



- American Naval Officers Playing the "War Game."

## "Movies" and "War Game" as Aids to Our Navy

Rear Admiral Bradley A. Fiske Advocates Combining Former with Famed 'Kriegspiel' to Develop American Naval Strategists

**H**ISTORIANS of tomorrow may award the honor of having developed great American naval strategists to the "movies." That sounds improbable now, but the improbability will be materially lessened if the shapers of our naval policies adopt suggestions contained in "The Navy as a Fighting Machine," a new book by Rear Admiral Bradley A. Fiske, U. S. N., just published by Charles Scribner's Sons. Admiral Fiske takes up the urgent need of genuine preparedness in our navy in thorough fashion, and arrives at his belief that naval strategy and moving pictures may be harnessed together by the following sequence of thought:

Not ships, nor guns, nor men, but strategy is the prime requisite for successful naval warfare. Strategy must be worked out in peace times, long before the outbreak of war, in order to insure victory. The best way to develop naval strategists in peace times is through intense cultivation of the "Kriegspiel," the famous "war game" played much in the manner of chess by German army officers ever since the days of von Moltke, and introduced a few years ago among the officers of the German Navy by Kaiser Wilhelm II. A good way to carry the method a step ahead is to "film" the various moves in a given "Kriegspiel" problem and project them on a screen, in order that they may be more easily understood by audiences composed of American naval officers.

Those who have made a study of German military methods know the tremendous importance attached in Germany to the "Kriegspiel," which, with its infinity of complicated problems, resembling as nearly as possible those which would confront leaders in actual warfare, is constantly played by German officers. The problems are propounded to them for solution, their solutions criticised by experts on the General Staff exactly as examination papers of students are marked by teachers, and the results carefully docketed and filed away for reference. Since the great success attained by the armies of Prussia over Austria in 1866 and of the German armies over

France in 1870-1871—successes largely attributable to the "Kriegspiel" system of education introduced by von Moltke in Germany—other nations have adopted the idea to such an extent that now "Kriegspiel" is played in every country with an up-to-date military establishment.

It was that epoch-making American book, "The Influence of Sea Power on History," by Captain Mahan, which turned the thoughts of Kaiser Wilhelm to the importance of the control of the sea, says Rear Admiral Fiske, and that caused him, with true German reverence for method, to transfer to the German Navy the army method of training strategists.

Admiral Fiske outlines the history of the "war game" as follows:

Until about fifty years ago it was only by experience in actual war, supplemented by laborious study of the campaigns of the great commanders, and the reading of books on strategy which pointed out and expounded the principles involved in them, that one could arrive at any clear idea of strategy.

But wars have fortunately been so infrequent, the information about them has often been so conflicting, and so many results have been due to chance that in default of experience the mere reading of books did not lead to very satisfactory results, except in the case of geniuses; and, therefore, war problems and war games were devised in which the various factors of material and personnel were represented and made as true to life as possible.

The tactical games resulting, which naval strategists now play, employ models of the various craft used in war, such as battle ships, submarines, &c., and are governed by rules that regulate the movements of those craft on a sort of big chessboard, several feet square, that represents an area of water several miles square. The strategic games and problems are based on principles similar to those on which the tactical games are based in the sense that actual operations are carried on in miniature, but naturally the strategical operations cover several hundred miles, and sometimes thousands.

The aim of both the tactical and the strategic games is to determine as closely as possible the laws that decide victory or defeat; and therefore, for any country, the material, personnel and operations it should employ. Naturally the results obtained are not quite so convincing as those of actual war or battle; but they are more convincing than can be attained in any other way as yet devised, especially as many of the operations of the game-board that turn out well in

games are tried out afterward by the fleet in peace manoeuvres.

War games and problems may be compared to the drawings that an architect makes of a house which some one wants to build; the plans and drawings are not so realistic as a real house, but they are better than anything else; and, like the war games, they can be altered and realterred until the best result seems to have been attained, considering the amount of money allowed and other practical conditions.

The idea of devising war games and war problems seem to have originated with von Moltke; certainly it was first put in practice by his direction. Shortly after he became chief of the General Staff of the Prussian Army in 1857, he set to work to carry out the ideas which he had had in mind for several years, while occupying minor posts, but which he had not had the power to enforce. It seems to have become clear to his mind that, if a chess-player acquired skill, not only by playing actual games and by studying actual games played by masters, but also by working out hypothetical chess problems, it ought to be possible to devise a system whereby army officers could supplement their necessarily meagre experience of actual war, and their necessarily limited opportunities for studying with full knowledge the actual campaigns of great strategists, by working out hypothetical, tactical, and strategic problems.

Von Moltke succeeded in devising such a system and in putting it into successful operation. Hypothetical problems were prepared, in which enemy forces were confronted with each other under given circumstances of weather, terrain, and distances, each force with its objective known only to itself: For instance, you are in command of such and such a force at such and such a place; you have received orders to accomplish such and such a purpose; you receive information that the enemy, comprising such and such troops, was at a certain time at a certain place, and marching in a certain direction. What do you do?

Classes of army officers were formed, and compelled to work out the problems exactly as boys at school were compelled to work out problems in arithmetic. The skill of individual officers in solving the problems was noted and recorded; and the problems themselves, as time went on and experience was gained, were made more and more to conform to probable situations in future wars with Austria, France, and other countries, actual maps being used, and the exact nature and magnitude of every factor in each problem being precisely stated.

By such work, the pupils (officers) acquired the same kind of skill in solving strategic and tactical problems that a boy acquires in solving problems in arithmetic—a skill in handling the instruments employed. Now the skill acquired in solving any kind of problem, like the skill developed in any art, such as baseball, fencing, or piano-playing, does not give a man skill merely in do-

ing a thing identically like a thing he has done before; such a skill would be useless, for the reason that identical conditions almost never recur, and identical problems are never presented. Similar conditions often recur, however, and similar problems are often presented; and familiarity with any class of conditions or problems imparts skill in meeting any condition or any problem that comes within that class. If, for instance, a man memorizes the sums made by adding together any two of the digits, he is equipped to master any problem of addition; and if he will practice at adding numbers together, he will gradually acquire a certain ability of mind whereby he can add together a long row of figures placed in a sequence he never saw before, and having a sum he never attained before. Or a pianist, having acquired the mastery of the technic of the keyboard and the ability to read music, can sit down before a piano he never sat at before and play off instantly a piece of music he never saw before.

Doubtless Moltke had ideas of this kind in mind when his plans for educating strategists and tacticians by problems on paper and by games were ridiculed by the unimaginative, and resisted by the indolent; and certainly no man was ever proved right more gloriously than Moltke. In the war with Austria in 1866, the Prussian Army defeated the Austrian at Sadowa, or Königgrätz, in nineteen days after the declaration of war. In the war with France in 1870, the Prussian Army routed the French and received the surrender of Napoleon III. in seven weeks and two days, not because of superior courage or experience in war, but by more scientific strategy.

Admiral Fiske then takes up the revolutionary change in German foreign policy caused by Mahan's book on sea power, which turned the minds of the Kaiser and his people to the tremendous importance of controlling the maritime highways of the world. He writes:

The strategically trained mind of William grasped at once the situation laid bare by Mahan; and his military training led him to quick decision and prompt action. The necessary machinery was soon set in motion, with the amazing result that in twenty years the German Navy became the second in power and perhaps the first in efficiency in the world.

Was this feat accomplished by prodigal expenditures in building vessels and other material of all kinds, and enlisting and commissioning a large number of officers and men? No, the expense was less than that of building our navy, even if a liberal allowance be made for the relative cheapness of things in Germany; and the mere enlisting and commissioning of officers and men was the simplest part of the undertaking.

How was it accomplished? In the simplest way imaginable: by following Moltke's plan of solving hypothetical war problems, and



adapting the military war game (Kriegspiel) to naval forces; playing numberless war games, and deciding from those games the naval strategy best adapted to Germany's needs—not only in matters of general principle, not only as to tactics, training, education, co-operation with the army, and the size of fleet required to carry out the policy of the nation—but also as to the composition of the fleet, relative proportions of vessels of the various types, and the characteristics of each type.

Nothing was left to chance; nothing was decided by guessing; no one man's dictum was accepted. The whole problem was attacked in its entirety, and a general solution found; and after this, the various divisions and subdivisions of the problem were attacked and solved, in obedience to the same principles, in accordance with the results obtained at Kriegspiel.

It is a very large and complicated engine of new pattern to be built by any engineering company, no casting of the smallest kind is made until general plans have been outlined, detailed plans prepared from these, and then "working plans" made for the workmen. From the working plans, the workmen construct the various parts; sometimes in number several hundred. Finally, the whole intricate machine is put together, and the motive power applied. Then all the parts, great and small, begin their allotted tasks, each part perfectly adapted to its work, not too large and not too small; all working together in apparent confusion, but in obedience to law—fulfilling exactly the will of the designing engineer.

So, the vast and new machine of the German Navy was designed in the drafting room of the Kriegspiel; and though it has been gradually strengthened and enlarged since then, each strengthening piece and each addition has been designed in accordance with the original plan, and has therefore harmonized with the original machine. Thus the navy has expanded smoothly, symmetrically, purposefully. No other result was to be expected: the strategy having been correct, the result was correct also.

Perhaps one contributing factor to the success of the German Navy has been her staff of officers highly trained in strategy by Kriegspiel, that insures not only sound advice in general, but also insures that at any time, night or day, a body of competent officers shall be ready at the Admiralty to decide what action should be taken, whenever any new situation is reported.

This factor is most important; because in naval and military operations, even in time of peace, but especially in war, events follow each other so rapidly, and momentous crises develop so suddenly, that the demand for action that shall be both wise and instantaneous is imperative. The chess player can linger long over his decisions, because his opponent cannot make his next move meanwhile; but in warfare no such rule or condition can exist. In war, time is as vital a factor as any other; and the strategist who, like Napoleon, can think faster and decide more quickly and accurately than his antagonist is, *ceteris paribus*, sure to win; and even if *ceteris* are not quite *paribus*, his superior quickness and correctness will overcome great handicaps in material and personnel, as the lives of all the great strategists in history, especially Alexander and Napoleon, prove convincingly. To bring a preponderating force to bear at a given point ahead of the enemy—to move the maximum of force with the maximum of celerity—has always been the aim of strategy; and probably it always will be, for the science of strategy rests on principles, and principles never change.

The effects of the sudden turn in Germany's policy were far-reaching, Admiral Fiske points out. First, Japan grasped what it meant, and immediately intro-

duced into her navy reforms calculated to bring it up to the German standard.

Then Great Britain's eyes were opened. Throughout her naval history, says the American authority, she had relied on the theories of the "blue water school," on the courage, skill, and persistency of British seamen. She realized now that something else was necessary to maintain her naval supremacy. She at once set out to remedy matters by adopting a definite naval policy insuring a thorough grasp on the part of her naval leaders of the elements of modern naval strategy.

"The United States has not yet made a correct estimate of the naval situation; she has not yet reached the point that Great Britain reached ten years ago," continues Admiral Fiske. "Great Britain apprehended the danger and took action before it was too late. Shall the United States take action now or wait until it is too late?"

Our navy is far behind the times, the Admiral declares. Whereas other nations with big navies have devoted much attention to having their war fleets work out in manoeuvres problems previously prepared at "war games" ashore, in the American Navy only three strategic problems or manoeuvres devised at the Navy Department have been worked out at sea—one in May, 1915; one in October of the same year, and one in August, 1916. The United States Navy, he says, instead of being built up in accordance with a definite plan—like the City of Washington—grew up haphazard, without rhyme or reason, like Boston. The engineering and inventive genius of the Americans, he admits, has kept the material of our navy at a high standard, and our navy's personnel has shown no signs of inferiority as compared with that of other navies. But our naval strategy lags behind. Admiral Fiske writes:

One dislikes intensely to criticize his own country, even to himself. But when a naval officer is studying—as he should continually do—what must be done in order to protect his country from attack by some foreign foe, it would be criminal folly for him to estimate the situation otherwise than honestly, and to do this it is necessary to try to see where his country is weak and where strong, relatively to the possible foes in question.

If we do this, and compare the strategical methods employed by, say, Germany and us, we are forced to admit that the German methods are better adapted to producing economically a navy fitted to contend successfully in war against an enemy.

In Germany the development of the navy has been strictly along the lines of a method carefully devised beforehand; in our country no method whatever is apparent, at least no logical method. Congress, and Congress alone, decides what vessels and other craft shall be built, how many officers and men shall wear the uniform. It is true that it consults the report of the Secretary of the Navy, and asks the opinions of some naval officers; and it is true that the Secretary of the Navy gets the opinions of certain naval officers, including the General Board, before making his report. But both the Secretary and Congress estimate the situation from their own points of view, and place their own value on the advice of naval officers.

And the advice of these naval officers is not so valuable, possibly, as it might be; for the reason that it is really irresponsible, since the advisers themselves know that it will not be taken very seriously. The difference between the advice of men held responsible for the results of following their advice, and the advice of men not so held responsible, is well recognized.

Furthermore, our officers do not have the machinery of the Kriegspiel to help them. It is true that at the Naval War College a war game apparatus is installed and that war games are played and war problems solved; but the officers there are very properly engaged in the regular work of a war college, in educating officers in the principles of warfare, and have little time for other work. It is also true that the war games and problems there do lead occasionally to recommendations by the War College to the General Board as to various matters; but the connection between the conclusions of the War College and the decisions of Congress via the General Board and the Secretary of the Navy is so fragile and discontinuous that it may truthfully be said that the influence of the war games at our War College has but a faint resemblance to the determining force of the Kriegspiel in Berlin.

Having pointed out our weaknesses, and drawn attention to the menace which superior navies, headed by men trained according to modern methods, represent to our future security, Admiral Fiske states thus his project for adapting to the use of our navy the Kriegspiel and perfecting it by using it in combination with moving pictures:

How can the General Staff at the Navy Department be trained? In the same way as that in which officers at the War College are trained—by study and by solving war problems by tactical and strategical games. The training would naturally be more extended, as it would be a post-graduate course.

There is a difference to be noted between games like war games, in which the mental powers are trained, and games like billiards, in which the nerves and muscles receive practically all the training; and the difference refers mainly to the memory. Games of cards are a little like war games; and many books on games of cards have been written, expounding the principles on which they rest and giving rules to follow. These books may be said to embody a science of card-playing.

No such book on naval strategy has appeared; and the obvious reason is that only a few rules of naval strategy have been formulated. Staff training, therefore, cannot be given wholly by studying books; but possibly the scheme suggested to the department by the writer, when he was Aid for Operations, may be developed into a sort of illustrative literature which can assist the memory.

By this scheme a body of officers at the Navy Department would occupy their time wholly in studying war problems by devising and playing strategical and tactical games ashore and afloat. After each problem had been solved to the satisfaction of the staff, each distinctive situation in the approved solution would be photographed in as small a space as practicable, preferably on a moving-picture film. In the solution of problem 90, for instance, there might be fifty situations and therefore fifty photographs. These photographs, shown in appropriate succession, would furnish information analogous to the information imparted to a chess student by the statement of the successive moves in those games of chess that one sees sometimes in books and in newspapers.

Now if the film photographs were so arranged that the moves in the approved solution of, say, problem 90 could be thrown on a screen, as slowly or as quickly as desired, and if the film records of a few hundred such games could be conveniently arranged, a very wide range of situations that would probably come up in war would be portrayed, and the moves made in handling those situations would form valuable precedents for action, whenever situations approximating them should come up in war.

It must be borne in mind that in actual life our only real guide to wise action in any contingency that may arise is a memory, more or less consciously realized, of how a similar contingency has been met, successfully or unsuccessfully, in the past. Perhaps most of us do not realize that it is not so much experience that guides us as our memory of experiences. Therefore, in the training of both officers and enlisted men in strategy, tactics, seamanship, gunnery, engineering, and the rest, the memory of how they, or some one else, did this well and that badly (even if the memory be hardly conscious) is the immediate agency for bringing about improvement.

Imagine now a strategical system of training for the navy, in which a body of highly trained officers at the department will continuously regulate the exercises of the fleet, guided by the revelations of the Kriegspiel; the Commander-in-Chief will direct the activities of the main divisions of the fleet, carrying out the department's scheme; the Commander of each division will regulate the activities of the units of his command in accordance with the fleet scheme; the officer in command of each unit of each division will regulate the activities of each unit in his ship, destroyer, submarine, or other craft in accordance with the division scheme, and every suborganization in every ship, destroyer, or other craft will regulate likewise the activities of its members; so that the navy will resemble a vast and efficient organism, all the parts leagued together by a common understanding and a common purpose; mutually dependent, mutually assisting, sympathetically obedient to the controlling mind that directs them toward the "end in view."