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ORGANIZATION, STRATEGY and TACTICS of the GERMAN NAVY
in the
WORLD WAR

by

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ORGANIZATION, STRATEGY and TACTICS of the
GERMAN NAVY in the GREAT WAR.

(a) ORGANIZATION.

The following notes on the subject are quoted from a translation of certain parts of Bernhard Teuch-Lerchenfeld's "Deutschland sur See", Berlin, 1911. The translation was made by the Office of Naval Intelligence.

"Article 53 of the German Constitution provides that the German Navy shall be a single Navy under the supreme command of the Emperor. He determines its organization and composition appoints its officers and officials, and they, together with the enlisted men, take an oath of allegiance to him.

"The Imperial Navy consists of the various naval boards or authorities and the various branches or parts of the Navy at sea and on shore. Marineteil has about the same significance as Truppenteil (body of troops or corps) in the Army. Every ship or other vessel in commission is designated as a sea-going Marineteil, while all the naval formations on shore are designated as Marineteil on shore.

The Naval Authorities.

The Naval Cabinet; the Admiralty Staff; the Imperial Navy Office.

The military suite of the Emperor, so far as it pertains to the Navy, consists of the Chief of the Naval Cabinet and a staff officer as personal aide (Flugeladjutant). There are also an Admiral a la suite of the Emperor and three adjutants occupying other positions in the service.

Directly under the orders of the Commander-in-Chief is General Inspector of the Navy, at present Grand Admiral Prince Henry of Prussia. The activities of the General Inspector, which are regulated by an Imperial Cabinet Order, cover a wide range. His chief duty is to examine into the war efficiency and war readiness of all ships and branches of the Navy, and to report concerning same to the Emperor. He must also be present during the grand maneuvers in the autumn and report regarding the results; and lastly, in view of his extensive knowledge he is the chosen adviser of his brother, the Emperor.

The Admiralty Staff of the Navy, like the Naval Cabinet, is also an executive organ of the Emperor, to communicate his will as to the employment of all squadrons and single ships abroad, in military-political regard.

The Admiralty Staff of the Navy proper consists of about twenty active line officers on duty at the Admiralty Staff office in Berlin; but the membership of the Staff includes also all officers who are on Admiral Staff duty, afloat or ashore, and those who are instructors or under instruction for such duty.

An Admiral is the Chief. In addition to the executive duties mentioned above, he is responsible for the preparation of plans for war, and the collection and use of information from abroad necessary therefor; for the consideration, formulation, and issue of tactical matter and instructions; the training and development of officers in staff duty; and the

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preparation and issue of instructive military historical matter."

"The Admiral Staff of the Navy has cognizance of the following matters:

"The military-political affairs of squadrons and single ships abroad, including the drafting and transmission of the Emperor's instructions to them, and co-operations with the Foreign Office in regard thereto;

"Preparations and constant revision of plans for war, with the collection from abroad and appropriate use of information thereto;

"The study, formulation and issue of all instructions necessary for the proper tactical employment of the naval force in war;

"The education and development of officers in staff duty;

"The preparation and issue of studies in military history, especially of the German Navy and its achievements.

"The Chief of the Admiral Staff of the Navy is an Admiral. The Staff office is in Berlin, in a building entirely separate from the Imperial Navy Office. The business of the Staff is distributed among four divisions, the Chief of each being a Captain or Commander, with the same standing and increased allowances as a "Division Chief" in the Imperial Navy Office. Besides the four division chiefs there are nine lieutenant-commanders, seven lieutenants, and one lieutenant, junior grade, regularly assigned, this body of officers being known as the Admiral Staff of the Navy in Berlin. There are also in Berlin, for assistance, instruction or experience, three lieutenants and lieutenants Junior grade (sometimes more, the number varies), temporarily assigned for longer or shorter periods; a naval staff engineer (rank of lieutenant) is attached in an advisory capacity; and four retired officers (2 commanders and 2 lieutenants), and a retired captain as librarian, are on duty in the Admiral Staff office permanently. The clerical force is generally of a class higher and more trustworthy than the average, partly recruited from men who have served as petty officers in appropriate ratings in the fleet.

"In addition to the foregoing, every officer on Admiral Staff duty afloat or ashore, is counted as a member of the Admiral Staff of the Navy, which thus informally constitutes a distinct corps. Officers that qualify by the special course for this duty generally pursue it as long as practicable throughout their careers; but according to the German practice, they are not allowed to do this to the exclusion of other kinds of duty, which is usually given them in alternation, so as to preserve the indispensable touch with the actual conditions in the general service.

"These additional, ex-officio, members of the Admiral Staff of the Navy are the Chiefs of Staff of the two Naval Stations, the Governor of Kiau-Chou, and of the Commanders in Chief of the High Sea Fleet and of the Cruiser Squadron (in East Asiatic waters); and the other line officers on the staffs of the flag officers mentioned, and also of the squadron commanders and second admirals of the High Seas Fleet, making a total of twenty-three. There are besides a commander and a lieutenant commander who are instructors in Admiral Staff duty at the Naval Academy. Flag Lieutenants and officers detailed to duty as adjutants, however, are not included nor classed as Admiral

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Staff officers.

"There are thus at all times, altogether about fifty qualified active officers available for admiral staff duty or already employed in it, not to mention fully as many more others that have already had the experience of one or more tours of such duty, but being otherwise employed, are not borne on the current list of the Admiral Staff.

"The officers on Admiral Staff duty outside of Berlin are of course under the orders solely of their respective immediate chiefs; but they are included as members of the Admiral Staff of the Navy in the interest of close co-operation between the practical exercise of tactical control afloat, and the study and formulation of tactical principles at the Admiral Staff Office on shore. The whole membership of the Admiral Staff of the Navy thus works for the proper solution of tactical matters and their proper testing and proving; the settlement by the entire Staff of questions of this kind being then turned over to the Admiral Staff in Berlin, for working out the data and formulation of all for practical use. The other duties of the Staff, of a routine or academic nature, are confined to the Staff in Berlin.

"The Imperial Navy Office corresponds nearly to our Navy Department, although it is not supreme over, nor directly responsible for, the entire naval establishment, as our Department is. The Secretary for State for the Imperial Navy Office is an Admiral (or a Vice Admiral), responsible directly to the Kaiser for the organization, composition, maintenance, and development of the Navy; and, as a member of the Imperial Cabinet he is responsible to the Imperial Chancellor for the Naval Budget and for the execution of the Fleet Law and all matters of general naval administration, exclusive of the employment of the active naval force. This relation to the Imperial Chancellor is more nominal than real, however, the Naval Secretary being generally recognized as supreme in all naval matters, even in many besides those with which he is expressly charged.

"The administration of the territory of Kiau-Chow is placed under the Naval Secretary; and also the fortifications of a part of the German Coast, local coast defenses by mines and obstructions, and light houses and aids to navigation generally.

Organization of the Imperial Navy Office.

The Secretary of State for the Imperial Navy Office is an Admiral (or Vice-Admiral). Ex-Officio he is a member of the Bundesrat (federal council of the empire, which corresponds to our Senate, nearly). He is the Chairman of the committee on Maritime Affairs of the Bundesrat; and he also represents the Navy before the Reichstag (lower, entirely elective, House), when the Naval Budget, or any naval or maritime matter is being considered. Three of the Directors of the Department of the Navy Office (General Naval, Dockyard and Administration and Finance Departments) are also, ex-officio, members of the Bundesrat, with the right to be heard in the Reichstag on any question affecting their Departments.

"The business of the Imperial Navy Office is distributed among Departments and Divisions; and these are further divided into Divisions, Sections, and 'Dezernats', these sub-divis-

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ions being presided over by line officers of the Navy, staff officers, or civilian technical, legal, or accounting officials, according to the nature and extent of the respective subjects. All Directors of Departments are flag officers. Chiefs of Divisions are Captains of the Navy, or Staff Officers or civilians of corresponding rank. Department directors and Division Chiefs receive an increase of pay for such duty. Of the subdivisions, the Head or President of a Section, or the 'Dezernent' of a 'Dezernat', may rank as high as Captain, but is usually lower. 'Dezernat' is merely the designation of the smallest order of subdivision to which one or more similar or allied topics are assigned for consideration; the term corresponds about to our 'desk'.

"The CENTRAL DIVISION of the Imperial Navy Office is the Secretariat of the Naval Secretary himself, and the Chief of this Division being the Secretary's Chief of Staff or right hand man. General administration, management, organization, and co-ordination are the principal functions of this Division.

"The GENERAL NAVAL DEPARTMENT has cognizance of organization, military administration, and service in general afloat; education and training, including gunnery, uniform; and personnel matters, discipline, military law, and pensions; mobilization; oversea transport; military considerations of ship construction.

"The DOCKYARD DEPARTMENT has the management of all dockyard affairs, fitting out, repair and upkeep of vessels and their machinery and equipment; torpedo affairs and mines; and civil engineering.

"The CONSTRUCTION DEPARTMENT has the designing, building and proving of ships, including their machinery and equipment of all kinds (except navigation and medical outfits).

"The ADMINISTRATION AND FINANCE DEPARTMENT is charged with the Budget, parliamentary affairs, summaries of expenses; lodgings affairs; and general administration of moneys and funds, pay, clothing, subsistence, and allowances; religious and garrison (children's) school affairs.

"The ORDNANCE DEPARTMENT has cognizance of the design, manufacture, purchase, and test of armor, guns, and other ordnance material, for ships and coast fortifications; the installation and service of guns afloat; target practice; general care and management of ordnance magazines and storehouses.

"The NAUTICAL DEPARTMENT has cognizance of all navigation, hydrographic, meteorological and astronomical affairs, including light houses and other navigation aids; fishery protection.

"The foregoing comprise all the Departments of the Navy Office; but there are besides four independent Divisions.

"The CENTRAL ADMINISTRATION FOR KIAU-CHOW has general charge of all matters pertaining to the government of Kiau-Chow. It is partly independent; but also partly subordinate to the Director of the Dockyard Department, - not, however, on any principle of organization, but because this present Director was recently in command of the Cruiser Squadron on the Asiatic Station, and is therefore familiar with the situation there; prev-

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ious to his coming, this Division was under the General Naval Department, as would seem more appropriate for a Naval Base.

"The MEDICAL DIVISION has entire cognizance of all matters of medicine, surgery and sanitation. Its Chief is the Surgeon General of the Navy, with the rank of Vice Admiral.

"The LAW DIVISION is an advisory office on matters of law, contracts, opinions, and other matters aside from those of military discipline.

"The INFORMATION BUREAU collects information, mainly from publications; and issues information to the press and through the service publications, 'Marine Rundschau' (monthly) and 'Nauticus' (yearly), which it audits and publishes.

"The organs for executing the various matters with which the Navy Office is charged are situated outside of Berlin, consisting of the following organizations. These have generally full cognizance of their respective subjects, resorting to the Navy Office only in matters unusual, or as necessary for proper co-ordination throughout the service.

"The INSPECTION OF MARINE INFANTRY at Kiel,- the military headquarters of the Marine Infantry, which corresponds to our Marine Corps, except that service on board ship is rare, the Marine Infantry being intended for expeditionary, garrison, and coast defense purposes.

"The IMPERIAL DOCKYARDS at Kiel, Dantzig and Wilhelms-haven.

"The INSPECTION OF TORPEDO AFFAIRS at Kiel,-comprising practically the entire field of the torpedo arm.

"The SHIP'S PROVING COMMISSION at Kiel,- to prove and determine the qualities of, new or renovated ships.

"The INSPECTION OF NAVAL GUNNERY at Kiel,- for gunnery training of officers and men, and gunnery experiment, development and regulations."

From the above quotations can be gathered a fairly good idea of the cumbersome and divided system of organization in existence in the German Navy in 1911 - and as it continued to exist in general up to nearly the end of the war (1918). The glaring difference between their plan of organization and ours is that in ours the entire control of the Navy and full responsibility for its development and all its activities are centralized in one Office - Operations; in the German plan there were three main groups charged with control of different parts of the naval organization, but not connected with each other, all being directly responsible to the Commander-in-Chief, the Kaiser. The real reason for this defect in organization, that cost the German people so heavily in 1914-18 was really in the egotistic personality of the Kaiser, who could not bring himself - even during the throes of a great war - to give up to a naval commander any part of the direct and personal authority that he maintained over the Navy, which he considered as his personal possession and instrument. In war time the different Divisions and groups of the Navy, and the responsible Officers failed to co-operate, and to work together for the best interests of the Empire; and the result was the loss of

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the Navy as well as of the War.

The Naval Station Headquarters.

"The two Naval Station Headquarters - of the Baltic, and of the North Sea - are administrative organizations established for the purpose of placing the responsibility for the military efficiency with an authority of purely military character which is also in direct touch with the force itself; thereby avoiding over centralization in the Imperial Navy Office in Berlin, and freeing it from the burden of supervising the details of routine naval administration, for which it has fully provided, in men, material, funds and instructions, sufficient for all ordinary conditions of service.

"These Station Headquarters are, therefore, the local general organs of the Imperial Navy Office, for administering and executing the laws, regulations and Navy Office instructions, for preparing, equipping, commissioning, manning, and officering the active naval force, and subsequently maintaining it with regular and necessary supplies of men and material; and providing and maintaining in readiness men and material for the reserve naval force; for carrying out all the prescribed regulations for mobilization, and for the execution of all the measures of actual mobilization when declared; for the general military control and supervision over the several subordinate naval organizations on shore; for inspecting reserve ships and other material; and for the general command over all the coast fortifications and shore and fixed defenses of the coast and harbors, so far as they are in the hands of the Navy.

"The responsibility of the Station Chiefs is for the efficient utilization of the means placed at their disposal by the Imperial Navy Office; but they are answerable for military efficiency directly and solely to the Emperor.

"All officers, men and ships of the German Navy are assigned to one or the other Naval Station - Baltic or North Sea. Excepted from such assignment are those officers who are attached to central Naval activities in Berlin (Navy Office, Cabinet, Admiral Staff), these officers being for the time borne on the Navy List as being in Berlin; but upon the termination of such duty they are again assigned to one of the Naval Stations. Each Station thus forms a general Division headquarters for half the naval force, for the general military oversight of which the Chief of the Naval Station, and Admiral, is responsible. Ships are originally fitted out, manned, and officered by their own Station, which is their own "home port", to which they return for dockyard repairs, and by which they are regularly furnished with stores and with men and officers to fill vacancies.

"The Station Chief inspects all ships in reserve at least once a year, and whenever else he may see fit. He inspects also all single vessels in active service, on fitting out and on returning within the Station limits, except those vessels which are attached or subordinated to one of the independent active commands afloat. Vessels out of commission are under the Imperial Navy Office for care and preservation, but their being kept in the prescribed state of readiness is insured by these inspections by the Station Chiefs, the result of which they report directly to the Emperor. For report on the military efficiency, as well as the condition and maintenance of ships acting

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singly, the Station Chief is also responsible, the commanding officers of these single and of the reserve formation ships being directly accountable and subordinate to their respective Station Chiefs, as our captains acting singly are to the Navy Department, in all respects, except military-political affairs abroad. Vessels attached to a regular squadron still resort to the home station in technical matters and for maintenance of complement and material; but for their military efficiency the squadron commanders are alone responsible, directly to the Emperor, or to their immediate superior afloat.

"The regular and special reports on all officers are forwarded to and recorded in their respective Station Headquarters, whose Chiefs submit the reports annually to the Emperor. The Chiefs arrange the details of officers, subject in the cases of line officers and of station transfers of other officers, to the approval of the Emperor. In regard to the men they have the general administration of the laws governing compulsory service in the Navy and Naval Reserve, discharges, invalidings, etc., - all according to regulations and instructions of the Imperial Navy Office. They attend to all matters of relieving ships' crews when their terms are about to expire, even to the sending of drafts of men to ships far distant abroad.

"Over the regular independent commands afloat the Station Chiefs have ordinarily no authority; but, for the defense of the military ports, they, as Governors of Fortresses, have absolute control over everything ashore and afloat within the lines of defense; and they may also, in cases of emergency, assume command over all forces afloat."

EDUCATION AND TRAINING.

OFFICERS.

The NAVAL SCHOOL. "The Naval School is made up of the body of naval cadets and midshipmen up to the time of their promotion to the grade of officer. A captain is at its head. The midshipmen detailed to it for scientific training are prepared for the principal examination for the grade of officer by a one year course to which are added special practical courses in gunnery and torpedo matters and in infantry service.

"During their connection with the Naval School the midshipmen form two companies, each under the command of a lieutenant with the powers and duties of a captain of a company. They are assisted by lieutenants of the junior grade who perform the duties of inspection officers.

"The Director of the Naval School is responsible for the successful operation of the school and for the proper discharge of duty by both instructors and pupils."

The NAVAL ACADEMY. "The purpose of the Naval Academy is to afford an opportunity to a number of suitable officers among the younger lieutenants and the older lieutenants of the junior grade to fit themselves by additional scientific training for the higher positions in the Navy. It is also intended for the advanced instruction of naval officers in general in the technicalities of their profession. This object is attained by the admission of post graduates to the lectures of the Academy and by holding special courses of lectures which are open to all officers. The regular course at the Naval Academy

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embraces two school years of nine months each. . . ."

The WARRANT OFFICERS' SCHOOL. "The Warrant Officers' School at Wilhelmshaven forms an independent branch of the Navy with respect to the other authorities, and is under the control of a staff officer of the line as Director. Petty officers of the machinist, mechanic, quartermaster and torpedoist ratings here receive the necessary technical training for their respective careers, the mining and torpedo branches being separate, and are prepared for their professional examinations.

"The Naval Engineers' School, established as a branch of the Warrant Officers' School by the Imperial Cabinet Order of April 20, 1901, has for its object the training of the machinist personnel for the higher careers, and provides a one year course (the engineer aspirants' class) for the ratings of machinist and chief mate, and a one year course as preparation for the engineer examination.

"The petty officers detailed to the Warrant Officers' School form two companies, each under the direction of a lieutenant as company leader."

ENLISTED PERSONNEL.

The Seamen Divisions. "These divisions constitute a depot of men for his Majesty's ships. While possessing no inherent purpose of their own, their special object is to provide the personnel required for ships, etc. In this connection they have disposing authority over the personnel belonging to their establishment and they exercise this authority in accordance with the "Regulations for the Employment of the Enlisted Personnel of the Seamen Divisions", etc., promulgated by the Secretary of the Navy Office and approved by the Emperor. They are responsible to their respective Naval Inspections and thus to their respective Naval Station Headquarters for the discharge of their duties.

"The method of recruiting and distributing the men may be roughly outlined as follows: Statements showing the personnel required are made out by the Seamen Divisions on the basis of the Cabinet Order issued annually by the Emperor regarding recruitment for the Navy for the next fiscal year. The recruits are raised by the recruiting authorities . . . and entered in the ~~respective~~ respective branches of the service, as, for example, in the Seamen Divisions, where they are supplied with clothing and given military training as far as possible. The vessels to be manned during the fiscal year, as well as those to be sent abroad as relief for the ships on foreign service, are announced in the orders for keeping in commission issued every six months by the Navy Office. The 'Schedules of Complements' show the number of men to be assigned to the separate ships and also to the staffs for the squadrons, etc., . . . while the 'Statements of the Strength in Personnel on a Peace (and War) Footing' show the number of men to be enlisted for the maintenance of the separate branches of the Navy and for the commands on shore."

Training. "The men belonging to these Divisions are given training so long as and whenever they are on shore and quartered in their barracks. This training has for its object the promotion of coherence and discipline and embraces infantry firing and land service, gymnastics, and general service instruction, followed by boat service, gun drill, splicing and knots. Along with the development of the body for the greatest physical

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exertion and the mind to a quick comprehension and execution of commands, this training also aims to develop the character. The infantry service has for its special object to fit the men for the work of a landing corps and for guard and escort duty, and also to give them a certain ability for parade duty.

"During the winter months a division school is formed in the Seamen Divisions for preparatory training for the special branches of the service, such as the boatswain and gunner careers. Sufficient instruction is given to enable the men to pass the examination for promotion to the grade of boatswain or for admission to the special courses of the Warrant Officers' School.

"It is the duty of the companies to bring their men to the highest possible state of efficiency for the special duty they are to perform and to hold them in readiness for the ships for which they are intended, or for any other assignment. . ."

Promotion. "The rank of leading seaman is attained at the end of two years by men of good conduct and average education and ability who perform their duties satisfactorily. Specially qualified men are by mutual agreement privileged to re-enlist for additional service as continuous service men (Kapitulanten) and they are then designated as belonging to the so-called "professional personnel". In addition to these long service men there are also leading seamen and seamen who re-enlist as marksmen (Schuetzen-kapitulanten). Various careers are open to the professional personnel, as well as to the four, five and six-year volunteers, who are not classed as members of the professional personnel until after the expiration of their legal three years service. The successive grades within these careers are attained after a certain number of years and after the conditions prescribed for each grade have been fulfilled. The prerequisite conditions to any promotion are proven reliability both off and on duty, fitness for the military service, good conduct and efficiency, and the ability to maintain the credit of the higher grade. Advancement also depends upon whether the positions provided by the budget for each branch of the service admit of additional promotions. As soon as leading seaman or petty officer becomes eligible for promotion, the former to the grade of petty officer, the latter to a higher grade, the branch of the service places at the disposition of the headquarters concerned a position authorized by the budget for the promotion of such person, who shall be mentioned by name, the said promotion to take effect on a certain date. Without such previous notification on the part of the proper branch of the service, based upon the provisions of the budget, no promotion or appointments shall be made by any headquarters, including ships of the Navy."

From the above sketch some idea can be obtained of the organization of the German Navy as it existed from about 1899 up to and including the greater part of the year 1918; some of the features will be recognized as excellent while others are quite far from the recognized requirements of such organizations. In the matter of command the German system so far violates the principle of unity that it is not difficult to understand why it should have broken down entirely under the severe strains of wartime activities.

An examination of the details of the Naval Organization reveals the fact, which seems strange to one familiar with the American idea of organization, that there did not exist in the

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German organization any office charged with the operation of submarines, or devoted to the study of submarine development, tactics and construction. It appears to be a fact that the Secretary of State for the Navy, Admiral von Tirpitz, did interest himself personally very deeply in submarine development, and it seems probably due to his efforts that the submarines and submarine material in general was, at the outbreak of the war, in such efficient condition. He had studied the engine situation intensively, and some time before the war, realizing that the weak part of a submarine was the engine, had initiated a contest between various German and foreign engine builders to produce a reliable oil engine of the requisite power for driving a submarine. As a result of this contest the Germans appear, at the outset of the war, to have been in possession of submarines far more reliable than any in the hands of their enemies.

Submarine tactics do not appear to have been studied to any unusual degree by the Germans before the War, but their ability to operate 'on their own', away from tenders and bases, for extensive periods, had been tested out by lengthy cruises, as early as the years (winter) 1912-13, during which period a flotilla was sent to the North sea and remained on their station, ready for action, for a period of eleven days. Improvements introduced into the submarines as a result of experience derived from this cruise are said to have considerably increased the sea endurance of the German submarines.

(b) STRATEGY.

It has been found difficult to determine what really were the outstanding features of German Naval Strategy, for several reasons: first, owing to the lack of unity of command in the German Navy previous to the War, there appears to have been no general plan for the wartime employment of the Navy; and secondly, the memoirs written by the various high commanders impress one as being written largely with the motive in mind of absolving the writer from blame for particular failures, or for placing the blame for failures on other shoulders.

Two features of the naval operations stand out with decided clearness, in spite of the general absence of a definite plan of action: first, the Kaiser regarded the Navy as his personal property and was so jealous of it that he would not delegate the powers necessary to a strong central control and a vigorous use of the really extensive sea power. He appears also to have been deluded with the idea that if the Navy were kept intact until the end of the War it would be possible, when negotiating peace terms, to demand and enforce far better terms from the Allies than if the Navy were partly or entirely lost. This obsession became so strong with him that he finally issued orders - that were only with difficulty modified, near the end of hostilities, when it was far too late - that the High Seas Fleet was not to venture out of harbor and expose itself to enemy attacks excepting under favorable circumstances.

The second feature of the naval situation that is very clear is that the Navy itself, and its material, were at the beginning of the war, in a very high state of efficiency. This appears to have been realized by a few of the officers among those in important positions, but the contrary belief is said to have been held by many other German officers, both in high

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places, and among the officers of the Fleet. This conflict of opinions divided the high naval command throughout the War to such a degree that no definite action was possible until well along in the year 1918 - when of course it was too late to be of any use.

Referring to von Clausewitz's definition of Strategy as "the employment of the battle to gain the end of the war", it would seem that German naval strategy failed almost completely in this great crisis of the German nation. It has been held that it would have been suicidal for the Germans to attempt to engage the Grand Fleet with their High Seas Fleet, and statistics lend striking color to this view; but it should be remembered that no naval successes could be possible without being sought for, and if the Germans did not see fit to be on the lookout for such opportunities, ready at a moment's notice to seize them and take the most possible advantage from them, why they cannot escape the indictment of their own countrymen that the German Navy failed in the War.

Regarding German naval operation plans von Tirpitz says (Memoirs): "The plans of operation which I settled in the 'nineties of the last century, and at that time submitted for the approval of the Chief of the General Staff, all presupposed the benevolent neutrality of England. When in the middle of the 'nineties this supposition had to be modified, I was no longer, as Secretary of State, concerned in the working out of the plans of operation. Nevertheless I always exchanged views with the Chief of the Naval Staff, according to his character. When Count Baudissin was Chief, in 1908, he put in the forefront of his plan the immediate and unhesitating engagement of battle by the active fleet, with which I was fully agreed. In subsequent pre-war years, however, the plan of operations was treated by the Naval Staff as secret even from me.

"The plan of operations which, in accordance with the Cabinet order of July 30, 1914, . . . was now laid before me by von Pohl, the Chief of the Naval Staff, in the event of an English declaration of war, consisted, as I found to my surprise, of short instructions to the Commander of the North Sea Fleet to wage for the present only guerilla warfare against the English, until we had achieved such a weakening of their fleet that we could safely send out our own; if before this time there should be any good prospects of a successful battle, a fight might then be undertaken.

"At that time there was a strong Press campaign in favor of the so-called guerilla warfare, supported amongst others by certain discharged naval officers. It was forgotten that the whole prospects of such fighting depended on the enemy being kind enough to provide us with opportunities, which they were not likely to do. Guerilla fighting would only have been feasible if the English had decided on a close blockade of our coasts immediately after the outbreak of war. Whether it even then would have been the correct policy I need not discuss. The bad news from England, and especially the plan of their strategical maneuvers, made it improbable that a close blockade of the German coast would be undertaken."

However, altho von Tirpitz was the dominant character of the development of the German Navy, occupying the post of Secretary of State for the Imperial Navy from 1897 to 1918, he was concerned chiefly with the construction of the new ships

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and the development of designs - after having in the early part of his administration been instrumental in drawing up the Navy Bill providing for the authorization and financing of the new ships and the progressive undertaking of their construction. As Naval Secretary of State there is little doubt that he was not only a human dynamo, a man of great mechanical ability and sound mechanical judgment, as well as of broad knowledge of the requirements of marine and particularly naval practice, but was a splendid organizer and manager. His duties were largely concerned with the legislation concerning the Navy, and in both the Bundesrat (higher legislative body in the old German Government) and the Reichstag (lower body) his influence with the civilian representatives was such that in practically all cases the opposition to the Government's program of steadily building up the Navy was overcome, and the funds consistently voted to carry on this program. This in itself was no small achievement.

Throughout his "Memoirs" nevertheless, he repeatedly expresses his dislike for publicity, and appearing in public; this was due in part to modesty, the modesty of a particular form - because he did not shrink at a later date from conveying to the Emperor his belief that only he of all officers in the Navy, was competent to take the post of directing head of the entire Navy, which he at the time was urging on the Government. His offer was not accepted, apparently for sound reasons.

First: There is conclusive evidence that Admiral von Tirpitz was not in sympathy with the naval administration of the War as conducted by the offices charged with that duty, altho his duties as Secretary of State for the Navy did not include (as he himself admits) the development or execution of war plans; early in the course of the War, as repeatedly shown in his Memoirs, he was at odds with not only the Chief of Cabinet and Chief of Admiralty Staff, but perhaps more radically with the Chancellor, and even the Emperor himself. And whether he was right or wrong, - which will never be known - there is reason to believe that his nature, admirable as it was for certain requirements, chiefly executive and administrative, was not well adapted for the development and carrying out of plans involving broad questions of policy and strategy, with the necessary co-operation with other officials and branches of the Government.

Second: Had the policy that he advocated been followed - namely, that of ruthless submarine warfare, in 1916 (January) - there is not much doubt that the United States would have been drawn into the War that much earlier, and the final result perhaps achieved correspondingly sooner.

Throughout his Memoirs von Tirpitz complains of the dull comprehension not only of the German people but of the highest Government officials, and their failure to grasp the so-called 'imponderabilia' that was recognized as one of the most important factors in the outcome of the War; while at the same time he discloses his own ignorance of the subject to perhaps an even greater extent. For example, in early January 1916, speaking of a conference between the Chief of the General Staff, Chief of Admiralty Staff, Minister for War, and himself, he advocated unlimited submarine warfare, in the belief that the British resistance would be broken in six months, and that altho the danger of American participation was recognized it was considered less than the possibility of peace through a successful sub-

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marine campaign.

In August 1915 von Tirpitz had been rebuked in writing by the Emperor for lack of co-operation, in the following words: ". . . we have in this and many previous instances gained the conviction that co-operation between yourself and the Chancellor is impossible in naval questions touching on the domain of foreign politics, and this includes almost every question relating to the war at sea. . . . We refuse, however, most decidedly to release you from your position as Secretary of State for Naval Affairs. You cannot ignore not only that a change in this office during the War - especially in the present position of the personnel at the Admiralty - would have serious disadvantages for the work of the whole Navy, but that your departure from office at the present moment would involve the most regrettable results at home and abroad, which it is our sacred duty to avoid. Further We cannot permit an officer to ask for his release during the War on the ground of differences of opinion on questions of the employment of Our fighting vessels, for those are questions which in the last resort have to be decided by Us as supreme war lord, in the full consciousness of Our responsibility."

He, von Tirpitz, states that in March 1916 his standing with the Chancellor and the Emperor was "so insecure that I had to reckon with the possibility of any convenient opportunity being used to force me to take my departure. I had already had to endure grave insults without protest. I tendered my resignation when my most intimate advisers had become convinced that it could no longer be postponed, since my exclusion from discussion in the face of all the assurances to the contrary had finally deprived me of any opportunity of useful work. I had also learnt from the Emperor's entourage that my position with His Majesty was regarded as past any restoration".

Elsewhere in his Memoirs von Tirpitz states, "At the outbreak of the War I was surprised to learn that the Navy's plan of operations, which had been withheld from me, had not been arranged in advance with the army. The army based itself on the view, quite comprehensible from its standpoint, that the war at sea, and indeed the whole campaign against England, was merely a secondary matter. Steps could have been taken before the War, under the control of the Chancellor, to draw up a single plan for a war on three fronts, or a world-war, but, as I have already stated, no such steps had been taken. Only a homogeneous Supreme Navy Command would have possessed the necessary authority to compel a proper employment during the war of the valuable information and expert knowledge gained by the navy as to the strength of the English; such a command was never established." This is quoted to show the Admiral's correct view in this matter, as well as the lack of vision and strategic planning on the part of the high German command.

It is valuable to review what Admiral von Tirpitz gives as his conclusions in regard to the conduct of the war on the sea from the beginning of hostilities, for they are sound and well considered. He outlines three possible courses of major action: First in importance he places the occupation of the channel coast; what might have happened if Germany had undertaken this step cannot of course be predicted, but the threat thereby directed against the British line of communications across the Channel would have been sufficiently serious to demand vigorous action on the part of the British. Second, he

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The Kiel Canal was designed and constructed for the purpose of augmenting the efficiency of the German Fleet by permitting quick passage of ships of all types from the Baltic Sea to the North Sea, and vice versa, without the necessity of passing thro the tortuous and somewhat difficult 'Belts', connecting the Baltic with the Cattegat. The strategic value of this waterway, therefore, was very great, not only from the view point of time saving in ship movements, but also for the equally important reason of the elimination of all possible objections and international complications with Denmark and Sweden over passage through their waters of German men-of-war. The Kiel Canal assured the free passage of German ships from the Baltic to the North Sea for all time.

In an O.N.I. report on German Naval Strategy, dated 12 December 1922 (Serial Number 296) it is stated: "In conversation with officers of the German Admiralty, it was developed that a considerable number of lectures and discussions have been held in the Admiralty regarding the German Strategy during the war. As shown by the official publications of the Admiralty, the Commander-in-Chief of the Fleet, Admiral Ingenohl, has been severely criticized for his lack of initiative on numerous occasions in the early part of the war, and very particularly for his over-cautious retreat on the occasion of the German bombardment of Scarborough and Whitby on 15 September 1914.

"Although Admiral Ingenohl, the Commander-in-Chief, had been severely criticized, it developed later that the German Admiralty more or less fixed the blame for this attitude on the Fleet Commander and his own staff. The Admiral was apparently influenced by his torpedo officer who urged excessive caution in all operations against the British Fleet and appeared to be particularly over-cautious in regard to submarine and torpedo attacks. From the best criticisms in the Admiralty, it appears that this attitude was due to the fact that the Staff of Admiral Ingenohl had served in this capacity for a period of at least five years without change and that the officers had not had sufficient line and executive duty to permit them to advise the Commander-in-Chief in the capacity of experts."

In another O.N.I. publication, dated 3 December 1919, it is stated: "Upon the opening of the European war a 'Board for the Study of the Naval Strategy of the War' was appointed in Japan by the Minister of War. The following was written by a Japanese Naval Officer who was a member of the Board, and translated from the original:

"Considering the great difference of strength between the German and English Navies, the general opinion of the military experts of the world was that the Germans would not change the policy of avoiding a great sea battle with the English. This was not for the sole purpose of gathering their whole power on their own sea coast.

"Their Naval Strategy was as follows:-

- (a) To watch the condition of the English blockade by using comparatively swift and light cruisers and destroyers organized into a force for this purpose, while their own main fleet is cruising.
- (b) To watch the coast of England by using Zeppelins as scouts.
- (c) To threaten or attack the English coast, taking advantage of their own activity while the English blockading force and

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home coast guard are careless.

(d) To attack and retire, thereby enticing pursuit by an English Naval force, leading it within striking distance of their whole naval power, in order that it might be destroyed so that the English Navy could be weakened gradually.

(e) To fight the decisive naval battle when their power becomes equal to that of the English.

"Therefore we can see the mission of the German Navy was to destroy the enemy's fleet. Keeping this end in view we can observe easily that the great activity of the German submarines has hitherto extended to every part of the English coast. Up to this time the damage done to the English fleet has not been small, for it has suffered losses everywhere.

"On the Continent the battle fought at Verdun had brought no good results to the Germans in spite of their immense sacrifices. The German nation became short of food supplies. Dissatisfaction and unrest arose everywhere. The cry for 'peace' dispirited greatly the people's heart. Finally the German Government decided the blockade by the English must be broken in order to settle these home disturbances.

"Trying to secure safety and freedom for communications by sea with Denmark and Norway, they have kept alert in watching the movements of the English Navy in the North Sea. As this is the important strategical area also for the English Navy, the latter has not neglected to maintain a force in watchful waiting under Admiral Beatty." The force referred to here is the British Battle Cruiser Squadron, which, it will be remembered, was maintained at all times ready for a practically flying start on any duty required during the entire course of the War.

(c) TACTICS.

It is now interesting to note how the strategic situation and various strategic considerations influenced the tactics of the German Naval forces during the War.

At the outbreak of the war the High Seas Fleet was under command of Admiral Ingenohl. In an Order of the Day, dated 14 August 1914, this officer expressed his views on the general situation confronting the Navy in part as follows: "All the information we have received about the English Naval Forces points to the fact that the English Battle Fleet avoids the North Sea entirely and keeps far beyond range of our own forces. The sweep of our brave U-boats beyond the Lat. 60° in the North and as far as the entrance to the English Channel in the South, as well as the raids of our destroyers and aeroplanes, have confirmed this information. Only between the Norwegian and Scottish coasts and off the entrance to the English Channel are the English forces patrolling. Otherwise in the rest of the North Sea not a single English ship has been found hitherto.

"This behavior on the part of our enemy forces us to the conclusion that he himself intends to avoid the losses he fears he may suffer at our hands and to compel us to come with our battleships to his coast and there fall a victim to his mines and submarines.

"We are not going to oblige our enemy thus. But they

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must and will, come to us some day or other. And then will be the day of reckoning. On that day of reckoning we must be there with all our battleships.

"Our immediate task is therefore to cause our enemy losses by all the methods of guerilla warfare and at every point where we can find him, so that we can thus compel him to join battle with us.

"This task will fall primarily to our light forces (U-boats, destroyers, mine layers and cruisers) whose prospects of success increase the darker and longer the nights become.

"The bold action of our mine-layer, Konigine Louise, which did the enemy material damage before she came to her glorious end, and the audacious cruises of our U-boats have already made a beginning. Further enterprises will follow.

"The duty of those of us in the battleships of the Fleet is to keep this, our main weapon, sharp and bright for the decisive battle which we will have to fight. To that end we must work with unflinching devotion to get our ships perfectly ready in every respect, to think out and practice everything that can be of the slightest help and prepare for the day on which the High Seas Fleet will be permitted to engage a numerically superior enemy in battle for our beloved emperor, who has created this proud Fleet as a shield for our dear Fatherland, in full confidence in the efficiency which we have acquired by unflagging work in time of peace.

"The test of our patience, which the conduct of the enemy imposes upon us, is hard, having regard to the martial spirit which animates all our ships' companies, as it animates our Army also, a spirit which impels us to instant action.

"The moment the enemy comes within our range he shall find us waiting for him. Yet we must not let him prescribe the time and place for us but ourselves choose what is favorable for a complete victory.

"It is, therefore our duty not to lose patience but to hold ourselves ready at all times to profit by the favorable moment."

Admiral von Ingenohl retained command of the High Seas Fleet from the beginning of the War until about 4 February, 1915, when he was succeeded by Admiral von Pohl. In his Memoirs von Tirpitz says of von Pohl: "Pohl is ghastly. There isn't a scrap of nerve in the man. If our dear God doesn't help the Navy, gloomy indeed is the outlook." Elsewhere this same officer states that Admiral von Pohl was entirely under the influence of Admiral Muller, Chief of the Naval Cabinet, and the Chancellor, von Hollweg, and that Pohl once wrote to him, "While I held the office of Chief of the Naval Staff, the Chancellor impressed upon me many times that it was absolutely necessary that the Fleet should be preserved intact until the conclusion of peace." It cannot, therefore, be considered surprising that the High Seas Fleet in 1915, under Admiral von Pohl, did not undertake any vigorous enterprises nor accomplish any striking successes. Of the Chancellor, Bethmann von Hollweg, von Tirpitz says (Memoirs), "Bethman's policy was to reach an understanding with England, and he accordingly held it right,

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even in actual wartime operations, to handle that country gently. To him England was 'a bulldog, not to be irritated'. He was still (1914) seeking for the hand of friendship, which he had not found in Grey's proposal of a conference."

In trying to arrive at the real and true reasons for the inactivity of the German Fleet many circumstances and facts must be taken into consideration and carefully weighed. The bitter denunciations of Admiral von Pohl by von Tirpitz must not be taken too seriously, firstly because of the undoubted existence of professional jealousy on the part of the latter, secondly on account of a bitter personal antipathy between the two, and lastly because there is every reason to believe that both von Ingenohl and von Pohl - as well as most other naval commanders - were carrying out the policy decided upon by the German High Command, as far as there were any such policy. In this respect von Tirpitz should have been the last person to point the finger of scorn at von Pohl or any other official, for throughout the war, as admitted by himself, he held a very high office but permitted his advice and opinions to be utterly disregarded - and for the last year or so of his official life he admits that he was entirely ignored, not only by the Chief of the Admiralty and the Chancellor, but by the Emperor himself. It is clear that the Emperor and the Chancellor directed the naval policy and activities, and that many high naval officials, von Tirpitz included, were ignored in arriving at decisions affecting activities at sea. This applied particularly to the adoption of the submarine campaign, and the subsequent frequently changing orders concerning the prosecution of submarine warfare.

Another fact that would be expected to have some marked influence on the course of events under von Pohl was the fact that he was in ill health, and along toward the latter part of his term of office as Commander-in-Chief he was practically an invalid. His death occurred only a short time after he was relieved in command of the High Seas Fleet by Admiral Scheer.

On 18 January 1916 Admiral Scheer assumed command of the High Seas Fleet. Some quotations from his book, "Germany's High Sea Fleet in the World War", are herewith given to show this officer's conception of the requirements of the situation at that time, as far as the war activities afloat were concerned: In the Introduction he states, "It has been held as an acknowledged axiom, proved from war history, that the struggle at sea must be directed to gaining the mastery of the sea, i.e. to removing all opposition which stands in the way of its free and unhindered use. The chief resisting strength lies in the enemy Fleet, and a successful struggle against it first renders possible the utilization of the mastery of the seas, for thereupon one's own fleet can go out with the object of attacking the enemy coasts or oversea possessions, of carrying out landings, or preparing or covering same on a larger scale (invasion). Finally, it can further shut off the enemy by means of a blockade from every sort of import from overseas and capture his merchant ships with their valuable cargoes, until they are driven off the open sea. . . ."

"If the damage caused to one's own sea trade (including that of the Colonies) becomes intolerable, as in our own case, means of coast defense provide no adequate protection.

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"If it comes to the point where one must decide antagonisms by arms, the foremost consideration is no longer 'how can I defend myself?', but 'how can I hit the enemy most severely?' Attack, not defense, leads most quickly to the goal."

Some of the tactical problems and difficulties faced by the Germans in their naval warfare are touched on in the first chapter of Scheer's book, in which he says in part: "The practical application of theoretical tactics to the circumstances arising out of battle is inexhaustible and provides fresh materials from year to year.

"The new squadron required training in that respect. In war games, indeed, very useful preliminary work can be done in this department, but that tactical insight which knows how to exploit a favorable situation is itself first trained on the open sea and in the last resort it is the sum of the impressions received which first enables the commander to come to the right decision in the time available, which is often only a matter of seconds. For such decisions there are no rules, however valuable certain tactical principles may be, which have been sanctified by experience.

"In the era of sailing ships it was a simple matter, owing to the slow deployment for battle and the small range of the guns. But today it is altogether different, in view of the great speed of the ships and the huge range of the guns. The first shells usually arrive the moment the enemy is seen, and we have known cases in which the impact of the enemy's projectiles is the first notification of his being in the vicinity, and he has not become visible until some time afterwards.

"With regard to England, we were faced with a particularly difficult, indeed an almost insoluble, problem. We had to deal with our enemy in such a way as to give greater effect to our smaller caliber guns at short range, and be able to use a torpedo whenever possible. From the English we had to expect that in view of the greater speed possessed by their ships of every type and their heavier artillery, they would select the range that suited them and fight a 'holding off' action. That, indeed, is what happened in the war. The necessity of practical training in this department illustrates the importance of the addition of a third squadron."

Discussing morale Admiral Scheer states: "The English Fleet had the advantage of looking back on a hundred years of proud tradition, which must have given every man a sense of superiority based on the great deeds of the past. This could only be strengthened by the sight of their huge fleet, every unit of which, in every class, was supposed to represent the last word in the art of marine construction. The feeling was also supported by the British sailor's perfect familiarity with the sea and with conditions of life on board ship, a familiarity which took for granted all the hardships inseparable from his rough calling.

"In our Fleet reigned a passionate determination not to fall behind our comrades of the Army, and a burning desire to lay the foundation-stone of a glorious tradition. Our advantage was that we had to establish our reputation with the nation, while the enemy had to defend his. We were urged on by the impulse to dare all, while he had to be careful that he did not prejudice his ancient fame.

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"There was only one opinion among us, from the Commander-in-Chief down to the latest recruit, about the attitude of the English Fleet. We were convinced that it would seek out and attack our Fleet the minute it showed itself and wherever it was. This could be accepted as certain from all the lessons of English naval history, and the view was reinforced by the statement, so often made on the English side, that the boundaries of the operations of their fleet lay on the enemy's coasts.."

". . . We had never regarded it as possible that the English Fleet would be held back from battle and, as a 'fleet in being', be restricted solely to blockading us from a distance, thereby itself running no risks."

Concerning command Admiral Scheer comments in part as follows, in his book: "The system of command is a question of special importance to the organization of a navy. The bulk of the ships in home waters were under the command of a single authority, the Commander-in-Chief of the High Sea Fleet. Of course the ships at distant stations abroad could not be under his command, and certain ships in home waters, operating in a theater which had no absolutely direct connection with the operations in the main theater, had a Commander-in-Chief of their own. The number of ships combined under one command must not be so large that their commander cannot control and lead them in action, for one of the most material differences between fighting on land and at sea is that in the latter case the commander himself goes into the firing line. But command goes hand in hand with responsibility for the execution of all plans, and it was therefore a doubtful policy to establish an authority above the Commander-in-Chief of the Fleet who had the most important forces under his command. In view of the peculiarities of naval warfare, the higher authority cannot be in a position to settle beforehand the details of time and method of any particular enterprise which has been decided upon, in the same way as this is both possible and essential for the command of operations on land.

"However, the demands of the various theaters in which fighting took place in this war made some central authority necessary which could distribute the number of ships required for all purposes, and which could also have strong influence on the conduct of operations in the individual theaters. The authority for this purpose was the Naval Staff, in which the preliminary work on the plan of operations had already been done. The Chief of the Naval Staff had the duty of laying the proposed orders for the operations before the Supreme War Lord to whom the constitution gave the supreme command over all our forces on land and sea. After these orders had received the Imperial approval, the Chief of the Naval Staff had to transmit them to the Fleet.

"The functions of the Naval Staff assumed particular importance in this war, in which the closest co-operation of the Fleet and Army for the common end was of quite special importance. The development of the Navy, which had grown to the status of a great war machine in the last decades, had not, however, admitted of the simultaneous satisfaction of the requirements in personnel which made themselves felt in all quarters. The working of the Naval Staff had suffered from this cause in peace time and it produced its effect in war. In peace the influence of the State Secretary of the Imperial Naval Administra-

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tion was paramount, especially when that office was held by a personality like Grand Admiral von Tirpitz, who by his outstanding abilities had gained an influence which no naval officer had ever before exercised in the history of our Navy. In war, on the other hand, he had no direct influence on the conduct of operations."

Finally, covering the orders laid down for the guidance of the Commander-in-Chief of the Fleet, Admiral Scheer has this to say: "In the War Orders which were issued to the Commander-in-Chief of the High Sea Fleet the task before him was framed as follows: The objective of the operations must be to damage the English Fleet by offensive raids against the naval forces engaged in watching and blockading the German Bight, as well as by mine-laying on the British coast and submarine attack, whenever possible. After an equality of strength had been realized as a result of these operations, and all our forces had been got ready and concentrated, an attempt was to be made with our Fleet to seek battle under circumstances unfavorable to the enemy. Of course if a favorable occasion for battle presented itself before, it must be exploited. Further, operations against enemy merchant ships were to be conducted in accordance with Prize Court regulations, and the ships appointed to carry out such operations in foreign waters were to be sent out as soon as possible.

"The order underlying this plan of campaign was this: The Fleet must strike when the circumstances are favorable; it must therefore seek battle with the English Fleet only when a state of equality has been achieved by the methods of guerilla warfare.

"It thus left the Commander-in-Chief of the High Sea Fleet freedom of action to exploit any favorable opportunity and put no obstacles in his way, but it required of him that he should not risk the whole Fleet in battle until there was a probability of victory. Moreover, it started from the assumption that opportunities would arise of doing the enemy damage when, as was to be expected, he initiated a blockade of the German Bight which was in accordance with the rules of International Law. It is also to be emphasized that a submarine offensive was only required 'whenever possible'. The achievements of our U-boats absolutely exceeded all expectations, thanks to the energy with which the command faced the most difficult problem and the resolution of the commanders and crews, on their own initiative, to do more than was required of them."

1914.

On 28 August 1914 occurred the British attack on Heligoland Bight, in which British light forces, supported by the Battle cruisers at a distance, stood in and boldly attacked the defending forces. The German call for help brought our several of their light cruisers and more destroyers; during the latter stage of the engagement the British battle cruisers assisted in the support of light forces, and the Germans were badly handled, losing the light cruisers Ariadne, Mainz, Koln, and one destroyer. This was the attack which the Germans had been expecting since the opening of the war, and for which they were waiting.

On 22 September the British cruisers Aboukir, Cressey and Hogue were sunk while cruising in the North Sea. One of

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these cruisers was sunk by a torpedo from the German submarine U-9, and while the other two ships were hove to, with boats lowered and engines stopped, rescuing survivors from the sinking ship the U-9 maneuvered and torpedoed both of the other large cruisers, which sank in a short time.

In the Pacific and Indian Oceans the light cruiser Emden conducted a brilliant and extensive campaign against British shipping, sinking many valuable vessels and maintaining herself by means of supplies and stores taken from the captured vessels. Her methods of procedure were beyond reproach and entirely in accordance with the recognized rules on international procedure. She was finally destroyed while engaged in destroying the radio station on Cocos Island, on 9 November.

During the fall of 1914 also, the cruiser Königsberg conducted raids and made captures of Allied vessels in the Indian Ocean, but after a long search on the part of the pursuing British cruisers the Chatham was at last, on 31 October, able to report that she had the Königsberg blockaded in the Rufiji Delta, East Africa. It was not until 11 July, 1915, however, that this ship was actually destroyed, after she had been blockaded for about 8 months. Up to the time of the location and blockade of the Königsberg the presence of that vessel in the Indian Ocean and in the proximity of the track of Australian troop convoys caused much discomfort to the Allies.

In the western Atlantic the Karlsruhe had for many weeks after the opening of hostilities preyed with some success on British commerce, when, toward the beginning of the winter of 1914 her activities ceased. It was not until April 1915, however, that the Admiralty was able to verify the loss of this ship by an unaccounted for explosion, about the end of November of the previous year.

On 1 November the battle of Coronel took place, in which the British lost the cruisers, Good Hope, and Monmouth; the two surviving ships, Glasgow and Otranto escaped in the darkness, and joined the Canopus near the Strait of Magellan.

After the disaster at Coronel the British had despatched the battle cruisers Invincible and Inflexible, along with the armored cruisers Carnarvon, Cornwall and Kent, to the Falkland Islands, to seek out and destroy the German squadron under Admiral von Spee. The German squadron, with the exception of the Dresden which was destroyed later, was annihilated in the battle off the Falkland Islands on 8 December 1914. The German ships fought skillfully and heroically, but were as far out-matched by the British ships as had been the British ships by the German squadron at Coronel. By this engagement the entire oversea German threats against Allied commerce - with the exception of one or two isolated raiders - came to an end, due to the successful efforts of British sea power.

The tactics employed by the German Admiral, von Spee, at Coronel were a vigorous offensive against an inferior force; at the Falkland Islands engagement, where he was opposed to a superior British force he fought an equally vigorous retiring fight but against overwhelming odds. The Germans had nothing heavier than eight inch guns to oppose the twelve inch guns of the Invincible and Inflexible. The German gunnery was excellent, but the British ships were able to maintain a range at which their eight inch guns were almost ineffective.

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On 16 December the German battle cruisers under Admiral von Hipper made a flying raid against the English coast towns of Hartlepool and Scarborough. These towns were damaged to some extent, but the Germans appeared to be timid and on the first suggestion of the approach of major British forces they retired hastily. Nothing of value was accomplished by this raid.

1915.

On 25 January 1915 the German battle cruiser squadron again ventured into the North Sea, emboldened by their success in avoiding the British on the previous occasion. This time the British battle cruiser squadron learned of their presence and proceeded to attack. The German squadron fled, but was hampered in speed by the presence of the Blucher which could make only about 25 knots maximum. On this occasion the Seidlitz, Derfflinger, Moltke and Blucher were accompanied by the light cruisers Graudenz, Kolberg, Rostock and Strasslund; the British force consisted of the Lion, Tiger, Princess Royal, New Zealand and Indomitable, besides their screening cruisers. In the running fight the Blucher was sunk by gunfire; the Seidlitz had two turrets put out of action, was badly damaged and full of water aft, but finally made her way back into port. In this engagement the Lion was also so badly damaged that she was left behind in the running fight, and finally had to be towed back to port. The other British battle cruisers suffered only slight injuries. The tactics followed by the Germans in the running fight consisted in concentrating gunfire of their three leading ships on the leading British ship, Lion; the British signal for fire concentration was misunderstood, and consequently the two leading British ships, Lion and Tiger, engaged the German flagship, Seidlitz, leaving the second German ship in column, Derfflinger, unmolested. The third and fourth British ships, Princess Royal and New Zealand, engaged the third and fourth German ships, respectively, Moltke and Blucher. The Indomitable was not able to come within range of the enemy until the latter part of the engagement, when the Blucher, damaged, turned to the northward, and the Indomitable assisted in her destruction. After the sinking of the Blucher the Arethusa approached, lowered boats, and began to rescue the German officers and men from the water; while this was in progress a German seaplane approached and bombed the rescuers, but only succeeded in killing some of the Germans who had not yet been rescued from the water. The plane was driven off by gunfire.

The rest of the year 1915, so far as major naval activities are concerned, was inactive, but in February of this year was begun the submarine campaign against allied shipping, that was to finally turn the tide against the Germans by drawing the United States into the War. On 20 February German submarines were ordered to open the campaign in the North Sea and English Channel; American and Italian ships were to be spared and a safety belt was provided for Scandinavian ships to sail to England. Two days later the campaign was similarly opened on the west coast of the United Kingdom.

1916.

Increasing activity in making air raids against British cities marked the latter part of 1915 and beginning of 1916. These raids were made by Zeppelins, usually at night, and as

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the airships were forced to fly at great heights for protection against guns and planes they were unable accurately to place their bombs. Consequently the net result of these raids was mostly the killing of numbers of civilians and damage to harmless areas and structures, while the real military objectives were seldom even touched. These attacks were undoubtedly a part of the campaign of 'frightfulness' by which the Germans had hoped to defeat the British and Allies by scaring 'em to death. The effect achieved was exactly the opposite, as it aroused the British to a higher determination than ever, to continue the war until success was attained against their ruthless enemies.

On 26 April an air raid was made in force on the towns of Lowestoft and Yarmouth, supported by the German battle cruisers and High Sea Fleet. On the departure of the large ships from port the flagship Seidlitz struck a mine and was so badly damaged that she was forced to return to port. The battle cruisers made a dash against the two ports, but were interrupted in their bombardment by some British light cruisers and destroyers; after a few shots the Germans retired in haste, having destroyed about two hundred houses in Lowestoft but doing hardly any damage in Yarmouth.

On 31 May the battle of Jutland (called battle of the Skagerrak by the Germans) took place. In this engagement the characteristic German tactics outlined previously - that is, the plan of attempting to draw British forces into contact with overwhelming German forces - were followed with a marked degree of precision. The first stage of the battle opened in the early afternoon, when the British battle cruisers under Admiral Beatty sighted the German Battle cruisers under von Hipper; the British proceeded impetuously to attack while the Germans proceeded at high speed to the southward, toward their own main body. In the heavy fighting during this stage of the battle the Lion's fire concentration orders were again misunderstood, and for about ten minutes the Derfflinger appears to have been free from enemy fire. The orders were for Lion and Princess Royal, leading and second ships, to fire on Lutzow, the German flagship, and other ships engage their opposite in line. Both the Queen Mary and Tiger misunderstood the signal and engaged their opposites from the head of column. The battle began about 3:30 p.m., and half an hour later the Indefatigable was sunk, probably through the explosion of a magazine. About half an hour after the Indefatigable went down the Queen Mary was destroyed and sank, also from what was believed to be a magazine explosion. The German fire was very accurate, and their guns and high explosive shells appear to have been most deadly. Admiral Beatty is reported to have withheld fire until within approximately 16,000 yards of the enemy, altho it was considered that his guns outranged the German guns by four to six thousand yards; in his 'Fighting Orders' he had designated maximum ranges of 23-24,000 yards for 13.5 guns, and 18,500 for 12-inch guns. After the battle of Jutland he designated 16,000 yards as the most effective range for a number of reasons, among which were to utilize the advantage of the heavier British projectiles, and because the time of flight was suitable for controlling double salvos and attaining a high rate of fire.

At 4:40 p.m. Admiral Beatty ordered a countermarch of his battle cruisers, the German main body having been sighted to the southward on a northerly course. The Fifth Battle Squad-

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ron had by this time joined the Battle Cruisers, and made the turn to the northward after the battle cruisers; the ships of this squadron therefore approached nearer to the German main body and came under a heavy fire at the turning point. The light conditions were bad for the British, and they appeared to be more damaged than the German ships during this period of the battle.

By 5:30 the British battleships and cruisers had drawn out of range and firing ceased. At about 6:00 the German and British fleets came within sight of each other, and the second stage of the battle began. Of the tactics employed by the opposing Commanders-in-Chief Corbett (Naval Operations) has this to say: ". . . the Germans had no gun heavier than 12-inch, while our main armament ranged from 12- to 15-inch, Admiral Jellicoe had also a considerable superiority in gun power, but, on the other hand, the German ships were better protected and had more submerged torpedo tubes.

"From this marked inequality in the main weapon of the two admirals, arose a corresponding difference of tactics, and particularly in their views of how to use their minor forces in battle. Each was equally bent on a combination of all arms, but each had his own method, correctly based on his relative strength in primary units. Since Admiral Jellicoe was so much superior in battleships, his best chance of a decisive success was to get in a smashing blow with his main weapon, while Admiral Scheer would naturally seek to avoid such a blow, or at least to weaken it by energetic use of his minor forces. It was fully expected that for this purpose he would use mines, submarines and destroyers, but in fact he had nothing but destroyers. Accordingly his destroyers were given a highly offensive function, and to enable them to exercise it with facility they were more or less equally divided into two groups, the one in the van and the other in the rear, both on the disengaged side of the battle squadrons. On the other hand, since it was fundamental with Admiral Jellicoe that the blow with his dominant weapon should be given with the utmost violence, it was essential that his dreadnaught force should not be interfered with or have its attention distracted by minor attack from the enemy. His destroyers were therefore given a function that was primarily defensive. Their instructions were to confine themselves at first to repelling torpedo attacks which the enemy might threaten, but subject to this restriction commanders of units were given full discretion for delivering their attack where and as they saw occasion. Cruisers and light cruisers were charged with like primary duties, either independently against similar types of ship or in support of destroyers; but here again commanders of squadrons were given the freest possible hand as to how they played their parts in the tactical combination. On this conception of co-ordination they, as well as the destroyers, had their battle stations at either end of the line in the positions from which they could best contribute to the free action of the battle fleet without masking its fire.

"One other material factor had an equally strong effect on Admiral Jellicoe's tactics. Seeing that his battle fleet was superior to that of his enemy in numbers as well as in weight of gun power and effective range, his advantage was to open the action out of effective torpedo range - which was taken to be 15,000 yards - and not to come to close range until

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the enemy began to be dominated. Without keeping in mind these fundamental considerations it is impossible to follow the battle with a just appreciation of what was or was not done."

Shortly before contact was made between the two main bodies the Grand Fleet was steaming in line of divisions and the High Sea Fleet was in line ahead (column). The head of the German Column bore almost directly ahead of the right column of the British formation, but on account of the failing light the mist and the smoke of battle the German van was invisible to Admiral Jellicoe. However, he received a signal from the Lion about this time giving the bearing of enemy main body, and thereupon decided to deploy on the left, on course SE x E. and signal for such deployment was quickly made and promptly executed. This placed the British ships in line ahead with the Germans approximately parallel in similar formation, the range being between 12,000 and 13,000 yards. The British deployment was made at 6:15, and the battle cruisers then took up position ahead of the main body. Within half an hour the Invincible, which had been hotly engaged with the Derfflinger began to receive fire from one or more of the German battleships, and was destroyed, probably by a magazine explosion.

The engagement soon became so severe for the Germans that a counter movement of ships, by ships right about in succession from the rear, was executed, drawing off from the enemy and giving time to reform and steady down. When this had been accomplished the same maneuver was executed again, and the two fleets drew together. Light and visibility conditions were poor, and in the running fight that ensued the conditions favored the Germans. However, after some time the German line again retired by the same maneuver, executed for a third time, and did not renew the fight. Apparently their object was to return to their home port by passing astern of the British fleet during the night. This they seem to have succeeded in doing, and altho desultory fighting took place during the night including some torpedo attacks by destroyers and light craft there was no serious attempt on either side to resume the main engagement.

The outstanding features of the engagement were the heavy damage suffered by the British ships due to structural reasons, the skillful maneuvering of the entire German Fleet under fire, and the final withdrawal of the Germans from the engagement altho their losses had not been as severe as those of the British. However, many German ships were very seriously damaged and would probably have been destroyed in case the action had been renewed and finished. While, therefore, this action must be included among the indecisive naval engagements of history the fact that it ended with the British Grand Fleet holding the sea, and the German High Sea Fleet seeking refuge in their home ports, gave the British most of the practical fruits of victory. This was particularly the case as the German Fleet did not again venture forth from port during the remainder of the war.

On 1 February 1917 the unrestricted submarine campaign was started by Germany. The United States was almost immediately drawn into the war, but for many months the losses of merchant ships were so heavy that it seemed possible that the Allied cause was about to be lost. However by the end of the year the anti-submarine measures adopted by the Allies began to show results, by the summer of 1918 the conviction began to

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be felt that the German power of resistance was weakening and the end of hostilities approaching. There is no reason to believe that if the submarine campaign had been initiated in the year 1916 the outcome would have been different, although this is claimed by the Germans; the Allies at that time were most probably stronger than they were a year later, and the course of the United States would have turned the tide in their favor at that time, the same as it did later.