did not; one side was animated by the"will to do," and the other by the will "not

to do" but to avoid. The knowing how comes only from PREPARATION, which I endeavored to point out in the first pages of this paper. Preparation that fosters beforehand the "will to win" and which in turn begets the will, how to win, for "When there's a will there's a way," and conversely, when there is lack of it, there is liable to be no way, no method.

This, then is our lesson - Preparation for battle - get ready - start now, from the top down and the bottom up - and then to stay ready, constant plan preparation, and vigilance.

In closing I quote the following from Bellaire on Jutland:-

"The past interprets golden rules to guide us somewhat as follows, but each student must frame his own:

(1) The more provident care in peace the less improvident scare in war.
(2) Do not bring your peace mind to bear on war problems. It is as unsuitable as your silk hat.
(3) Do not conjure up pictures to suit either your fears or your wishes. The enemy will act according to his psychology and the probabilities of the situation.
(4) Trust the man on the spot. If you do not trust him change him.
(5) Co-ordination, co-operation, consolidation, comradeship and concentration are the winning C's of war.
(6) Concentrate for victory.
(7) The spirit of war is the offensive and the surprise, of Napoleon's "Frappez vite et frappe fort."

"If one sits down to record all that the offensive does in the hands of a great leader, one would put it down succintly somewhat as follows:

(1) It is the only winning policy.

(2) The only method enhancing the moral.

(3) The only way to start with the surprise.

(4) The only way to gain the initiative.

(5) The only way to save a long drain on one's resources by a wasting defence.

(6) The only way to get concentration of effort.

(7) The only way to enhance the prestige of one's country and one's profession."

Crease or Fold Here for Expansion