

59-II-63

THE UNITED STATES NAVAL WAR COLLEGE

COURSE IN NAVAL WARFARE



TERM PAPER II

1 May 1959

Gehrig, R. M.
Col., USN

This paper is a student thesis prepared at the Naval War College and the thoughts and opinions expressed in this paper are those of the author, and are not necessarily those of the Navy Department or the President, Naval War College.

Material herein may not be quoted, extracted for publication, reproduced or otherwise copied without specific permission from the author and the President, Naval War College in each instance.

NAVAL WAR COLLEGE
Newport, R.I.

THE PHILOSOPHY BEHIND THE COMPOSITION OF
THE SOVIET NAVY

1 May 1959

TABLE OF CONTENTS

CHAPTER		PAGE
	INTRODUCTION	iii
I	THE HISTORICAL EVOLUTION OF THE RUSSIAN NAVY .	1
II	COMPOSITION AND DISPOSITION OF THE SOVIET NAVY	7
III	SOVIET NAVAL CAPABILITIES AND LIMITATIONS. . .	11
IV	SOVIET PHILOSOPHY, DOCTRINE, AND STRATEGY . . .	22
V	SUMMARY AND CONCLUSIONS.	31
	BIBLIOGRAPHY	37

INTRODUCTION

In the brief span of fourteen years since the end of World War II, the World has watched the development of a Soviet Navy which is currently ranked second only to that of the United States. The composition of this Navy differs considerably from that of other modern navies, in that it possesses no aircraft carriers, the ship considered by the West to be the capital ship of a modern navy.

The phenomenal development of such a large and potent naval force and its radically different composition naturally raise questions regarding the Soviet philosophy and doctrine which govern the composition and intended use of such a naval force. The purpose of this paper is to attempt to find the answers to such questions, and in so-doing divine the basic Soviet philosophy regarding sea power, and the uses to which this power might be put.

Since history often provides a clue for the future, the evolution of the Russian Navy will be used as the opening phase of the study. The scope also includes the current composition and disposition of the Soviet Navy, its capabilities and limitations, and the philosophy, doctrine, and strategy which not only govern its composition and deployment but determine its use in the event of war. Such a study, therefore, assumes tremendous significance in the light of current events, as the Soviet Navy could have a serious impact on Western military operations in the event of war, particularly if its capabilities and potential are not completely understood and neutralization measures taken in time.

CHAPTER I

THE HISTORICAL EVOLUTION OF THE RUSSIAN NAVY

Many people hold the belief that the modern Soviet Navy has no precedent in history; that Russia has never before had a navy worthy of consideration. Nothing could be further from the truth. For centuries, depending upon the whims and interests of the Tzars, the Russian Navy has known an ebb and flow of size and power from insignificance to a position as third-ranking navy in the world. The powerful navy currently in being marks an all-time high in the history of Russia. Any attempt to divine the philosophy which has governed the development of this powerful force should logically start with a review of the Russian Navy of the past and the reasons behind the development of this navy.

Although Peter the Great has frequently been called the "Father of the Russian Navy", history tells us that as far back as the Ninth century various Russian princes built relatively powerful fleets. Even then the Russians were attempting to force their will on the Turks. In the 10th century they lost an imposing number of ships during the third Russian attack on Constantinople. However, during the period when Portugal, Spain, England, Holland and France were developing as great sea powers, Russia did little to keep pace.

In the 17th century Peter the Great, involved in wars with both the Swedes and the Turks, realized that sea power was necessary for Russian survival. As a result he initiated practices which were to be followed by other Russian rulers for many years to come, including

enlistment of aid in the form of foreign technicians and naval officers and procurement of ships from foreign nations. He visited both Holland and England to obtain practical experience and to recruit for his navy. By 1698 he had a navy large enough to obtain freedom of movement in the Black Sea in operations against the Turks, but operations in that area were considered secondary to those in the Baltic, and Peter never was able to secure complete control of the Black Sea area.

In 1701 Peter established what was then the first modern Russian naval academy in Moscow. He then created the city of St. Petersburg and built a large naval base on the island of Kronstadt, in the Gulf of Finland. From these bases he carried on a war against the Swedes with ships obtained primarily from English and Dutch yards. Although not an efficient navy by modern standards, it enabled him to defeat the Swedes, and before his death in 1725 he had acquired the Swedish Baltic provinces. In twenty-five years he had created a navy which commanded the Baltic and which was to set an example for future rulers of Russia.

After Peter's death the navy was more or less neglected until Catherine the Great seized the throne in 1762. She then revived Peter's plans, reorganized the navy, started a shipbuilding program, enlarged and built naval bases, created a merchant navy, and instituted a recruiting and training program. Since Russia had managed to maintain control of the Baltic since Peter's victories in that area, she turned her attention southward against the Turks. In 1770 the Russian fleet annihilated a Turkish fleet at Tchesme and secured command of the eastern Mediterranean, but these operations were not

followed up and the command of the Black Sea was not decided. Catherine continued operations against both Turks and Swedes until her death in 1796, and succeeded in making Russia the third-ranking naval power of her day.

For the next 50 years the Russian Navy, without the guiding force of a Peter or Catherine behind it, declined in strength, but continued to participate in a series of operations in various battles with the British, Danes, French, Turks, Austrians, and Swedes. During the Napoleonic Wars the Baltic Fleet denied the use of the Dvina River to Napoleon for supplying the French Troops marching on Moscow. During this period also, the ships of the Russian Navy made a number of long voyages, presumably for training, which resulted, among other things, in the discovery of Alaska and the basis for a future Soviet claim in the Anarctic.

Although Russian attempts to overcome the Turkish control over the entrance to the Black Sea continued throughout the nineteenth century, few of their ventures were eminently successful. Their most spectacular success was the use of shell for the first time against the wooden hulls of an inferior Turkish force at Sinope. In this period, also, the Russians demonstrated their ingenuity during the Crimean War by using mines effectively for the first time. Shortly thereafter they neutralized Turkish superiority in ironclad ships by using still another new weapon, the torpedo.

By the end of the century, however, Russia again was in an intensive effort to build up a strong and effective navy. By 1897 she once more ranked behind

France as a naval power. Nevertheless, in her only notable attempt to operate away from inland seas, she suffered one of the greatest defeats ever suffered by a naval power, when the entire Baltic Fleet was annihilated at the battle of Tsu-Shima during the Russo-Japanese War. The Imperial Fleet never recovered from this humiliation, and throughout World War I the Baltic Fleet never used its power effectively, remaining on the defensive in the Gulf of Finland. Although the Black Sea fleet was somewhat more effective, with better planning and by making good use of mines, it also was reluctant to venture far from its bases.

Thus, in several hundred years, the Imperial Russian Navy seldom was impressive. It was characterized by periods of intense activity and modernization, followed always by periods of neglect. It was stifled by rigid sets of fighting instructions imposed by the Tzars, one of the most notable of which required great superiority, in the order of four to one, before engaging in battle. Individually, its men fought with bravery, but this was nullified frequently by the ineptitude of its leadership. When they went to sea, which was seldom, they were outfought in every department. Their only real successes were accomplished with the support of coastal defenses and mine-fields. Nevertheless, certain aspects bear remembering, in that during this period they demonstrated an ability to adopt weapons to ships and to develop new weapons, as they were the first to use the shell, the mine, and the torpedo in naval warfare.

Although the Communists were aided during the Revolution of 1917 by units of the Imperial Fleet, they in turn suffered a reverse when the sailors at Kronstadt

mutinied in 1921. As a result the Red Navy lost the confidence of Russia's political leaders and entered a period of low ebb. Other than small craft suitable for coastal defense, no new naval construction was undertaken from 1921 to 1934. With the rise of Nazi power in Germany, the Soviet leaders apparently decided upon a need for increased naval strength. As a result, a large shipbuilding program was initiated, with emphasis upon frigates, destroyers, cruisers, and long-range submarines. These submarines, the 900 ton S class and the 1500 ton K class, were definitely ocean-going boats with a range of over 10,000 miles, and were the first of their type in Russian history. However, they needed trained men with high morale to man them, as well as time and sea training to bring them to any level of efficiency. Since Russia had lost her main source of naval manpower when she lost the Baltic provinces in World War I, she had difficulty obtaining sailors of the needed quality. This factor, plus the purges of officers in 1935-38 and the lack of suitable bases, prevented the Soviet Navy from attaining a capability to match Germany's naval and air strength. As a result, the Soviet Navy in World War II was virtually worthless on the high seas, and its operations were confined largely to coastal areas and to small raids and landings behind enemy lines. Although naval troops fought magnificently with Army troops in land battles, the navy had no engagements involving ships at sea to which it could point with pride. Russian submarines did very little during the entire war, and surface ships did no better, even with regard to escort for Allied Convoys bound for northern Russian ports.

The latest Soviet naval buildup began around 1950, with a construction program again centered around cruisers, destroyers, and submarines. Whether the new, large, and modern Soviet Fleet will prove any better than its predecessors remains to be seen. However, it must be pointed out that Soviet leaders have displayed great interest in German submarine operations during both World Wars, and in the American naval campaigns in the Pacific during World War II, both of which amply demonstrated the uses and capabilities of sea-power. In addition, they gained a wealth of technical detail, ships, and technicians from a defeated Germany, and the uses to which they put this bonanza are already well known.

In brief, although Russia has had a long naval history, it has yet to prove its capabilities with regard to a navy capable of proving itself on the high seas. It lacks naval tradition and it lacks sea-faring men in any numbers. It has tremendous geographical and climatic handicaps, and it has suffered from a lack of training in ocean operations. Its age-old suspicion of foreign nations and penchant for secrecy have prevented its navy from engaging in operations with other navies and from learning many aspects of naval operations. However, they have served one purpose, in that the capabilities of the Russian Navy are an unknown quality, and will in all probability remain unknown unless pitted against the navies of the western powers in a major war.

CHAPTER II

COMPOSITION AND DISPOSITION OF THE SOVIET NAVY

Except perhaps within intelligence circles, probably no one outside the Soviet Union knows the exact composition and disposition of the Soviet Navy. However, exact numbers are not as important as the proportions between types and the disposition of the large number of ships in the four fleets.

A study of the writings of various students of Soviet military power indicates that the modern navy of the U.S.S.R. is composed approximately as follows:

Cruisers	32-35
Destroyers	180
Frigates and escort vessels	300
Submarines	500
Mine craft	1000
Patrol vessels	125
Motor torpedo boats	500
Landing craft	120
Fleet Auxiliaries	160-200
Aircraft	3500-4000

The possession of a navy of this size, composed primarily of ships built since 1945, makes the Soviet Union the second ranking naval power in the World today. If considered in another light - that of ships in active service, it might possibly outrank that of the United States, since all ships of the Soviet Navy are fully manned and in active service, while the majority of U.S. ships are of World War II vintage, rapidly becoming obsolete, and in the reserve fleet. It should be noted

also that there is a striking difference in the composition of the Soviet Navy from that of other ranking navies - the lack of so-called capital ships, particularly aircraft carriers. This is at least partially compensated for by the large land-based Naval Air Force.

Other aspects of Soviet sea power which are frequently overlooked are the merchant fleet and the large number of ocean-going fishing vessels. Only in recent years has the U.S.S.R. increased the size of its merchant fleet. Since World War II she has devoted a tremendous amount of effort to the development of this aspect of sea power. All of the satellite nations have been required to build merchant ships, and in addition she has had shipbuilding contracts with several Western European nations and with Japan. As a result, her merchant fleet now totals approximately 5,000,000 tons, with an additional 1,500,000 tons of shipping owned by satellite countries. She also has a large tanker tonnage, and is aiming for 1,000,000 tons on the high seas and 500,000 tons in the Caspian Sea to carry the oil from the Baku fields.

The fishing fleet, which now covers the oceans of the world, numbers more than 10,000 vessels, most of which would be usable in time of war as patrol boats or minesweepers. In time of peace this fleet provides the navy with a source of navigation training and intelligence.

Although the merchant fleet has been enlarged tremendously in recent years, it is still relatively small in proportion to the population and productive capacity of the Communist Bloc. There is a marked

disparity between the tonnage of the navy and that of the merchant fleet, but all indications are that the Soviet Leaders are well aware of the importance of merchant shipping and intend to remedy this shortcoming in the near future.

The distribution of the ships of the Soviet Navy to the fleets unquestionably is a problem for their strategists, in view of the distances involved, the length of the coastline, the climatic conditions, and the inland seas to be protected. These problems have been resolved by the creation of four fleets - Northern, Baltic, Black Sea, and Pacific. The Northern Fleet consists of eight cruisers, 35 destroyers, 10 frigates, and 110 submarines. The Baltic Fleet has six or eight cruisers, 45 destroyers, 20 frigates and 130 submarines. The Black Sea Fleet has eight cruisers, 30 destroyers, 15 frigates, and 130 submarines. The Pacific Fleet has six or eight cruisers, 30 destroyers, 25 frigates, and 130 submarines. "The majority of the submarines in the Northern and Pacific Fleets are long range types, while those in the Baltic and Black Seas are predominately short-range boats." (35:245) Although these figures cannot be more than an approximation, since no two writers agree on the exact composition of each fleet, they do represent a consensus of opinion of men who are considered experts in this area. Generally these writers agree on the approximate composition of each fleet and the overall totals, and one cannot be less than overwhelmed at the tremendous progress this nation has made in less than 15 years.

With the advent of missiles, the Soviet Navy is undergoing a number of changes. "Recent evidence points to the slowing down or even complete cessation in the building of cruisers and submarines. This process probably started in 1956, and was undoubtedly due to the need to convert or re-design the ships to enable them to take missiles. It is another reason why the estimates of total numbers have remained steady in the past two or three years."(35:16) Other reports indicate that the trend in the Soviet Union's shipbuilding program is towards smaller and faster ships, from cruisers with a speed of 35 knots to destroyers capable of 38 knots, escorts or frigates with speeds up to 27 knots, and small submarines (750 tons) with a speed of 18 knots.

Although the only known example of Soviet ventures into the realm of atomic propulsion is in surface ships, presently in icebreakers and merchant ships, we can be relatively certain that they are developing propulsion plants for submarines and combat surface ships as well. With the range and speed offered by this new source of power, this nation cannot be expected to allow its navy to become obsolescent. To the contrary, from all indications the Soviet Navy will continue to present the West with a challenge in the form of high speed missile-equipped ships, capable of operating at great distances from their bases. Its leaders have no intention of allowing the Navy to decline in strength; rather, they show every indication of a determination to have the most powerful navy in the World.

CHAPTER III

SOVIET NAVAL CAPABILITIES AND LIMITATIONS

Although the Soviet Union has constructed a powerful fleet with unprecedented speed, its unusual composition poses questions with regard to its capabilities.

"... Russia's sea power has many anomalous features. Russian flagships are rarely seen on the high seas. Her newest cruisers are over-big for the Baltic yet are weakly gunned for blue water. Her navy has no aircraft carriers, the capital ship of modern fleets. Her naval aircraft are all land-based. She possesses fleets of small craft, which never put to sea, for use on her numerous rivers and lakes. She has relatively few seagoing amphibious craft. The Russian Navy, like the Soviet nation, presents the West with 'an enigma wrapped in mystery'." (2:587)

In any consideration of the capabilities and limitations of a modern navy, it is necessary to consider many factors. The composition of a navy obviously has a great bearing, but in addition to this such items as armament, supporting arms, logistic support, quality of personnel, training, morale, tradition, and many other factors must be evaluated and given their proper weight. Generally speaking, any military force has two potential capabilities - those of offense and defense. In order to simplify and systematize this discussion, the Soviet naval capabilities will be considered in the light of their offensive and defensive potential.

In any study of the defensive capability of this force, one is almost immediately impressed with the number of small ships. This vast fleet, called by La Reone Maritime "the dust of the sea", numbers thousands of escorts, patrol boats, trawlers, minelayers, minesweepers, motor torpedo boats, small landing craft, and icebreakers. All these add to what is one of the major capabilities of the

Soviet Navy - minelaying. All Soviet cruisers, destroyers, and submarines are fitted for minelaying, and the Russians have excelled in this form of warfare for many years.

"The experience of the U.S. Navy at Wonson Harbor in 1950 bears witness to the effectiveness of current Soviet minelaying techniques." (17:207) With the help of German plans and technicians, Russia has mass produced improved models of magnetic, acoustic, pressure, and contact mines. Her extensive coastline and shallow inland seas are well suited for mining operations, and a navy already completely equipped for such work, plus the tremendous numbers of fishing trawlers which could be easily adapted, give her a potential for defensive mining which is unequalled by any other navy.

This same huge fleet of small ships gives the Soviet Union two additional defensive capabilities at the same time - those of minesweeping and anti-submarine escort. The very fact that she has a very long and exposed coastline, plus numerous inland seas and waterways which are well suited for mining by an enemy, makes her particularly vulnerable in this respect. Two of her major fleets are based in seas with narrow and shallow outlets - the Baltic and the Black. Because of the poor quality and scarcity of overland transportation systems, the inland seas and waterways are her lifelines. Unless she maintained a large number of ships capable of countering such a menace, her internal transportation could easily be strangled. The fact that she has built a minesweeping force of such proportions amply demonstrates her recognition of this fact. The number of escort vessels bears witness to her concern for the danger of submarine attacks on coastal and inland sea shipping.

The surface, air, and coastal elements are pre- dominately geared to defensive actions against possible Western naval assaults.

The surface forces are designed for operations within a limited distance from the coast. Strategic appreciations of Soviet seapower usually tend to ignore this reality in the face of the oceanic submarine menace. But complete mastery of the coastal waters, which with modern long-range aircraft can now be extended quite a distance into the oceans beyond, is mandatory for the efficient conduct of submarine warfare. It is for this reason that the Soviet surface ships merit the closet attention. (35:165)

The large number of cruisers and destroyers, coupled with the lack of aircraft carriers which would be required if they were to be used as long-range striking forces, makes their use for defense practically mandatory. The Sverdlov cruisers, for example, are lightly gunned for their tonnage, and lack both anti-aircraft power and missiles. That they would venture far beyond the protection of land-based air power is not probable. Consequently, their probable intended use is in coastal waters, primarily for defensive and limited amphibious assault purposes.

The Naval Air Force must be considered primarily a defensive force. Composed mostly of fighters and light bombers of limited range, and confined to land bases due to the lack of aircraft carriers, it is not suited for large scale offensive operations. As a defensive force, however, it has tremendous power, since it includes 2000 jet fighters, 1000 jet light bombers, an estimated 100 long-range jet heavy bombers, and approximately 900 flying boats and transports. It has a large number of bases well spaced around the coastal areas, and has the added advantages of flexibility and mobility. In this respect the Soviet Navy can concentrate a large defensive

force anywhere on its perimeter on short notice, with an excellent capability for defense against both air and surface attack.

In the field of defense, in addition to the development of modern weapons, the Soviet Union has improved to a considerable degree its capability to move its naval power from area to area. In the last two decades Russia has made great progress in the development of waterways between its major naval operational areas. By building canals and dredging rivers, she has greatly improved her capability to move naval units from sea to sea and from sea to ocean. As a result, the Caspian, Black, Baltic, and White seas are now linked with waterways over which submarines and destroyers can be moved with relative ease. Although climatic conditions would interfere with such movements for a good portion of each year, this capability is one which cannot be overlooked. To be sure, these waterways can be blocked, but the effort to completely interdict this internal transfer system would, of necessity, be considerable. Hanson Baldwin has, as an example, this to say about such capabilities: "Between the Baltic and the White Sea, the Stalin - White Sea Canal provides for about five months each year a water link for ships no bigger than submarines and small destroyers. But it is a tenuous passage easily blocked by the manacles of winter frost, by sea mines or by bombing with conventional or atomic weapons." (2:590) In addition, Russia has spent a considerable effort to improve her transfer capability between the Northern and Pacific Fleets. The number of ships to use this route in recent years has increased steadily, and her shipbuilding efforts in the field of icebreakers bears testimony of her intentions.

The handicap of climatic conditions seriously limits such efforts, however. The northern route, the Baltic-White Sea Canal, and many of her major rivers are closed by ice for a minimum of six months of each year. Consequently, all ship transfers must be accomplished during the warm months, and in the event of a major war the Soviet Union would have difficulty making use of this capability, limited as it is.

Although the Soviet submarine fleet is normally considered ^{significant} due to its tremendous ^{offensive} potential on the high seas, its defensive capabilities should not be overlooked. Close to half of the estimated 500 submarines now operational are short-range boats which would have a very limited offensive capability. The defensive capabilities of such a submarine fleet, however, is such that to overlook it would be an error of the greatest magnitude. In coastal and inland sea waters these short-range submarines present a threat against any western naval operation. These submarines, combined with the defensive potential of the Russian surface forces, mining capability, and land based air power, constitute a defensive force which would impose great problems for planners contemplating offensive operations via the sea against the Soviet Union.

Turning to the offensive capabilities of the Soviet Navy, one must immediately consider the capabilities of the long range submarine force. The German's started World War II with a submarine force far smaller than that now possessed by Russia, and never did have a force as large or as potentially dangerous as the one Russia now flaunts in the face of the Western Powers. To the

conventional role of the submarine - that of interdiction of shipping - must be added the capability of offensive strikes by missiles, torpedoes, and mines.

Obviously Russia has been impressed by the lessons of World War II, and recognizes the tremendous potential of the submarine.

The Soviets see two methods for submarines to make strategic strikes both against enemy sea forces and communications and against enemy land targets. One is the use of torpedoes with nuclear warheads; the other is the launching of guided or ballistic missiles with nuclear or thermonuclear warheads.

The Soviets have, ever since the end of 1953, referred on many occasions to the possibilities of employing torpedoes with atomic warheads. Admiral Vladimirsky (as early as 1955, and again in 1957) has noted the obviously great increase in the effectiveness of nuclear armed torpedoes for use against enemy ships, since a vessel need not even be hit in order to be sunk. Moreover, Admiral Vladimirsky has explicitly pointed to the possibility of delivery of mines and underwater torpedoes with nuclear warheads into the harbors of major enemy ports and naval bases. (17:203)

In addition, Russian military writers on many occasions have referred to the possibility of using submarines for attacks against the governmental, administrative, and industrial centers of enemy nations by long-range guided missiles. They have stressed the necessity for providing ways and means to enable submarines to launch missiles without surfacing. They are also showing an interest in developing underwater containers for ballistic missiles. These containers could be towed by a submarine to a selected location and anchored for timed or remote-controlled launching of the missiles.

Since the United States already is building submarines capable of launching missiles without surfacing, the Soviet Union must be credited with the same capability. In addition, although atomic-powered submarines have not yet been publicly displayed by the Russian Navy, it is

practically a certainty that such submarines are being built. In fact, recent published reports indicate that these boats will shortly appear in considerable numbers.

Several writers have commented on the fact that the Soviet naval shipbuilding program, notably in submarines and cruisers, was apparently cut back starting in 1956. Most of these writers feel that this cutback did not indicate any feeling of naval sufficiency on the part of Russian leaders, but rather that the shipyards were in the process of converting for the building of atomic powered submarines and guided missile cruisers. The cruisers of the Russian Navy have had, in the past, relatively little offensive power. As previously noted, the Sverdlov class cruisers, the most modern in the fleet, were lightly gunned for their size. The addition of a guided missile capability to both the cruisers and submarines of the already potent fleet would add tremendously to its offensive power.

The capabilities of the submarine fleet for the strategic interdiction of Western sea routes of communication needs little emphasis. This fleet, already far larger in size than the German fleet at the height of World War II, could wreak havoc on the Western merchant fleet.

One other aspect of Soviet naval power is seldom mentioned in the press. This is the amphibious capability. Although seldom publicized, the Russians have devoted a great deal of effort in the last ten years on an amphibious capability.

During World War II the Russian Navy carried out numerous small commando raids on the German Forces, many of which were highly successful. There were a number of medium sized raids, of which most were abortive or

complete failures. Relatively few large scale operations were conducted. One of these, in the Crimea in 1941, was made with a force of two divisions. Although initially successful, after five months the force was completely wiped out. The largest such operation, aimed at taking the Baltic Islands held by the Germans, was successful. Soviet leaders were highly impressed by American amphibious successes in the Pacific, and after the war Russia started to build large numbers of modern landing craft and set up a center for amphibious training. A professional marine force of an estimated 50,000 men has been maintained, organized into brigades.

Although, up to this point, the Russians have given no evidence of a program to build an amphibious force which would be capable of an assault upon either the United States or the British Isles, they have built a force which would have a considerable capability on the inland seas, particularly when one considers the support available from surface forces, the naval air arm, and the merchant fleet. The Russians have never gone in for the refinements in weapons desired by the Western Allies. They have shown great ingenuity in adapting available weapons to their needs. It is only logical that they could, if the need were felt, lift a considerable force for amphibious assault. "It may be estimated that specially constructed landing ships and landing craft are, in fact, adequate to lift simultaneously about two divisions each in the Pacific and in the Baltic and Black Seas, and one division each in the Arctic and the Caspian Sea." (30:329) When one considers that the amphibious ships and craft of the Arctic, Baltic, Black and Caspian Seas could

be consolidated via the internal waterways of the Soviet Union, and augmented considerably by the use of merchant shipping, it is impossible to avoid the conclusion that Russia possesses an amphibious capability which could be used to advantage anywhere around the periphery of Europe. Considering the huge shipbuilding capacity of Russia, plus that of the satellite nations, it is entirely conceivable that the Soviet Navy could, at any time, produce the amphibious shipping required for a large scale offensive amphibious operation, one which could, anywhere in the world, put ashore a larger force than any which has ever been landed previously.

Although it has been shown that this navy has a tremendous potential, the capabilities of such a force cannot be discussed without also covering its limitations. Some of these have already been mentioned, including the great length of the coastline, the climate, transportation problems, and transfer problems. The Soviet Navy has many such problems to overcome before it can be classed as the most powerful in the world.

For centuries, Russia has attempted to secure for itself a number of warm-water ports. Its efforts to secure the Black Sea and its entrance have historically been thwarted by Turkey in conjunction with various allies. Even the Baltic entrances have been denied to the rulers of this huge nation, and could be secured only by conquering Denmark and Norway at the very least. As long as these approaches are controlled by other countries, the Soviet Union has, for easy access to the world oceans, only the Arctic ports in the far north and ports in the Pacific only as far south as Vladivostok. These ports are separated by thousands of miles and the arctic ice

makes transfers between the two areas possible only for a few months each year. The inland waterway routes between the inland seas and the White Sea are usable only by smaller ships, and they also are closed by winter ice.

One other problem must plague the Soviet leaders. This is the fact that although their navy is massive, it lacks the heritage of naval tradition which other great navies have. Its training is conducted in secrecy, and any large scale maneuvers are conducted in the inland seas. Its performance in modern wars of the past has not been impressive. "Already in 1941 the Russians had the largest submarine fleet in the world, with 250 boats in commission, of which 150 were long-range types. Yet in the Second World War they were conspicuous by their absence from the oceans, being employed almost entirely in the defensive role of coastal protection, and they were held in very low esteem amongst both their allies and their opponents."(35:176)

There is very little information available regarding the state of training of Russia's navy today. Certainly operational training must be hampered by the secrecy under which it is conducted and the lack of contact with other navies. The western navies engage frequently in large scale maneuvers on the high seas, as contrasted with the seclusion of the Soviet Navy in the Baltic, Barents, and other isolated and restricted seas. Any experience gained by its officers in waters important in war must be obtained by going to sea secretly in submarines or fishing vessels.

Even if the basic training given its crews is excellent, tactical training and combat exercises are

required for a navy to attain a high degree of combat efficiency.

It is not enough to be able to attack a given target. The target has first to be found in the ocean spaces and then stalked until a position from which to attack can be achieved. The technique of attack through a defensive screen and the subsequent evasion of counter-attack needs long and patient practice. It involves the use of many ships besides the submarine. It is one thing to take a warship to sea; quite another to take it efficiently into action, particularly a submarine. (35:177)

Thus there is considerable doubt concerning the operational efficiency of the Soviet Navy. There can be no doubt, however, concerning the individual courage of its men. Courage alone, however, does not make a good fighting force. Perhaps the old habits of the Imperial Russian Navy have not yet been overcome, including the reluctance to leave port during the winter months, and the reluctance to do battle unless the odds were heavily in their favor. Brilliance in battle is developed by training, experience, and allowing the development of initiative. The modern Soviet Navy has not yet gone to sea to obtain experience, and there is no indication that individual initiative is encouraged.

Therefore, although the Soviet Navy must be credited with tremendous capabilities, in the area of defense as well as of offense, there are definite questions regarding its efficiency. The limitations imposed by geography, climate, distance, and seclusion must certainly have an effect.

CHAPTER IV

SOVIET PHILOSOPHY, DOCTRINE, AND STRATEGY

Any attempt to divine the current Soviet philosophy which determines the composition of the modern navy must, of necessity, start with an examination of military doctrine and strategic thought. Much of this doctrine and strategic thinking, both past and present, is available through the published writings and public utterances of past and present political and military leaders of the Soviet Union. Any detailed examination of these statements leaves one with a firm conviction that the present composition of the Soviet Navy has evolved from definite strategic concepts; concepts which started with Peter the Great and have been refined throughout the succeeding centuries until, following the death of Stalin, the potentialities of modern weapons and the advent of atomic and thermonuclear weapons and missiles have altered and crystalized Soviet philosophy regarding the navy.

For three centuries, Russian doctrine dictated that before engaging an enemy there should be a heavy superiority of strength. This idea alone on many occasions decided whether Russian forces engaged or declined engagement with an enemy. Even in World War II Soviet Forces frequently engaged in a holding action until they were able to build up a marked superiority over the German forces opposing them. Undoubtedly this doctrine still is held in high esteem by current military strategists, since they are understandably loath to discard a principle which has been remarkably effective in the past.

Another Soviet and Imperial Russian military concept is that of the ultimate necessity for military conquest

of an enemy on the ground. In the past, the Russian Navy has existed only to protect the sea flanks of armies on the ground and to support land campaigns. During World War II, the Soviet Navy was used very little except in support of the Army and for coastal protection. Its submarine fleet, initially much larger than that of the Germans, seldom ventured out of coastal waters. Even today, there are strong indications that the governing philosophy behind the development of Soviet sea power "... is a continental philosophy, a land concept, which now is complicated and influenced, however, by two other factors - the strategic concept of the *guerre de course*, and the desire for prestige. Soviet naval thought is still to a major extent the prisoner of geography. To a nation which forms the bulk of the Eurasian Heartland, which through the centuries has seen the ebb and flow of conquest surge across its land frontiers, the ground army is still the principal element of military power."(2:600) Obviously current Soviet strategic thinking cannot ignore the possibilities of war on the continents of Europe and Asia, and the necessity for large land forces for the conduct of such war. Now, however, they are paying great attention to the possibility, and problems, of intercontinental warfare against the United States. This double possibility has only been apparent in military statements since the death of Stalin. In the words of Dr. Raymond Garthoff,

The Soviets continue now to regard major campaigns - land, supported by sea and air, as one important element in future nuclear war. Accordingly, the Soviet Navy is gearing itself for its contributing role in combined operations all around the Eurasian periphery, with or without the use of nuclear weapons. But the significant belated Soviet shift of attention in the last four years to the crucial new problems

of intercontinental strategy has also been reflected in the development of Soviet naval doctrine and capabilities.(14:85)

Thus, naval warfare continues in a subordinate role to land warfare in Soviet thinking. This appears to be the basic difference between Soviet and Western concepts of naval warfare. This concept also could explain the relative shift in the direction of submarine warfare and the defensive employment of surface vessels.

Soviet leaders appear to be firmly against putting all their eggs in one basket, even though they apparently believe that no major war can be decided without the use of mass armies. As a result, they have developed strong forces for use on and in each possible medium - land, sea, and air, and are developing alternate strategies for use in any eventuality. This development of flexible military concepts is probably the reason why the submarine and cruiser programs were curtailed in 1956, and suggests that the submarine and surface fleets are now undergoing modification. In the future both fleets will undoubtedly be usable for offensive operations as well as for interdiction of ocean commerce and coastal defense.

This shift in concept is demonstrated by the requirements which the Soviet Union has placed on the ballistic missile, indicating that they view it not as a weapon useful only as a deterrent, but a weapon capable of destroying military targets. "As early as 1956, Major General Pvkrovsky characterized the missile as an excellent weapon because (1) it could be developed to high accuracy, (2) launching platforms could be readily built and easily concealed, and (3) the missile, once it had been launched, was difficult to detect and intercept."(9:249)

Many other Soviet Military Leaders have stressed, in recent years, the importance of a variety of weapons in the Soviet arsenal. The importance which Russian leaders attach to this concept is emphasized by their development of atomic weapons, missiles, and the now-under-production missile launching submarines and surface ships. Since greater military strength increases the policy alternatives among which Soviet leaders can choose, any method of increasing military strength is given favorable attention.

One might expect, with this emphasis upon missiles, atomic bombs and warheads, and mobile launching systems, that the emphasis on land armies might slacken. However, in Soviet thinking, this would not assure the ultimate victory - the decisive seizure of enemy territory. As a result any new development in weapons is regarded as an increase in the power of a particular arm and as a possibility for widening the framework for its employment, not as a reason for cutting the strength or capability of another arm.

In discussing the military philosophy and doctrine of the Soviet Union, one important aspect cannot be overlooked. This is the feeling of vulnerability which Soviet leaders have displayed on numerous occasions. It has been obvious, time and again, that they are suspicious of aggressive intent on the part of the so-called "Imperialistic Nations", and as a result have not stinted in their efforts to build forces capable of withstanding any attack which might be launched against them, including an attack from the sea.

Soviet leaders did not fail to note German submarine successes in both World Wars, and the fact that the

Western Allies were seriously hurt by these successes. That they studied these lessons carefully is indicated by the emphasis they have placed on the submarine strength of their own navy - a strength now far greater than was ever attained by Germany - and the importance of the interdiction of sea lines of communication.

The role of the interdiction may appear to many Americans as one of decreased importance for a future thermo-nuclear war. But the Soviets continue to regard even future general war as likely to involve significant long campaigns in Eurasian peripheral theaters, in particular Europe. From this perspective, the interdiction of Western sea communications with North America is of major importance. Rear Admiral Andreev, in an article in 1957, has thus declared: "Contemporary wars are conducted with large armies and ... under combat conditions such armed forces require constant reinforcement of men, weapons, ammunition, fuel, food, equipment, etc." American troops abroad, and all the NATO Allies, states Admiral Andreev, are so dependent upon transoceanic supply that we "cannot conduct wide-scale combat operations" without it. In fact, he states "the essence of the matter is that for the imperialist states the very possibility of conducting war depends upon the support of uninterrupted operation of sea and ocean communications," so that such communications "can have a serious influence on the course and outcome of a war." Thus, in the particular circumstances of the NATO forces, the Soviets are bound to devote substantial efforts to the strategic interdiction mission.
(17:202-3)

Another reason for the emphasis upon submarines is the belief in their relative invulnerability to atomic attack. "Captain Shavtsov ... stated as early as 1955: 'Submarines, in our view, are the least vulnerable to atomic weapons. In the first place, they are difficult to detect not only at sea, but even at bases, since in case of atomic threat to a base they can submerge. In the second place, in dispersion at base and still more in operations at sea, the destruction of more than a single vessel is very unlikely...' He concluded that a single submarine was 'not such a tempting target for an atomic blow.'"(17:205) It would appear that Soviet

strategists are not only considering the offensive and defensive value of a weapon, but also its relative vulnerability to atomic attack.

Apparently the Soviet leadership, in the past few years, has completely revised the lines along which the navy is expected to progress, to be a capable force in an age of atomic and intercontinental warfare. All indications are that the entire navy is preparing for defense against nuclear weapons. Tactics are changing, in recognition of the need for dispersal and of the importance of tactical surprise. In addition, they are now working to establish strategic missions and capabilities for the navy of the nuclear era. Thus, two new missions have evolved over recent years - (1) the neutralization of enemy naval and transport capabilities, and (2) Strategic striking power for employment against enemy military forces, bases, ports, and military industry. It would be well to note that one other mission may well be under strong consideration - that of large scale amphibious operations.

'Naval landing operations' stated the authoritative classified General Staff organ Military Thought in 1955, 'are one of the forms of combined operations conducted by forces of the navy, land troops, aviation and airborne troops.' Continuing, this limited circulation source declared: 'The necessity of conducting naval landing operations is predicated above all on the scale of contemporary wars, developing over enormous spaces and drawing into their orbit almost all the countries of the world. In the course of struggle between opponents separated by seas and oceans, the armed forces of the combatants must overcome substantial water areas before they can be on hostile territory. Only by this means is it possible to throw large masses of troops on the shores of the opponent and create the conditions for seizure of the territory of the enemy and his military resources.' It is not difficult to imagine what "opponents" the Soviets are discussing. And it is significant that they are even now considering the problem of seizure, by amphibious assault, of the U.S.(16:55)

The increased interest of Soviet military writers in landing operations, in the past ten years, is obvious. Many articles in military journals discuss the techniques of the U.S. Marines, others set forth the doctrine recommended for Soviet Forces. It is apparent that these writers feel that such doctrine and techniques must be perfected for use in the future. In addition, they, as is their custom, conduct at the same time a study of counter-operations against amphibious landings. These they have divided into four phases: (1) attacks on forces in concentration and embarkation areas, (2) attacks on forces in transit at sea, (3) the repulse of landing operations, and (4) the annihilation of these forces on shore. Such thoroughness makes it apparent that nothing is left to chance in their studies of the potentialities of different types of operations, both offensive and defensive.

One question frequently puzzles anyone who devotes his attention to the Soviet Navy. That is the lack of so-called capital ships. There has been no indication that there is any intention or desire to include in the composition of the fleet either aircraft carriers or battleships, the backbones of past fleets; even though the carrier forms the nucleus of the modern western navies. It is interesting to note, however, that "Admiral of the Fleet Kuznetsov was dismissed in 1955 for favoring a conventional surface navy as well as missile-launching submarines. He may have favored the construction of aircraft carriers, and certainly of cruisers. But the whole view of the role of a surface fleet was opposed, presumably by Zhukov and the military leaders, and definitely by Khrushchev." (17:37) Thus it would seem

logical that the leaders in power feel that for offensive operations two other weapons systems offer far more promise: (1) submarines, particularly with missile launchers, for atomic attacks; and (2) missile-launching cruisers. The only conclusion which can be drawn is that Soviet leaders have decided that large surface ships - aircraft carriers, battleships, and heavy cruisers, are obsolete in the nuclear age.

There is a strong possibility that the Russians are again looking ahead, and foresee the advent of the atomic-powered aircraft. This could well be the reason why they feel that aircraft carrier is outmoded; feeling that the atomic aircraft, used for long-range attack and patrol missions, makes the carrier unnecessary. "One military theoretician, writing in the authoritative Military Thought in 1955, specifically said: 'The use of atomic propulsion for naval aviation makes possible dealing blows on the enemy and in support of the fleet from land bases, without the use of aircraft carriers.'" (17:201) The other reason why aircraft carriers are not acceptable is that they are considered too vulnerable to atomic attack.

The composition of the Soviet Naval air arm practically speaks for the thinking behind it. Composed primarily of jet fighter aircraft and jet light bombers, it can serve no purposes other than defense of the fleet in relatively close proximity to its land bases. Offensively it is powerless beyond its limited radius of action from its bases. Only if land campaigns or amphibious operations provided more forward bases would it be capable of extended offensive operations.

For the immediate future, then, one must conclude that Soviet military thinkers are concerned with warfare only on the periphery of Eurasia. If war comes, their primary concern is that of limited offensive naval and amphibious operations under cover of land-based aircraft; meanwhile preventing reinforcements and supplies from America from reaching the battle area through the use of submarines in great strength. At the same time, the United States would be attacked by missiles launched from submarines and possibly from cruisers, in addition to air and missile attacks directly from the Soviet Union. In their concept, however, such attacks would not win a war, since they firmly believe that a war can be won only by destroying the military forces of an enemy. Air and missile attacks alone, in their view, would not accomplish this objective.

Looking further into the future, it is not hard to predict that the Soviet Navy will probably have atomic aircraft which will have an indefinite strike and patrol capability, and, in view of their expressed interest in amphibious operations, a much larger and more ocean-capable amphibious force. When such a force appears in the building, there could be no conclusion other than that Russian leaders feel they have attained the capability to defeat the United States in the only way they feel they can achieve victory - by physical conquest of its territory.

CHAPTER V

SUMMARY AND CONCLUSIONS

For well over three hundred years the Russian Navy has waxed strong and then waned, subject to the whims and inclinations of the Tzars. It has on several occasions been ranked as highly as second in the world, and then within a few years dropped to the category of a second-class navy. It has had far from a brilliant **history**, winning few important battles, and losing some rather ignominiously. It has not developed a proud tradition similar to that of more sea-faring nations, and has had few battles to which its personnel can point with pride. On several occasions it became necessary to recruit leaders from other nations, as well as technicians and ships, in order to put a fleet to sea.

Its past reputation is that of a navy which did not sail during the winter months; a navy with poorly maintained ships and rebellious crews; a navy which could not be trusted by Tzar, Soviet ruler, or Allies. Even during World War II it proved to be a navy whose ships were seldom sighted on the high seas.

It has been a navy guided by two principles down through the years: (1) that no enemy force should be engaged unless heavily outnumbered, and (2) that the navy was an auxiliary force whose sole purpose was to secure the seaward flanks of the army. Furthermore, it has been severely hampered by a tremendously long coast line which peculiarly offered few warm water ports, by an extreme climate, poor internal lines of communication, and by inland seas whose exits to the oceans were and still are controlled by other nations.

Yet it has been a navy replete with examples of individual courage and initiative, a navy which on many occasions had demonstrated a remarkable amount of ingenuity and an ability to improvise. It was the first to use shells in naval battle, the first to use the naval mine, and the first to use the torpedo.

Although the Communist cause was aided during the Russian Revolution by units of the Imperial Navy, it also suffered a severe jolt in 1921 when naval forces again mutinied, this time against the Soviet regime. As a result, the Navy has not been fully trusted by Soviet leaders, at least until recently. Through 1950 there was no indication that Stalin or other leading Soviet military leaders had any concept of naval power other than that of supporting the army.

After the death of Stalin evidence began to appear that the new Russian regime was developing a new philosophy regarding sea power. New ships were built and, for the first time, began making an appearance in foreign ports. Although the submarine strength had been great, at least numerically, even prior to World War II, now it was built up to a higher level than ever before. Also new cruisers and large destroyers, as well as large numbers of smaller craft, began to appear. The merchant fleet, previously neglected, was greatly enlarged, and now provides the fleet with a much needed auxiliary. In 1956 the Soviet Union apparently slowed down or perhaps even stopped its submarine and cruiser^s building programs. It now appears that this was the result^{of a decision} to convert these programs to give new vessels, both surface and sub-surface, a missile capability.

As the Soviet Navy has developed to the present day, it now stands as the second largest in the world, with over 500 submarines, perhaps 35 cruisers, almost 200 destroyers, and thousands of smaller craft ranging from frigates to motor torpedo boats. This huge force is augmented by nearly 4000 land based aircraft, predominantly fighters and light bombers based all around the Soviet periphery. Such a force in the possession of what has been essentially a land power cannot be ignored.

However, this navy suffers from several handicaps which are not normally the lot of a ranking naval power. Although Russia has the longest coastline of any nation, it suffers from a lack of good ports on the oceans. Most of her coastline is ice-bound during a large part of each year, and several of her best ports suffer in this respect. She has ports on inland seas whose exits to the oceans are controlled by other nations. Her internal transportation system is primitive by modern standards, and only smaller ships can be easily transferred between fleets, and even these transfers are often halted by severe climatic conditions.

It is known that the Soviet Union is working on atomic power plants for both ships and aircraft, and that she has made great strides in the development of guided and ballistic missiles. These developments, plus the potential of the other ships in the possession of the Soviet Navy, give the Soviet Union capabilities far beyond those of a decade ago. In addition to the tremendous capability for self defense offered by the huge numbers of ships, she now possesses an awesome potential for interdiction of Western sea communications, a potentially

large amphibious capability, a long-range striking force in the form of missile firing submarines and cruisers, and a defensive air strength which looks forward to a long-range offensive capability. The only things lacking in Soviet sea power are the so-called capital ships - aircraft carriers and battleships.

The composition and capabilities of this huge force offer solid proof that the philosophy of Soviet leaders regarding the role of sea power has changed drastically in recent years. Although they have not departed from their firm conviction that a war can be victoriously concluded only by the defeat of enemy military forces, they have recognized that sea power could play a most important part in such a victory. They have marked well the naval lessons of World War II with regard to the potentialities of the submarine and naval task force, and have added to these a few tricks of their own. Their philosophy now calls for forces prepared to fight any kind of a war, large or small; with conventional or atomic weapons; on land, sea, or in the air; and prepared for any eventuality.

Soviet leaders apparently will not concede that a war can be won solely by nuclear bombs and/or missiles. They still feel that such a war will ultimately be decided by ground troops defeating those of an enemy. They do concede, however, that the task of the ground forces will be much easier if naval forces can prevent the reinforcement and supply of European enemies, and as a consequence, have developed a submarine fleet large and strong enough to dangerously threaten sea lines of communications anywhere in the world. They also recognize the potentialities of air power, and have created a naval

air power with a greater offensive and patrol capability. Most significantly, they are now developing an offensive naval force capable of making accurate attacks on targets anywhere in the world - a force developed by the marriage of the ship and the missile, and enhanced by atomic power plants. Here also, the philosophy of superior strength reappears, and this force can be expected to be large, as are all other forces approved and built by the Soviet Union.

The Soviet philosophy with regard to its navy, then, is one of submarine warfare on a world-wide scale - including both interdiction of ocean shipping and missile attacks against military and administrative targets - with surface operations taking a subordinate role. This is not meant to imply, however, that the Soviet philosophy does not include other tasks for the Navy. The concept is one of a balanced force - a force as capable of offense as of defense. Certainly the Soviet leaders have not forgotten the lessons of the past, and from all indications their first concern in building their modern navy was one of defensive power. The multitude of vessels capable only of performing this one task bears this out, as does the naval air force which also has predominantly a defensive capability.

Thus the Soviet philosophy requires what might be called, in their eyes, a balanced navy; one capable of coastal defense, offensive and defensive mining, air defense of the coastal area and naval units off the coast, interdiction of shipping, offensive attacks with missiles anywhere in the world, and amphibious operations on a scale not previously used by Soviet forces. Although by western standards this force lacks balance because of

its lack of carrier striking forces, in the Soviet view this is more than made up by the submarine missile force - a force which they feel is equally as accurate and much less susceptible to attack in the atomic era.

The Soviet Union, then, is building a naval force which its leaders feel will be capable of accomplishing everything they wish, including both defense and offense against any enemy or group of enemies. In their minds, any war will end successfully only with the defeat of military forces on the ground, and they have fashioned their navy to assist in the accomplishment of this requirement.

BIBLIOGRAPHY

1. Baldwin, Hanson W. "Ivan Goes to Sea". Saturday Evening Post, November 2, 1957.
2. Baldwin, Hanson W. "The Soviet Navy". Foreign Affairs, July, 1955.
3. Carney, Robert B. "Principles of Sea Power". United States Naval Institute Proceedings, September, 1955.
4. Carney, Robert B. "Russia - Threat to the U.S. at Sea". U.S. News and World Report, June 18, 1954.
5. Chabanier, Colonel. "Soviet Strength in the Baltic Area". Military Review, February, 1957.
6. Courtney, Anthony. "The Background of Russian Sea Power". International Affairs, January, 1954.
7. Davis, William C., Jr., and Rickover, Hyman C. Testimony before the House Appropriations Subcommittee. Reported in the New York Times, April 8, 1958.
8. Dickens, Sir Gerald. "Sea Power in a War With Russia". U.S. Naval Institute Proceedings, October, 1950.
9. Dinerstein, Herbert S. "The Revolution In Soviet Strategic Thinking". Foreign Affairs, January, 1958.
10. Eller, E.M. "Soviet Bid For The Sea". U.S. Naval Institute Proceedings, June, 1955.
11. Falls, April. "A Window On The World - The Russian Submarines". The Illustrated London News, July 6, 1957.
12. Foss, William O. "Soviet Seapower On Rise From Czars Until Now". Navy Times, August 9, 1958.
13. Galay, N. "Guided Missiles and Soviet Military Doctrine". Bulletin, Institute for the Study of the U.S.S.R., October, 1957.
14. Garthoff, Raymond L. "Sea Power in Soviet Strategy". U.S. Naval Institute Proceedings, February, 1958.
15. Garthoff, Raymond L. "Significant Features of Soviet Military Doctrine". Military Review, March, 1955.
16. Garthoff, Raymond L. "Soviet Doctrine On Amphibious Operations". Marine Corps Gazette, May, 1958.
17. Garthoff, Raymond L. "Soviet Strategy in the Nuclear Age". New York: Frederick A. Praeger, 1958.
18. Garthoff, Raymond L. "The New Soviet Leadership". The Rand Corporation. Santa Monica, California: May 1, 1953.

19. Hittle, J.D. "The Rise of Russian Sea Power".
Marine Corps Gazette, August, 1955.
20. Hittle, J.D. "Why Russian Seapower?" Marine Corps Gazette, November, 1956.
21. Huan, C. "The Soviet Union and Its Submarine Forces".
U.S. Naval Institute Proceedings, July, 1957.
22. _____ . "Jane's Fighting Ships, 1958-1959".
Jane's Fighting Ships Publishing Co., Ltd. London.
23. Kennedy, Ralph. "Hydrography In The Soviet Navy".
Bulletin, Institute for the Study of the U.S.S.R.,
December, 1958.
24. Kennedy, William V. "The Soviet Fleet". Ordnance,
May-June, 1958.
25. Kerner, Robert J. "Russian Naval Aims". Foreign Affairs,
January, 1946.
26. Lemieux, Claude P. "The Red Fleet Ten Years After".
U.S. Naval Institute Proceedings. April, 1958.
27. Lusar, Rudolf. "The Red Fleet is Being Built Up".
U.S. Naval Institute Proceedings. January, 1954.
28. Markoff, Alexei. "Stalin's Secret War Plans".
Saturday Evening Post. September 20, 1952.
29. Martin, Paul W. "The Russian Navy - Past, Present,
and Future". U.S. Naval Institute Proceedings,
June, 1947.
30. Meister, J. "Soviet Sea Power - Amphibious Assault -
Soviet Version". The Navy, October, 1957.
31. Meister, J. "Soviet Sea Power - Some Nuclear Aspects
and Political Conclusions". The Navy. June, 1958.
32. Parkes, Oscar. "New Soviet Warships". The Navy.
November, 1955.
33. Parkes, Oscar. "The Soviet Cruisers". The Navy.
March, 1954.
34. Rosinski, Herbert. "The Role Of Sea Power in Global
Warfare of the Future". Brassey's Naval Annual.
1947.
35. Saunders, W. M. The Soviet Navy. New York: Frederick
A. Praeger, Inc., 1958.
36. Schulze-Hinrichs, Alfred. "The Guiding Principles
Behind The Soviet Naval Forces". The Military Review.
December, 1954.
37. _____ . "Secret Cruise Of A Russian Submarine".
U.S. News and World Report. September 9, 1955.

38. Shafter, R. A. "A New Red Naval Doctrine In The Making?" U.S. Naval Institute Proceedings. October, 1952.
39. Sokol, Anthony E. "Atom Bombs And Seapower." Military Review. October, 1957.
40. Sokol, Anthony E. "Sea Power In the Next War." U.S. Naval Institute Proceedings. May, 1952.
41. _____. "Soviet Satellite Seas." The Economist. May 30, 1953.
42. Theobald, Robert A. Maritime Strategies Open To The U.S.S.R. Newport, R.I.: U.S. Naval War College, 1953.
43. Theobald, Robert A. The Russian Navy. Newport, R.I. U.S. Naval War College, 1953.
44. Tokaev, G. A. Soviet Imperialism. New York: Philosophical Library, Inc., 1956.
45. Uggla, H.C. "Soviet Naval Strategy". Military Review. October, 1955.
46. _____. "U.S.S.R.: Composition Of The Soviet Fleet." U.S. Naval Institute Proceedings. April; 1954.
47. _____. "U.S.S.R.: Soviet Naval Potential:" U.S. Naval Institute Proceedings. April, 1954.
48. White, C. Langdon, "Vigilance - Yes; Fear - No!": Military Review. March, 1957.
49. Wilson, Richard. "Russia Today: Its Strength, Its Weakness, Its Ability To Wage War Against The United States." Look. August 15, 1950.