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DNA 4122F - SAN

ASSESSMENT OF SOVIET NAVY DOCTRINE FOR THEATRE NUCLEAR WARFARE

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Phase I

The BDM Corporation
7915 Jones Branch Drive
McLean, Virginia 22101

7 October 1977

Final Report for Period 1 March 1976—31 January 1977

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Prepared for
Director
DEFENSE NUCLEAR AGENCY
Washington, D. C. 20305

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REPORT DOCUMENTATION PAGE

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1 REPORT NUMBER: DNA 4122F	2 GOVT ACCESSION NO.
3 RECIPIENT'S CATALOG NUMBER	
4 TITLE (and Subtitle): ASSESSMENT OF SOVIET NAVY DOCTRINE FOR THEATRE NUCLEAR WARFARE Phase I	5 TYPE OF REPORT & PERIOD COVERED: Final Report for Period 1 Mar 76—31 Jan 77
	6 PERFORMING ORG. REPORT NUMBER: BDM/W-10337-77-S
7 AUTHOR(s): R. O. Welander, A. Lavagnino, J. J. Herzog, C. M. Simpson	8 CONTRACT OR GRANT NUMBER(s): DNA 001-76-C-0230
9 PERFORMING ORGANIZATION NAME AND ADDRESS: The BDM Corporation, 7915 Jones Branch Drive, McLean, Virginia 22101	10 PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS: NWED Subtask V99QAXND015-07
11 CONTROLLING OFFICE NAME AND ADDRESS: Director, Defense Nuclear Agency, Washington, D.C. 20305	12 REPORT DATE: 7 October 1977
	13 NUMBER OF PAGES: 310
14 MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)	15 SECURITY CLASS (of this report)
	15a

16 DISTRIBUTION STATEMENT (of this Report)

17 DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)

18 SUPPLEMENTARY NOTES

This work sponsored by the Defense Nuclear Agency under RDT&E RMSS Code B325076464 V99QAXND01507 H2590D.

19 KEY WORDS (Continue on reverse side if necessary and identify by block number)

Soviet Navy
Theatre Warfare
Nuclear Warfare
Soviet Navy Doctrine

20 ABSTRACT (Continue on reverse side if necessary and identify by block number)

This report presents the results of Phase I of the total program to assess Soviet Navy doctrine and capabilities for the conduct of theatre nuclear warfare. The evolution of dual-capable weapon systems is traced in both the U.S. and Soviet Navies. A review of Soviet professional military literature is presented which highlights elements relevant to Soviet Naval Doctrine. Based on an analysis of system capabilities and the professional literature, a postulation of Soviet Navy doctrine for theatre

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SUMMARY

Phase I of the research and analytic effort undertaken by The BDM Corporation in Contract DNA 001-76-C-0230 had as its purpose the derivation of the declaratory doctrine of the Soviet Navy for the conduct of theatre nuclear warfare. The results of this research are presented in this final report in fulfillment of Item 3 of the Contract Data Requirements List (DD-1473) of the referenced contract.

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TABLE OF CONTENTS

TABLE OF CONTENTS

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LIST OF FIGURES

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SECTION I
EXECUTIVE SUMMARY

A. METHODOLOGY

As detailed in Section II, the methodology for Phase I of this study has two major elements. The first element entails the delineation over time of the evolution of specific nuclear capabilities in both the U.S. and Soviet navies to provide a basis for evaluating Soviet doctrinal thought. The second element is a detailed examination of Soviet professional military literature, focusing on material of direct relevance to theatre nuclear warfare, both from the general and specifically naval aspects. For the purposes of this study, theatre nuclear warfare is defined as the use of nuclear weapons in areas external to the homelands of the U.S. and U.S.S.R.

B. EVOLUTION OF NAVAL NUCLEAR CAPABILITIES

Section III provides a brief overview of the development of nuclear weapon system capabilities in both the U.S. and Soviet navies. Details are provided in Appendix A.

C. PRELIMINARY FOCUS

To focus the review of the Soviet military literature, Section IV postulates possible Soviet threat perceptions over time on the basis of what they probably observed or knew of the evolution of U.S. Navy nuclear capabilities. For the same purpose, Section V evaluates the pattern of the evolution of Soviet Navy nuclear capabilities, either in response to the perceived threat or for the pursuit of their own evolving mission objectives.

D. SOVIET DOCTRINAL DIALOGUE

Section VI presents a detailed review of Soviet professional military literature, with extensive excerpts and full quotations to provide the context in which certain points were developed. A series of doctrinal elements, considered to be particularly relevant to theatre nuclear warfare, was traced throughout the professional literature from 1960 to the present. Open source and classified materials were used at the general doctrinal level and more extensively at the specific naval doctrinal level. The review indicated consistency from three aspects: between open-source and classified material; between Soviet general and naval doctrinal writings; and between stated Soviet capabilities and U.S. intelligence estimates.

E. ANALYSIS OF SOVIET DOCTRINAL WRITINGS

The first portion of Section VII presents an analysis and evaluation in detail of those elements of Soviet naval doctrine pertinent to theatre nuclear warfare that are revealed in the Soviet professional military literature. Voids and ambiguities are highlighted and discussed.

F. SOVIET NAVAL DOCTRINE FOR THEATRE NUCLEAR WARFARE

Certain key elements of doctrine for theatre nuclear warfare are either not discussed in the military literature or are treated so ambiguously that firm judgments cannot be supported; these are initial use, first use, preemption, and thresholds. Additional evidence to support more definitive judgments on these critical elements will be sought outside the literature during Phase II of the study in the detailed examination of exercises, contingency posture, and force capabilities.

Acknowledging these deficiencies, a postulation of Soviet Naval doctrine for theatre nuclear warfare is presented in broad terms for validation, modification, or expansion as the analyses of Phase II permit. The postulation is set forth at three levels in the concluding portion of Section VII as follows.

In its basic concept, Soviet naval doctrine for theatre nuclear warfare will:

(1) Provide a naval force posture which permits the Soviet political leadership the widest possible flexibility and retention of the initiative for commencement of hostilities and the use of conventional or nuclear weapons;

(2) Provide surveillance, targetting, and reliable command, control, and communications, in terms of both system capabilities and organization, to permit close control and direction by the political leadership;

(3) Provide for maximizing readiness at the first signs of increasing tension or possible critical confrontation in a controlled manner which will not in itself initiate hostilities;

(4) And at the outbreak of hostilities, ensure that naval operations are closely coordinated with and directly supportive of the continental land campaign.

In its broad operational aspects, Soviet naval doctrine for theatre nuclear warfare, whether hostilities commence at the conventional or nuclear level, will entail:

(1) Protective ASW operations to ensure the survivability of the Soviet SSBN force;

(2) Offensive operations to destroy or inhibit the operations of the Western SSBN force;

(3) Offensive operations to destroy the NATO strike aircraft carrier force;

(4) Offensive operations to permit the Soviet submarine force to penetrate defensive barriers to pursue offensive missions in open ocean areas;

(5) Offensive operations against shore facilities which support the operations of the Western SSBN force, the attack carrier force, and those ASW forces and systems which constrain the free egress and open ocean operations of the Soviet submarine forces;

(6) Offensive operations against sea lines of communications, ports and facilities which have direct and immediate impact on the continental land campaign;

(7) And when directed, the use of nuclear weapons in all of the above operations.

At the tactical level, Soviet naval doctrine for theatre nuclear warfare, whether hostilities commence at the conventional or nuclear level, will entail:

(1) Surveillance activities by Soviet Naval Aviation, the submarine force, intelligence collection auxiliary ships (AGIs), and to the extent assets are available, Soviet Long Range Aviation; additionally, all Soviet-controlled maritime assets such as the merchant and fishing fleets will have a sighting and reporting mission;

(2) Strike operations against enemy surface units by the submarine force, Soviet Naval Aviation, and available assets of Long Range Aviation, coordinated when feasible to be mutually supportive and to provide a level of effort which will ensure destruction of enemy offensive units; under a restricted set of circumstances, surface ships will join in such operations;

(3) Support operations, within range, by national air defense forces, frontal aviation, and under certain circumstances, elements of the Strategic Rocket Forces;

(4) Efforts to achieve concealment and surprise by a diversity of means including active electronic warfare;

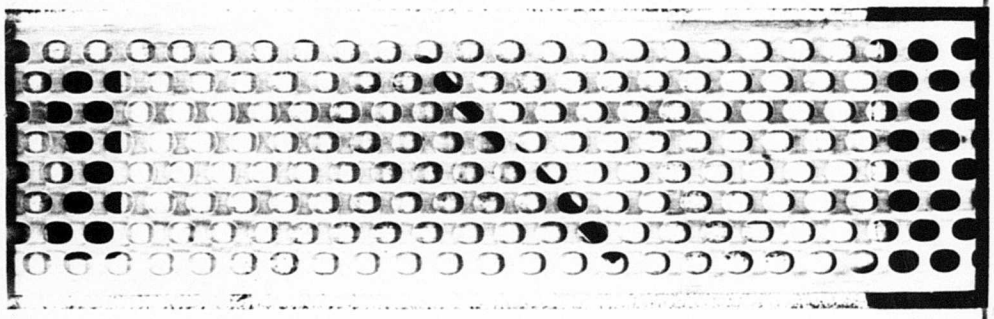
(5) A high tempo of offensive strike operations to eliminate enemy naval offensive capabilities at the earliest possible time;

(6) And the readiness to use nuclear weapons when and as directed.

ANALYTICAL APPROACH

A. INTRODUCTION

In developing the analysis of Soviet Navy doctrine which follows, it has been necessary to proceed on the basis of several hypotheses and within certain self-imposed constraints.



A second hypothesis is that the Soviets are well and timely informed on military developments in the U.S., NATO, and elsewhere. Setting aside their considerable capability for covert intelligence collection, the Soviets have ready access to a plethora of information on the defense programs of their adversaries, particularly in the United States. The open press, trade journals, Congressional reports, Defense Department reports, and a host of other sources provide a wealth of factual detail on our weapons systems, practically from the time of conception through each phase of development to operational deployment. Similarly, the Soviets have ready access to a wide range of Western thought from the broader aspects of military strategy down through the details of operational employment of specific weapons systems. Accordingly, it is considered that the Soviet military theoreticians and planners have an unrivaled data base on which to judge the military threat to their interests; how they perceive that threat, as Soviets, may be open to interpretation but they have an unusually complete and factual basis on which to render their judgments. Setting the action-reaction thesis aside, the point remains that the Soviets have considerable time to plan and design weapons systems and force structures to meet their perceived needs; they need not wait for air shows or May Day parades to confirm tenuous evidence of their adversaries' development programs.

A third hypothesis is that the Soviets are hard-headed realists who do not squander resources in short supply. From this flows the assumption that each and every production decision is made on the basis of what it contributes toward an understood goal. In the military context, this implies that each weapon system or element of force structure has a well-defined and accepted place in the total strategic concept. While there may be intense service rivalries, parochialisms, powerful constituencies, and even sustained in-fighting, the presumption is that military-related decisions are on a level closer to strategic worth than bureaucratic compromise. In this view, a service advocate such as Gorshkov may be exceedingly effective, not only because he is persuasive but also because his message makes sense and achieves consensus acceptance as such in the Moscow hierarchy.

A final hypothesis is that the Soviet military is still heavily influenced by a "Defense of the Homeland" mentality. This need not preclude offensive actions nor even the initiation of hostilities on a large scale - as long as the homeland is reckoned secure or at least survivable. As a corollary, this would imply that the Soviet Navy remains defensively oriented. And again this need not preclude efforts toward a worldwide presence and influence nor even distant combat - as long as an adversary naval threat to the homeland is reckoned as nullified or at least manageable.

C. SELF-IMPOSED CONSTRAINTS

Along with these hypotheses are three self-imposed constraints.

The first is to rely primarily if not exclusively on what Soviet military theoreticians and planners are saying and have said during the transformation of their force structure over the past twenty years. While there is a vast body of informed and excellent Western analysis, it still comes through as a Western appreciation of what the Soviets must have meant. To the extent possible, the effort will be made in this analysis to illuminate what the Soviets were saying in the context of their own evident perceptions.

A second restraint is to limit the focus of analysis as much as possible to the purely military plane. This is not to deny the influence of worldwide political and economic developments, national roles and aspirations, nor even ideology on the size and composition of opposing military force structures. Rather it is to keep the analysis manageable and to avoid undue speculation and the contention which is almost inevitable when meanings are sought in broader contexts.

The final restraint is to limit the consideration of Soviet Navy roles and missions to what the evidence clearly suggests are relevant to theatre nuclear warfare. These undoubtedly are only elements of a much larger uncertainty which merits continuing consideration and analysis, but the latter is well beyond the scope of this effort.

D. STUDY APPROACH

On the basis of the foregoing, the succeeding sections of this report will develop the Soviet Navy declaratory doctrine for theatre nuclear warfare, which is, for the purposes of this study, defined as the use of nuclear weapons outside the homelands of the U.S. and the U.S.S.R.

To provide a framework of reference, the evolution of nuclear capabilities in both the U.S. and Soviet Navies will be briefly outlined. This will be treated at two levels, which by U.S. definition will be termed "strategic" and "theatre." As will become evident later, this distinction is blurred throughout much of the Soviet dialogue; nonetheless, it provides a means to maintain focus on Soviet concepts for theatre as contrasted with intercontinental employment of nuclear capabilities.

To extend this framework, a tentative assessment will be made of possible Soviet perceptions of U.S. naval nuclear abilities. This will be followed by a brief appraisal of the evident pattern in the development of Soviet counterpart capabilities.

Soviet doctrinal thought, as expressed in available source material, will then be developed in detail. The advent of Krushchev marked a turning point in Soviet naval affairs and, accordingly, 1955 has been chosen as an appropriate juncture at which to begin the analysis. Soviet writings, primarily by naval authors, will be assessed in the context of their time; on the one hand, this will be taken to be their perception of the threat represented by U.S. naval nuclear capabilities in being or under development; and on the other hand, their views on employment of Soviet naval nuclear capabilities in being, or more tenuously, in development or conceptualization. Particular attention will be paid to changes in Soviet weapon employment concepts, shifts of emphasis, and addressal of issues relevant to U.S. concepts of theatre-limited nuclear warfare through the period to the present.

The resulting synthesis of Soviet declaratory doctrine will be tested for validity in Phase II of the study by analysis of the observables in training, exercises, and contingency force employment.

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THE EVOLUTION OF U.S. AND SOVIET NAVAL NUCLEAR CAPABILITIES

A. INTRODUCTION

To establish a basis for analyzing the Soviet dialogue on the use of naval nuclear capabilities it has been considered necessary to develop two yardsticks or "time scales"; one to measure the nuclear threat as the Soviet planner might have seen it, and the other to measure his own capability to counter that threat or utilize nuclear capabilities for his own purposes. The time correlation of these capabilities may also provide a key to the implications behind the often cryptic language of the Soviet author and thereby assist in placing his thoughts in meaningful context.

Accordingly, the evolution of nuclear capabilities has been developed in some detail in Appendix A to this report for both the U.S. and Soviet navies. The distinction between "strategic" and "tactical", or most recently "theatre," nuclear weapons is largely of U.S. origin. Aside from the more usual semantic problems, the Soviet military theoretician for many years showed no evidence of conceptualizing the use of nuclear weapons in anything but an all-out war. For the U.S. analyst, it is therefore often necessary to look at the specific targets and weapons and the context of their employment to be able to infer how the Soviet planner might use nuclear capabilities in a conflict limited at least initially to the "theatre" level. For this reason, the development of the full spectrum of nuclear capabilities has been traced in both navies. Additionally, a brief treatment has been given the development of intercontinental ballistic missile capabilities to provide an additional basis for evaluating Soviet discussion of the role and significance of mutual naval capabilities to strike one another's "homelands".

Succeeding sections of this report will make frequent reference to the correlation of these opposing nuclear capabilities over time. For the general reader, a brief overview of the basic yardsticks or "time scales"

will suffice and this will be provided at this point in the report; where desired, amplifying detail can be found by reference to the Appendix.

In tracing the evolution of Soviet naval capabilities for theatre nuclear warfare, it is evident that the command, control and communications (C^3) system available can be as significant as the actual weapons systems.

For those who note the lack of addressal of this important element at this juncture, an explanation is due. In the analytic approach chosen, the determination was made to treat C^3 as a reflection of doctrine. On this somewhat arbitrary basis, its evolution was not traced in a manner similar to the nuclear capable systems. As noted earlier, after having developed a synthesis of the Soviet Navy declaratory doctrine in this phase of the study, the succeeding phase will test its validity by the analysis of various observables. At that time, Soviet Navy C^3 will be considered in detail as a major indicator of ability and readiness to execute declaratory doctrine.

B. THE PERIOD 1945-1955

As indicated earlier, the starting point for this analysis has been chosen as 1955 on the basis that this marked an apparent turning point in the evolution of the modern Soviet Navy.

It will be useful, therefore, to establish something of a nuclear baseline. Figures III-1 and III-2 depict the elements of the evolution of U.S. naval nuclear capabilities which might reasonably have been known to the Soviet naval planner. Figures III-3 through III-8 depict what is believed to be the status of his own nuclear capabilities. In that the evolution took different paths in both navies, it is not feasible to make side-by-side comparisons; moreover, the distinctive routes chosen by each is in itself significant and worthy of highlighting.

C. THE PERIOD 1956-1976

From this baseline posture, the evolution of those capabilities of primary interest to this analysis ensued on both sides.

Figures III-9 through III-11 again present what was probably known to the Soviets of U.S. naval capabilities as they developed over time. Much of this information could have been gleaned from open U.S. sources with the balance deduced from operational patterns and other observations.

Figures III-12 through III-17 trace what is known of the major elements of the evolving Soviet naval nuclear capabilities. Several points should be made in this regard. First, the emphasis has been placed on systems which have been credited with a dual-capability; however, certain other systems which appear to have been evolutionary steps in attainment of nuclear capabilities have also been included for reasons discussed in the appendix and not elaborated here. Second, the focus on platforms and systems of nuclear significance tends to ignore other concurrent changes in the composition and capabilities of the Soviet Navy which are significant in a collateral sense. This may be troubling to some readers and the effort will be made in subsequent sections of the report to establish a more inclusive perspective.

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SECTION IV
INFERRED SOVIET THREAT PERCEPTIONS

A. INTRODUCTION

The hypothesis has been stated that the Soviets probably had timely and rather complete information on the character and capabilities of the military forces that would oppose their interests - the threat, if you will.

If so, what would the Soviet naval planner have focused on in the years following World War II?

Quite possibly, he would have displayed considerable initial concern for the threat posed by the naval forces of the non-communist countries along the periphery of the Soviet homeland. This was, after all, the primary Soviet naval focus in the "Great Patriotic War," and we as Americans tend to forget or minimize Soviet naval efforts in the Baltic, Black Sea, and the Barents. Inconsequential as they may have seemed to us, they nonetheless undergird much of the Soviet naval tradition. As an American, one tends to read with incredulity the elaboration of this tradition by Soviet naval authors - most notably the redoubtable Gorshkov himself - but it should not be discounted.

As Americans, we also tend to forget the very considerable naval forces of the Western European countries and their demonstrated effectiveness in World War II. While their fortunes may have waned after 1945, these were nonetheless navies to be reckoned with by the Soviet naval planner in the defense - or pursuit - of national interests, most certainly in peripheral waters.

Without further elaboration at this juncture, the point should be made that the evolution of Soviet naval capabilities was impelled by a number of considerations at the strictly military level; not all of their developments and new systems were responsive only to a perceived threat from U.S. naval power. Many quite probably had their genesis in the long-standing Russian desire to be able to cope with peripheral naval power; others quite possibly were rooted in a resurgent desire to extend their own naval influence more broadly throughout the world.

This having been said, one might try to put oneself in the place of the Soviet naval planner in the years after World War II. If he perceived the United States as the major and long-term adversary, what were his concerns?

B. DEFENSE OF THE HOMELAND

Conscious of the U.S. possession of atomic weaponry, the Soviet naval planner would quite probably have watched the changing fortunes of the aircraft carrier with great interest; it was, after all, the only naval capability that could attack the Soviet homeland directly. The B-36 controversy, the cancellation of the UNITED STATES, the resurgence of the carrier force during the Korean conflict, and then the initiation of the FORRESTAL-class building program were events that probably carried a message to him. Coupled with the effort to develop carrier aircraft of greater speed, range, and weight-carrying capability, it would seem likely that by the mid-1950's the Soviet naval planner perceived the aircraft carrier as a major "strategic" threat, even more so with the advent of U.S. thermonuclear capability. With U.S. carriers routinely deployed in the Mediterranean and in the Western Pacific within strike range, he had a threat in his province that had to be nullified.

During this same period, the Soviet naval planner undoubtedly watched the development of the U.S. seaborne missile capability with equal interest. From the background of the Soviet Navy's own intensive efforts to capitalize on the potential of the missile in air, surface, and subsurface platforms, he might not have been overly impressed with the LOON and REGULUS programs. The operational deployment of REGULUS obviously would be of concern, but given the numbers of platforms and missiles involved, one could speculate that it represented a lower order of threat than that of the aircraft carrier. Moreover, with the state of his ASW technology and capability such as it was, the Soviet naval planner might have felt himself in a position where he could do little more to respond to the REGULUS-submarine threat.

What other U.S. naval capabilities would have been of concern?

The U.S. amphibious capabilities were well demonstrated in World War II and again in Korea. But given the geography of the U.S.S.R., it seems unlikely that the Soviet naval planner would see it as a major threat to the homeland or even to the countries of the Warsaw Pact. As a means for forcibly inserting reinforcements in Soviet areas of wartime operations outside the homeland, as in Western Europe or elsewhere, it was undoubtedly a capability to be reckoned with and countered but of a lower threat order.

U.S. attack submarine capabilities were probably viewed from a unique perspective by the Soviet naval planner. Given the lack of Soviet dependence on sea lines of communications for the importation of critical foodstuffs or industrial raw materials, it would seem unlikely that a major strategic threat would have been foreseen either in peacetime or in a European war situation. It appears more likely that the submarine would have been seen as a direct threat to Soviet naval mission accomplishment. To the extent that the Soviet Navy still conceived its primary mission as coastal defense, the submarine threat might have been perceived as manageable with moderate emphasis on the more traditional self-protective measures and systems. However, at such time as the Soviet Navy missions took them out into "blue water," the Soviet naval planner quite probably viewed the threat of the attack submarine with considerably greater urgency.

From the mid-1950's Soviet threat perceptions might have changed significantly.

The strike potential of the U.S. aircraft carrier continued to increase qualitatively with high performance aircraft that could attack deeper and deeper into Soviet territory, or conversely, from increasing standoff ranges. The U.S. carrier strike role was openly discussed and widely acknowledged and the sustained deployment pattern gave it credence. It is likely that the Soviet naval planner continued to regard the nuclear threat of the aircraft carrier as a primary one that had to be nullified.

But the most significant change in threat perception was probably occasioned by the U.S. emphasis placed on development of the submarine-launched ballistic missile. The POLARIS program was well-publicized, and

taken with the existing U.S. strategic bomber capability and the concurrent emphasis on increasing intercontinental ballistic missile capability it represented a threat to the Soviet homeland of an entirely new order. If the Soviet naval planner focused on the SSBN solely as a threat, and disregarded such Western considerations as stability of the opponent's strategic retaliatory force, he would have perceived an anti-submarine problem of vastly increased magnitude and consequence. In his eyes, this problem could only have grown as POLARIS achieved successively longer ranges and a multiple-warhead capability; POSEIDON with its even longer range and multiple independently-targeted reentry vehicles raised it to an even higher level; TRIDENT and the U.S. program for a sea-launched cruise missile of strategic range probably raised it higher still.

One can only speculate how the Soviet naval planner would have regarded the short-lived U.S. proposals to put POLARIS in surface combatants and in the Multilateral Force (MLF). Given the nature of the platforms, he may have considered the problem akin to that of the aircraft carrier, although one that might have to be coped with at even greater ranges from the homeland.

If the Soviet naval planner concluded that this spectrum of nuclear threats could only be met by attacking the platform itself, he would have been faced with the necessity to operate his forces farther and farther from the homeland and its coastal regions. For his attack submarines, this would not have presented a major problem, although qualitative improvements would be necessary to penetrate the increasingly sophisticated ASW defenses that could be expected around these nuclear strike systems. For his own strike aircraft, there would be the requirements for increased operating range and the ability to engage the enemy surface units well beyond the range of his own land-based fighter cover. His ASW aircraft would need increased range and endurance for open-ocean operations. Similarly, his surface ships would require greater endurance, "blue water" seakeeping capability, and maximum ASW capability, not only to pursue the ballistic missile submarines of the enemy but to ensure own survivability for that mission in the face of the threat of the enemy attack submarines. And as these surface ships moved out

into "blue water" away from land-based air cover, they would also need greatly increased AAW capability to ensure mission survivability in the face of the attack aircraft the enemy could bring to bear in those "blue water" areas from the decks of his aircraft carriers.

If this was indeed the Soviet naval planner's perception of the threat posed by the evolution of U.S. naval nuclear capabilities, it would be consistent with the additional hypothesis that he remains fundamentally concerned for defense of the Soviet homeland.

C. OFFENSIVE MISSION SURVIVABILITY

Would that perception of the threat change if the Soviet naval planner surveyed it from the viewpoint of his own offensive naval missions in time of war?

First, what would those missions be? Let us initially assume that the NATO war would be the priority concern for the Soviet planner.

The first mission that might be postulated would be the conduct of - or readiness to conduct - nuclear strikes against the home territory of the United States and the NATO allies. The most appropriate Soviet naval weapon would appear to be the missile-launching submarine, certainly in the case of the United States and quite probably for most of the NATO allies. Soviet naval aviation and surface ships could have a role in immediately adjoining NATO countries such as Norway, Denmark, West Germany, Greece and Turkey, but it would seem likely to be a shared role with Soviet Long Range Aviation and Strategic Rocket Forces and quite possibly confined to ports or other land targets of predominant naval significance.

What would be seen as a threat to his missile-launching submarine force? While the NATO navies had ASW carriers in service, they would certainly rank high on the list along with ASW surface ships. The maritime patrol aircraft would probably also rank high. But it seems probable that priority concern would be given to the attack submarine optimized for ASW. And in the case of the United States, at least, all of these forces were increasingly attributed a nuclear attack capability.

To ensure mission survivability, the NATO ASW carriers and surface ships could be countered with the same types of systems that could be applied against the attack aircraft carrier. However, the early constraints of missile range, particularly from U.S. targets, placed Soviet missile-launching submarines even farther away from the land bases of their air cover and would have brought covering surface forces even farther out into "blue water." One answer could be self-protective anti-ship systems in the missile submarines themselves; another could be supporting attack submarines; and still another, the development of longer range missiles which would permit the missile-launching submarines to withdraw to waters where his own land-based air and his surface ships could render protective cover.

However, coping with the maritime patrol aircraft was another matter. Either some means had to be found to attack those aircraft directly, as with seabased interceptors or AAW systems, both on platforms that could survive the enemy's air and submarine threat, or again, the missile-launching submarines could be withdrawn to waters where the maritime patrol aircraft could only operate at high risk.

The enemy attack submarine presented a somewhat similar problem. Self-protection and support from other submarines was one possibility; another was survivable air and surface ship support; and yet again, withdrawal to waters from which a variety of systems could exclude the enemy submarine.

The dilemma for the Soviet naval planner in assuring mission survivability of the missile-launching submarines was not as acute for the other nuclear strike systems, particularly if they were to be applied in peripheral areas. Here air and surface ship supporting cover were more readily available. Standoff delivery capability for the aircraft and increased AAW and ASW protection for the surface ships would greatly enhance mission survivability.

A second offensive mission that might be postulated in the NATO context would be direct support of the land campaign. If one takes the pattern of the "Great Patriotic War," the Soviet naval planner would probably be thinking in terms of strikes against the sea-exposed flanks of the enemy, notably in the Baltic, the Black Sea, and to some extent the Mediterranean. Outflanking amphibious assaults would also conform to the pattern and these could be visualized in the Baltic, the Black Sea, and in Norway. Here the

surface, air, and submarine capabilities of the peripheral NATO navies might appear as primary threats, although in the Mediterranean and in Norway, U.S. naval capabilities would undoubtedly be a major concern to the planner. To prosecute this mission, the use of smaller platforms under cover of land-based interceptor and strike aircraft could be considered. The requirement would be to give his light forces adequate anti-ship and anti-submarine capability to prevail over opposing naval forces and at least an adjunct anti-air capability.

A third offensive mission might be the seizure of "choke points" which inhibit Soviet egress to "blue water" such as the Danish Straits, the Dardanelles, and the passages leading out of the Sea of Japan. Here the Soviet planner would probably conceive the use of naval strike and amphibious forces acting in conjunction with ground or airborne troops, and in almost all cases within the range of land-based interceptor and strike air cover. Peripheral navies would be an immediate concern although U.S. naval air, submarine, and perhaps amphibious counter-assault capabilities would also have to be overcome. The generated requirements for Soviet naval force capabilities in this mission would not be unique and would be included within the span of those previously discussed for other missions.

A special "choke point" case might be made of the Greenland-Iceland-United Kingdom (G-I-UK) "gap." If the Soviet naval planner wished to insert naval forces into the broad reaches of the Atlantic, he could well visualize this as a natural defensive barrier which had to be breached. And here he would have to contend with the full gamut of NATO capabilities, generally well outside the range of his own land-based interceptor aircraft. While he might hope to have the bulk of his forces beyond this barrier before the onset of hostilities, in prudence he could only plan on the basis of the necessity to fight his way through. The NATO land-based air strike, reconnaissance and ASW forces in Greenland, Iceland, and the United Kingdom would represent threats to be overcome by his surface and submarine forces. NATO sea-based strike and ASW aircraft, attack submarines, and surface forces that could be concentrated in this barrier, however, would quite possibly be the major concern of the Soviet naval planner. To overcome them, he would need long range air strike capability and the maximum

offensive capability in his submarines and surface units to eliminate the aircraft carriers and submarines, and to a lesser degree, the generally defensively-armed surface units. His own surface units would have to have real "blue water" capability and the maximum ASW and AAW capability he could give them if they were to prevail over the opposing submarines and aircraft.

A fourth offensive mission that might be postulated, and one related to that of seizing or breaching the "choke points," would be that of attacking the enemies' sea lines of communication. In the NATO context, one might also postulate that this mission would be oriented toward those sea lines of communication most directly and immediately affecting the progress and outcome of the Soviet land campaign in Western Europe. While this need not preclude more generalized attacks on sea lines throughout the world, such a focus would seem consistent with the historic role of the Soviet Navy to support the land battle.

In the Baltic, the Soviet naval planner would quite possibly focus on commercial shipping flowing into West Germany and Denmark from Sweden and possibly Finland. This was the pattern in the "Great Patriotic War," and in another conflict of extended duration could be of significance. The opposing forces, if Sweden and Finland were to remain neutral, would be the same as those to be overcome in seizing the Danish Straits and would require much the same force capabilities. In the North Sea, the Soviet naval planner would probably attach considerable urgency to interdicting the flow of material and reinforcements into the ports from Hamburg south. Here he would have to contend with the naval surface, air, and submarine forces of the Western European NATO allies and a very significant air threat. His own naval aviation would be difficult to bring to bear and to a considerable extent might be dependent upon the extension of air interceptor cover. His surface forces would face the same problem and would have to defend against submarine attack as well as opposing surface forces. His submarines would face the full array of NATO ASW capabilities in generally confined waters quite suitable for defensive mining.

The Mediterranean and Norwegian sea lines of communication would present somewhat different problems to the Soviet naval planner, primarily because of the greater likelihood of having to contend with U.S. naval capabilities. Here the aircraft carrier would be seen not only as a threat to own mission accomplishment but as a threat to the land campaign itself. Soviet surface and air forces interdicting the sea lines would have to contend with carrier-based strike and interceptor aircraft, as well as the land-based aircraft of the NATO nations. To the extent that ASW aircraft were also embarked in the carrier, it also represented a threat to the Soviet attack submarines, but even more serious threats to the submarine interdiction mission came from the enemy's ASW-oriented attack submarines, his longer-ranging maritime patrol aircraft, and in the close-in situation, from the ASW surface escort. To prosecute the interdiction mission, the Soviet naval planner had to cope with a familiar array of opposing capabilities; much the same order of capabilities were required on the part of his own forces as for the accomplishment of the other missions considered.

The situation along the Atlantic sea lines of communication presented a problem to the Soviet planner not so much of qualitative difference as degree of difficulty. Given that this was the major sea means of reinforcement of NATO in Europe, how should it be severed? Attack at the originating North American ports and initial focal points was certainly one way, demonstrated to some degree of early success by the German submarines in World War II. Attack along the fucal points of the Western Approaches into Europe was another, also demonstrated in World War II by the German submarines. Both had the disadvantage of being prosecuted where the opponent could muster the greatest number and variety of defensive forces. Attack through the mid-ocean regions was a third and perhaps more attractive opportunity, but here the expanse was great and the ships on any chosen route could be protected by surface escorts and sea-based air cover. Submarines in great number could have been one Soviet answer, as could long-range strike aircraft capable of coping with the opposition of sea-based protective aircraft. Yet another could have been surface forces capable of meeting the

threat to their own mission survival in mid-ocean, and this would have represented an entirely new challenge to the Soviet naval planner. The same kinds of capabilities required to break out of the confines of the "closed seas" and the G-I-UK gap would have been necessary, plus the ability to sustain such surface forces at sea far from home bases, in itself a new and more complicated aspect of Soviet naval experience.

If these are reasonable postulations of Soviet naval missions in the NATO context, what others could there be in conflict situations outside that framework?

Projection of Soviet maritime power in terms of influence and "presence" is one obvious candidate. To be credible, its naval component would have to have the same capability in distant waters as in those closer to the homeland or NATO Europe. Over the years, the Soviet naval planner most probably would have seen the major restraint to such aspirations increasingly embodied by the U.S. Navy. He would have to counter the same kinds of naval forces but under even more adverse conditions; he would have to provide for logistic support of several increased magnitudes of difficulty and, in addition, would be pitted against land-based air forces as well.

Without further elaboration at this juncture, the point to be made is that Soviet naval capabilities would not have to be markedly different for pursuit of global aspirations than for those of European domination; except in two important particulars: air cover and sustaining logistic support.

In summary, throughout this range of postulated offensive missions, the Soviet naval planner would have to contend with the same U.S. naval capabilities: the aircraft carrier, the attack submarine, maritime patrol and sea-based ASW aircraft, and the AAW/ASW escort. The introduction of nuclear weapons capability to these platforms would only change his problems in degree.

The nuclear strike aircraft of the carrier would be an increased threat to his own surface forces in pursuit of their missions, as well as the land campaign he was supporting, and could best be countered by attack on the carrier itself.

The nuclear Mk 45 torpedo and SUBROC of the U.S. attack submarines would increase the threat to his own missile submarines targetting the territory of the United States or the NATO allies and his attack submarines attempting interdiction of the sea lines of communication. The same would be true of nuclear depth bombs in maritime patrol aircraft and sea-based ASW aircraft. Attack by various means on these platforms would again appear to be the best counter.

The nuclear TERRIER and TALOS capabilities of the surface escorts would require Soviet aircraft to be able to attack these platforms from beyond their range. Alternatively, the Soviet naval planner could seek other attack systems not susceptible to these nuclear defenses to attack both the escorts and the ships being protected.

The nuclear ASROC of the surface escorts would present a somewhat similar problem for the attack submarine. One solution would be the development of systems to attack the protected units from outside the escort's range; another would be to attack the escort itself from outside ASROC range.

D. IMPLICATIONS

The purpose of this review of possible Soviet perceptions of the threat posed by U.S. naval nuclear capabilities is to establish a preliminary basis for evaluating the Soviet Navy development of its own nuclear capabilities. At a later point, a more definitive analysis will be based on the writings of the Soviets themselves.

At this juncture, it may be useful to make several observations based on these postulations.

Whether the Soviet Navy viewed U.S. naval nuclear capabilities as a threat to the homeland or as an impediment to be overcome in the prosecution of its own offensive missions, it would probably have had to develop the same kinds of capabilities. If inferences are to be drawn on which view predominated, they must be based on evident priorities given certain

capabilities, buttressed perhaps by insights into the Soviet naval tradition and historic outlook. More substantial indications are likely to be found in the evolving pattern of Soviet Navy deployment and exercise of its capabilities.

In a theatre context, it seems likely that the Soviets would continue to view the aircraft carrier as the predominant naval threat. The NATO attack submarine would have to be defeated to maintain Soviet naval mission effectiveness, but in only one case would it represent a threat equivalent to the carrier: against the Soviet submarine nuclear-strike posture. At such time as the U.S. attack submarine becomes armed with a cruise missile capable of striking deep inland, this perception could change.

SECTION V
APPARENT SOVIET NAVAL EMPHASES

A. INTRODUCTION

The preceding section developed possible Soviet perceptions of the threat posed by the evolution of U.S. naval nuclear weapon capabilities. To further establish a background for the later consideration of the Soviet doctrinal dialogue, it will be useful to assess the pattern established by the evidence of the Soviet Navy's development of its own nuclear weapon capabilities.

B. SOVIET BALLISTIC AND CRUISE MISSILE "STRATEGIC" CAPABILITIES

The early emphasis on achieving nuclear strike capability with the SS-N-3C cruise missile and the SS-N-4 and SS-N-5 ballistic missiles is evident. That parallel paths were chosen is noteworthy and could have reflected a technological hedge that was carried over into the twelve WHISKEY submarine conversions for the SS-N-3C. However, it would appear that the preferred systems were the SS-N-4 and the soon-to-follow SS-N-5 as reflected in the serial production of 23 GOLF diesel submarines and the 9 HOTEL nuclear submarines. The very size of the effort and what it must have meant in terms of dedication of technical and production resources is also noteworthy. To what extent the programs were fueled by the U.S. impetus behind the POLARIS program is speculative; the Soviets quite probably saw an urgent need to redress the overall nuclear strike balance and an independent decision to do so with their submarine force would not be unreasonable, given the technological constraints in the near term against their doing so with their bomber and land-based missile force.

The succeeding effort with the SS-N-6/YANKEE program, at first glance, would seem to be patterned after and responsive to the U.S. POLARIS program. However, it could also have reflected a technological lag, and in any event, could have met the Soviet Navy's perceived need to gain sea room where the U.S. naval counter-capabilities could be diffused.

The SS-N-8/DELTA program would appear to be a less ambiguous reflection of Soviet naval concepts. It preceded in fact, if not in concept, the U.S. TRIDENT program. The very range of the missile allows mission effectiveness in waters which the Soviet Navy could, by a variety of means, expect to make reasonably secure.

C. SOVIET ANTI-SHIP CAPABILITIES

The early emphasis on anti-ship capabilities is equally evident. The guided cruise missile was adapted to all platforms, and at least initially, the purpose would seem to be the achievement of stand-off attack capability, both conventional and nuclear.

The anti-ship missile priority appears to have been attached to the air delivery platform. This would not have been unreasonable on technological grounds alone; it could also have reflected the perceived need to be able to reach farther out to sea. The U.S. aircraft carrier could obviously have been the primary target, particularly since it embodied a nuclear strike capability that was maturing in the same time frame. Increased range of the Soviet launch aircraft coupled with increased stand-off range of its missile would have accorded, in turn, with the increased range of the U.S. carrier's attack aircraft and own defensive capabilities.

it might be noted that this air-launched missile capability had numerous other applications; e.g. against convoys, other major surface ships such as the MLF ballistic-missile ship, peripheral naval surface ships, and even land targets of naval significance. It might also be noted that the impetus behind the development of this capability appears to have been sustained through continuing development of improved missiles and most recently the introduction of the BACKFIRE launch platform. What might appear anomalous is the emphasis on relatively short range although more capable missiles, as exemplified by the AS-5, even with the extension of the carrier's defensive perimeter.

The submarine-launched anti-ship missile capability appears to have been a close second in Soviet priorities. While the nuclear-tipped anti-ship torpedo increased damage probabilities, it nonetheless required the launching submarine to close to ranges where it was itself vulnerable. The SS-N-3A had the desired stand-off characteristic and the serial production of 16 JULIETT diesel-submarine and 29 ECHO II nuclear-submarine platforms is impressive evidence of Soviet emphasis, particularly when considered in the light of concurrent massive programs to build the "strategic" missile and attack submarine forces. As with the air-launched cruise missile, the most obvious target would have been the U.S. aircraft carrier but similar subsidiary targets and missions must also be acknowledged as reasonable. The introduction of the short range SS-N-7 missile, while a seeming departure from the previous emphasis on standoff capability, had such operational advantages that it can be accepted as an evolutionary breakthrough and a marked improvement in capabilities against the aircraft carrier as well as other naval surface targets. One could note the more measured pace of building its CHARLIE-class nuclear submarine platform but conclude that it was not unreasonable in view of existing anti-ship capabilities and the competing demands of YANKEE/DELTA construction in what might be a more resource-constrained environment.

The evolution of shipborne anti-ship missile systems presents a more interesting situation. The initial introduction of the SS-N-1 in the KILDIN and KRUPNYY destroyer platforms, because of their range and

limited self-protection systems, is difficult to accept as a counter to the aircraft carrier or other "blue water" targets. At best it would appear to be an evolutionary step in putting the capability to sea, oriented primarily toward peripheral navies. The installation of the SS-N-3B in the KYNDA and KRESTA I cruisers along with increased AAW capability and significant ASW capability presented an entirely different proposition. Here one could infer an anti-carrier mission at some distance in "blue water" and particularly in the confines of the Mediterranean; the capability was even more impressive against peripheral navies. But the program terminated with 8 ships; while not an inconsiderable force, it represented markedly less emphasis than that accorded either the air or submarine launched anti-ship missile capability. A possible explanation could be that the program represented a technological hedge until the submarine-launched capability proved itself operationally; this would be consistent with the timing of the SS-N-3A introduction, the build-up of the JULIETT and ECHO classes, and the subsequent introduction of the SS-N-7 in the CHARLIE submarines.

However, other trends lend added significance to the termination of this program. The KRESTA I itself had reduced long range anti-ship capability in favor of increased AAW and ASW capabilities. The succeeding classes of major new surface ships, the KRESTA II and KARA cruisers and the KRIVAK destroyers eliminated it completely with the emphasis shifting toward ASW systems. These design decisions were probably taken sometime in the 1963-1965 time period; along with other concurrent emphases on ASW, they suggest a shift of focus to the POLARIS system then being accorded the highest U.S. naval priorities and going to sea in increasing strength. If the Soviets considered that the threat of the aircraft carrier had been reduced to manageable proportions, they may have indeed felt impelled to orient their major surface ship programs to counter the remaining naval strategic threat.

The reappearance of long-range anti-ship missile capability with the SS-N-3B or SS-NX-12 in the KIEV-class aircraft carrier is

therefore anomalous and can only add to the speculation on the mission of these new ships.

D. SOVIET ANTI-SUBMARINE CAPABILITIES

The pattern of Soviet development of anti-submarine capabilities is a curious one. The immediate impression is that of a technological lag, primarily in sensor capability, but possibly also in acoustic processing techniques, considerably behind the United States. This would appear implicit in the fairly sophisticated but still short-ranged weapons systems that were developed, most notably for their surface combatants.

If the Soviets did develop an early nuclear depth bomb capability, as is generally attributed, it would have remained the sole such anti-submarine capability until late into the 1960's. With the number and types of fixed-wing ASW aircraft in service, it could have represented a significant capability if the means for submarine detection and localization were commensurate. This would have become even more so with the proliferation of HORMONE helicopters aboard surface ships.

However, the real breakpoint would seem to have been marked by the SUW-N-1/FRAS-1 that appeared in the MOSKVA-class in 1968 and the SS-NX-14 that appeared in the major new surface combatants entering service in the same time period. The range of these systems implies a marked improvement in sensor capability, and if dual-capable as generally believed, would constitute a very significant increase in anti-submarine nuclear capability. The implications of the SS-NX-15 and SS-NX-16 developed for submarine use are similar and the pattern is also reflected in the increasing transition to MAY/IL-28 and BEAR F ASW aircraft during the same general time period.

The apparent reorientation of major surface ships from long range anti-ship to anti-submarine capability has already been noted; the MOSKVA-class itself adds to the impression of a major shift in emphasis that is reinforced by the nuclear capabilities attributed to the new weapon systems.

That this emphasis may have focused on the POLARIS/POSEIDON threat has already been touched upon. Other explanations could be found in the overall Soviet Navy thrust toward "blue water" and the threat posed to mission accomplishment by the enemy's attack submarines.

E. SOVIET ANTI-AIR CAPABILITIES

The relatively early appearance of the SA-N-1 and then the SA-N-3 anti-aircraft missile systems and their rapid proliferation in the new major Soviet surface combatants is noteworthy. That they reflect the necessity for increased integral protection if the Soviet surface navy is to operate outside the range of land-based interceptor cover accords with the other evidence of the thrust toward "blue water". Nuclear capability, as attributed, would not be unreasonable or otherwise remarkable under the circumstances. However, one is left to speculate how the Soviets may respond when they in turn are confronted with a major anti-ship missile threat. In this regard, one may note that the SA-N-4, Gatling gun and other rapid-fire guns are among the AAW systems currently being placed on their combatants.

F. SOVIET LAND STRIKE CAPABILITIES

The early introduction and proliferation of a wide variety of systems with nuclear strike capability against land targets, particularly in a theatre context, is impressive. If one considers the Soviet geography, there is a strong impression that the Soviet Navy would have a major role in any peripheral land campaign. The ability to strike ports, bases, or other targets of particular naval significance over a considerable range is also clearly evident.

A. INTRODUCTION

In the United States, there has been a considerable internal dialogue on the role of nuclear weapons in our future defense posture and their utility to the National Command Authority in times of crisis, confrontation, and actual conflict. An extensive and sophisticated body of thought has evolved on the central issues within the government and the "defense community," much of which has found its way into the open press. Much of the discussion has focused on the area between conventional conflict and the all-out intercontinental exchange. The notions of "flexible response," "controlled escalation," and "limited nuclear war" have been examined in considerable detail, as has the range of "options" that might be available to the United States. However, the potential of these intellectual exercises can only be realized if there is a counterpart conceptualization of the same issues by the Soviets and some shared understanding of the consequences of nuclear weapons use at all levels of conflict.

Accordingly, one of the basic objectives of this study is to aggregate and illuminate how the Soviets - and particularly the Soviet Navy - view the same range of issues and how they visualize the use of their capabilities. If nuclear warfare is to be deterred or confined to the theatre level, the players on both sides have to understand one another completely.

In reviewing Soviet writings, the effort has been made in this study to highlight the commonality - or divergence - of thought on implicit issues; then to proceed to Soviet naval perceptions of the utility of nuclear weapons use; and finally, to discern, if possible, how the Soviet Navy would operationally employ the nuclear capabilities which we believe they possess.

A checklist was developed to focus attention on what were considered to be relevant issues at each level.

At the conceptual level, these were Soviet views on:

(1) Flexible response
(2) " First use"
(3) Escalation and escalation control
(4) Theatre nuclear warfare, and specifically, Soviet Navy roles and missions therein

At the utility level:

(1) Advantages of nuclear over conventional weapons
(2) Concern for collateral effects
(3) Perception of the deterrent value of nuclear weapons

As a subset of the above, Soviet Navy perceptions of:

(1) The threat posed by U.S. aircraft carriers and ballistic missile submarines, and their vulnerabilities
(2) The threat from and necessary defense against U.S. sea-based aircraft
(3) The threat from and necessary defense against U.S. attack submarines
(4) The threat from and necessary defense against U.S. surface forces
(5) The additional threat posed by the above U.S. naval forces equipped with nuclear weapon capabilities, including those which might be projected such as HARPOON and TOMAHAWK

At the operational level, Soviet Navy concepts for:

(1) The utilization of specific force elements and their nuclear-capable systems
(2) Concentration of forces for mutual support and self defense
(3) Dispersal of forces for nuclear survival
(4) Reconnaissance, surveillance, and targeting
(5) Operations beyond the range of land-based air
(6) Force engagements
(7) Surprise
(8) Massed fires and tactical superiority

(9) Use of both chemical and nuclear weapons simultaneously

(10) CBR defense and hardening against nuclear weapons effects

(11) Sustained combat and resupply

These issues were pursued at two levels in the writings of Soviet military authors.

The first was at the "general" doctrinal level through those authors who addressed the totality of Soviet military concepts for nuclear warfighting. This was pursued only to the depth and extent judged necessary to establish a framework for considering naval aspects in an overall context.

The second level was exclusively naval and comprised the bulk of the review and analysis. The writings of Soviet naval authors were reviewed for consistency with the main body of Soviet military thought and for all explicit or inferential treatment of elements of doctrine which could be construed as applicable in a theatre nuclear war context.

B. THE GENERAL DIALOGUE

1. Introduction

The writings of the Soviet military theoreticians after World War II during the Stalin years were sparse, and although they increased somewhat during the early Khrushchev years, they were not particularly revealing as to the emerging body of military thought. However, the necessity to come to grips with the implications of nuclear weapons was evident and a concerted effort to do so finally emerged in the early 1960s.

2. Sokolovskiy: "Military Strategy"

A work which attracted wide attention in the West and focused internal Soviet dialogue was Military Strategy, written by a group of distinguished military theoreticians under the editorship of Marshal Sokolovskiy. It was published by the Military Publishing House in Moscow and appeared in 1962 before the Cuban missile crisis. A second edition appeared in 1963, ostensibly to incorporate revisions based on extensive internal Soviet critical review, and a third edition in 1968. Although marked with certain internal inconsistencies and a source of controversial

review by Western analysts, it is nonetheless a good starting point for the consideration of Soviet nuclear doctrine; the fact that its editions spanned six of the most significant years in the building of Soviet nuclear capabilities is in itself valuable since it reveals internally the evolution of Soviet thought during this period.

The treatment of the nature of future war is somewhat inconsistent. Although the implication is that future wars almost certainly will be nuclear, as had been the prevailing Soviet view expressed to that time, the foreword to the 1968 edition contains the caveat that the work addresses the strategy of nuclear rocket war and does not "reflect the nature and laws of war without the use of the nuclear weapon."[1]

One finds the following statements from the 1962 and 1963 editions retained through 1968:

> If nuclear weapons are not destroyed and if the aggressors unleash a world war, there is no doubt that both sides will use these weapons. The intentions of the aggressors in this respect are well-known. The statement made by French Marshal Juin, former Supreme Commander-in-Chief of the NATO Armed Forces in the Central European Zone, during an interview on November 4, 1960, is characteristic in this regard. Juin stated that nuclear weapons would be used by NATO in the event of war even if the enemy did not resort to their use at the start of military operations. At the beginning of 1962 the same thing was confirmed by the then U.S. President, J. Kennedy, who called for the use of nuclear weapons from the very start of a war, regardless of the consequences of this step.
>
> Taking all this into account, we have concluded that the Armed Forces of the Soviet Union and the other socialist countries must be prepared above all to wage war under conditions of the mass use of nuclear weapons by both belligerent parties. Therefore, the correct and profoundly scientific solution of all the theoretical and practical questions related to the preparation and waging of such a war must be regarded as the main task of the theory of military strategy and strategic leadership.[2]
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> ---
>
> The mass use of atomic and thermonuclear weapons with unlimited possibilities of delivering them to any target in a matter of minutes with the aid of rockets will make it possible to achieve within the shortest time possible military results of the utmost decisiveness at any distance and over enormous territory.

It should be emphasized that, with the international relations existing under present-day conditions and the present level of development of military equipment, any armed conflict will inevitably escalate into a general nuclear war if the nuclear powers are drawn into this conflict.

The logic of war is such that if a war is unleashed by the aggressive circles of the United States, it will immediately be transferred to the territory of the United States of America. All weapons - ICBM's, missiles from submarines, and other strategic weapons - will be used in this military conflict.

Those countries on whose territory are located military bases of the US, NATO, and other military blocs, as well as those countries which create these military bases for aggressive purposes, would also be subject to shattering attacks in such a war. A nuclear war would spread instantaneously over the entire globe.[3]

This brief survey of the state of the basic modern means of armed combat and their effect on the nature of war has enabled us to draw the entirely well-founded conclusion that a future world war, from the point of view of means of armed combat, will be above all a nuclear rocket war. The basis of waging it will be the mass use of nuclear rockets by all services of the armed forces, but primarily by the Strategic Rocket Troops and atomic rocketcarrying submarines. We must anticipate that in this war the aggressor will use chemical and bacteriological weapons in combination with nuclear weapons.[4]

From the point of view of the means of armed combat, a third world war will be first of all be a nuclear-rocket war. The mass use of nuclear, particularly thermonuclear, weapons will impart to the war an unprecedented destructive and devastating nature. Entire countries will be wiped off the face of the earth. The main means of attaining the goals of the war and for solving the main strategic and operational problems will be rockets with nuclear charges. Consequently, the leading service of the Armed Forces will be the Strategic Rocket Troops, while the role and purpose of the other services will be essentially changed. At the same time, final victory will be attained only as a result of the mutual efforts of all services of the Armed Forces.

The basic method of waging war will be massed nuclear-rocket attacks inflicted for the purpose of destroying the aggressor's means of nuclear attack and for the simultaneous mass destruction and devastation of the vitally important objectives comprising the enemy's military, political, and economic

might and also for crushing his will to resist and for achieving victory within the shortest possible time.[5]

Ambiguity then arises with the following thoughts added in the 1963 edition:

> The enormous possibilities of nuclear rocket weapons and other means of combat enable the goals of war to be attained within a relatively short time. Therefore, in order to insure the interests of our country and all the socialist camp, it is necessary to develop and perfect the ways and means of armed combat, anticipating the attainment of victory over the aggressor first of all within the shortest possible time, in the course of a rapidly moving war. But the war may drag on and this will demand protracted and all-out exertion of army and people. Therefore we must be ready for a protracted war and get the human and material resources into a state of preparedness for this eventuality.[6]

... and the following in the 1968 edition:

> A complex problem is the determination of the duration of a modern war. In the past, the aggressive states usually prepared for a quick victory over the enemy. But this was rarely achieved; the wars usually took on a lengthy and protracted character. The imperialist states are also now preparing for a short nuclear war. It must be taken into account that the situation has now radically changed. The nuclear rocket weapon permits the solution of the strategic questions of the war in hours or days. Apparently, in a nuclear war a victory can be counted upon only if the basic power is used in the shortest possible period. Many foreign military theoreticians, for example, believe that the most powerful nuclear blows of the opposing sides can last only 48 hours, and the whole nuclear war, according to Herman Kahn, can last from five hours to two months at a maximum.
>
> At the same time the possibility of a relatively protracted war cannot be excluded. This can be related to a war in which the nuclear weapon will not be used. The war may start from a local conflict. In these cases, the war may acquire an exhausting and protracted character.[7]

The manner in which a future war might begin is only touched on peripherally throughout the book. There is, of course, the viewpoint maintained that it will only be "unleashed by the imperialist aggressors" but this is not conceptualized to any depth.

"Counterforce" and "preemptive" strikes are only discussed in terms of what U.S. theoreticians are writing, and then only briefly. However, the conclusion is drawn in the original and maintained in the 1968 edition:

> American theoreticians are frankly in favor of preventive war and surprise attack.[8]

This is expanded somewhat in a discussion of U.S. and NATO force posture, again in retained original language:

> One of the basic measures taken by the imperialist countries in their preparations for general nuclear war is the appropriate equipping of the probable theaters of military operations and of the territory of the continental United States before the outbreak of war.
>
> The equipping of the theaters of military operations and the territorial U.S. is organized with account taken of the influence of the new types of weapons on the methods of waging war. Unlike the past, when main attention was devoted to the creation in the theaters of fortified perimeters and the development of railroad systems and highways allowing deployment and combat operations of ground troops, at present the main efforts are directed first of all toward assuring the necessary conditions for the effective use of rocket troops and aircraft. In the theaters of military operations, launching pads for all types of rockets and storage facilities for nuclear-rocket weapons are being built, the network of airbases, airfields, naval airbases, and the ports and sites of debarkation of troops and equipment along the coast are being improved, fixed antiaircraft and radio navigation systems are being organized, pipelines are being laid, etc.
>
> All this, in the opinion of the U.S. and NATO commands, should make it possible to deliver surprise nuclear strikes using rocket means, aviation, and naval forces against strategically important targets in the Soviet Union and in other countries of the socialist camp.[9]

The concepts of "flexible response," "limited war", and "escalation" are only treated by reference to Western theoreticians, and except perhaps for a concluding comment or observation, little is imparted of the Soviet view on such matters. The Western reader almost gets the impression that, as a policy matter linked to deterrence through this period of Soviet strategic buildup, there is a proscription against discussions of anything but all-out nuclear war.

To the extent that these issues are treated, the following passages are representative of the Soviet viewpoint.

As an addition in the 1963 edition:

> From an evaluation of the new conditions, the political and military leadership of the United States began to recognize the strategy of so-called 'flexible response' as the most acceptable and expedient one. This, in their opinion makes it possible, if necessary, to conduct either a general nuclear war or a limited war with or without the use of tactical nuclear weapons.[10]

This was followed by a fairly brief discussion of the Western concept which was concluded as follows:

> Politically, the concept of limited war represents an adventuristic reckoning by the American imperialists to wage war on foreign territory.
>
> Such is the essence of the strategy of 'flexible response' which has been adopted in the United States and shared in principle by all the NATO countries. However, it is being subjected to a broad and critical discussion and analysis on the part of the European countries, members of the bloc. Its discussion is causing sharp clashes, primarily with respect to such cardinal questions as the creation of a nuclear force within NATO, control over the use of nuclear weapons, especially in limited war, an increase in conventional armed forces.[11]

The 1968 edition had a greatly expanded discussion, which because of its relevance to this study, is worth quoting in its entirety.

> Although the theory of a limited war became widespread soon after the end of World War II, the military strategy of the U.S. and NATO did not acknowledge the possibility of applying the concept of limited war to the zone of the North Atlantic bloc, inasmuch as in the zone, in their opinion, vitally important interests of the West and of the socialist bloc countries are encountered. According to the American General Taylor, a limited war is an "armed conflict, in which the existence of the U.S. is not directly threatened." Consequently, under conditions when U.S. territory is no longer invulnerable, General Taylor and his successors are attempting, under conditions advantageous to them, to keep the war within a geographical framework which would not embrace the American continent and above all the U.S. In other words, such a war must be "limited" only with relation to the U.S.; for the other European countries of NATO, whose territories will be fully embraced by a "limited" war, it will be an unlimited "total" war with all the consequences. The concept of a limited

war is an adventuristic calculation of the U.S. imperialist circles for conducting war on foreign territories; it is a concept for assuring the safety of the U.S. by excluding their territory from the possible zone of limited warfare; and finally, it is one of the methods of preparing an unlimited nuclear war against the Soviet Union and all the socialist countries.

A limited war, according to the U.S. and NATO command, occupies a middle (intermediate) position between the "cold" war and an all-out nuclear war. While "cold" war in the true sense of the word is neither war nor peace but is a continual struggle for the supremacy of power, which is conducted by political, psychological, and economic means, as well as with the aid of various military and paramilitary measures, and an all-out nuclear war is an armed conflict in which the belligerents use to a maximum degree all the available forces and means; then limited war is characterized by premeditated restraint by both sides with respect to one or more factors characterizing war in general, for instance, the political aims, character, and size of the forces and means used, the size of areas for military operations, the number of participants in the war, etc. It is believed that the term "limited war" is inapplicable to naturally limited armed conflicts, in which one or both of the belligerents do not have the possibility of transforming the war into an all-out war. Limited war is not necessarily a small or short war, conducted for the attainment of political aims of small importance which involve insignificant forces and means.

According to the military leadership of the West, limited war is that type of armed conflict, in which on the one hand the USA participates, directly or indirectly (usually through their allies) and on the other hand, the USSR. The characteristic feature of such a war is that during its course the strategic bombing of objectives on the territories of the USA and the USSR is supposedly not resorted to.

Limited warfare includes all types of wars using both conventional and tactical nuclear weapons, as well as local wars.

Thus, limited wars can be armed conflicts on a most varied scale without the use of nuclear weapons, however, with the threat of their use present; on the other hand, such wars could be conducted using only tactical nuclear weapons. "The scope, intensity, and duration of a limited war can vary greatly depending on the degree of limitation used by the belligerents".

Although the characteristic feature of a limited war is considered to be deliberate mutual restraint on the part of the belligerents, it is nevertheless impossible (before or during such a war) to determine accurately that limit at which a further relaxation of the restrictions will lead to the escalation of a limited war into an all-out nuclear war. Most essential from the standpoint of determination of limited war is the fact that a limited war is any armed conflict, in which all available forces and means of the belligerents are not used.

It is considered that a limited war, to achieve the desired political and military aims, does not require a maximum military effort of the belligerents; to conduct such a war, the belligerents need only part of their human and material resources. In contrast to an all-out war, which usually ends with the unconditional surrender of one of the sides or from mutual exhaustion, a limited war usually is not developed to extreme limits and the participants come to an agreement before military operations exceed a definite limit.

The political and military leadership of the West believes that the most important prerequisite in conducting a limited war is the capability of the USA and NATO as a whole to conduct an all-out nuclear war, for, without this capability, it is impossible to terminate a limited war successfully and achieve desired political aims.

While supporting the concept of a limited war, Brodie nevertheless writes, "We shall consider all proposed limitations very critically and accept only those which suit us". U.S. and NATO officials are of the same opinion. This means that only that kind of limited war is acceptable to the West which is conducted according to the rules proposed and accepted by the West.

What then, according to the military theoreticians of the USA and NATO, is the essence of the deliberate restraints on the belligerents, which results in the war acquiring a limited character.

The U.S. Army field regulations indicate that since military strategy results from national strategy and is a composite part of it, military-strategic aims in a limited war must be subordinate to national aims, and military operations must be conducted within the restrictions established by national policy.

The American theoretician R. Osgood, in his book Limited War, indicates that "to limit war, means above all to limit its aims," since "the very fact that a war remains limited,

in spite of the physical capacity of the belligerents to inflict much greater damage on the enemy, attests to the fact that neither side sets aims for itself that so threaten the status quo as to justify a significant broadening of the scale of military operations or risk the unleashing of an all-out war."

When, however, the war's political aims are essentially not limited, the magnitude of violence and destruction is determined chiefly by the physical possibilities of the belligerents to deprive one another of the capability to continue the war. However, while expressing the aggressive intentions of American imperialism, Osgood at the same time indicates that in a limited war the U.S. will not necessarily restrict its military aims to the definite limits and political conditions that existed before the war. An example of this might be the aggressive activities of the U.S. in Asia, Africa, and Latin America.

It is believed that inasmuch as it is not possible more or less accurately to predetermine the possible causes and character of limited wars which will have to be waged by the USA and their allies in the aggressive blocs, the concrete aims of a limited war can be finally determined only at its beginning by taking into consideration the peculiarities of the situation under which the war broke out. However, according to the military theoreticians of the West, the general form of these aims must be predetermined on the basis of political goals established before the start of the war and which express definite interests of the Anglo-American coalition in the various areas of the world. Moreover, attention is being turned to the fact that the war can retain a limited character in the event that the essence of its most important political aims be made known to the enemy sufficiently in advance, so that the belligerents would conduct military operations in accordance with their limited political aims.

According to a majority of the foreign military theoreticians, the problem of restricting the means for conducting a war, when both the opposing coalitions have available tremendous reserves of nuclear weapons and means of delivering them on target, is directly dependent on its political aims. Therefore R. Osgood writes in his book, Limited War, "In weighing these two factors, the states must give the decisive role to political interests" and "know how to correctly evaluate what significance a potential enemy attaches to one goal or another, and what efforts he is ready to make in order to attain these aims, or for averting the threat of their attainment."

The problem of the use of nuclear weapons in a limited war is highly complex.

As is known, the military strategy of the USA and NATO foresees the conduct of limited wars with the use of the so-called tactical nuclear weapons. The necessity of employing tactical nuclear weapons in a limited war is based, first, on the fact that the preparation and conduct of limited wars using such weapons will be cheaper for the West; and, secondly, it will make it possible to compensate for the insufficiency of conventional armed forces in those numerous regions of the globe where limited warfare may arise; and thirdly, the resoluteness of the West to use nuclear weapons in a limited war will supposedly have a powerful moderating effect on an enemy and will force him to seek a compromise.

At the same time, as most military specialists of the West admit, the use of nuclear weapons in a limited war is possibly the most critical problem now confronting the military leadership of the USA and NATO. This is explained by the following circumstances.

First, many proceed from the assumption that very little is known about the effectiveness of this weapon on the battlefield, or the possible political, military and psychological consequences of its use. The role and influence of this weapon on the situation as a whole is being based chiefly on assumptions.

Second, it is believed that it is extremely difficult to foresee how an enemy will react to the very fact of the use of a tactical nuclear weapon even on a limited scale. Various decisions by the opposing side are possible: declining a limited retaliatory strike, which will result in a loss of prestige and possibly capitulation; carrying out retaliatory strikes with nuclear weapons on the same or on a much greater scale; and, finally, the possibility of miscalculation is not excluded; the delivery of a powerful blow by strategic and operational - tactical means thus unleashing an all-out nuclear war and its consequences as a result.

Third, the difficulty of recognition by both belligerents of the classification of a nuclear weapon from its power as tactical or strategic.

Fourth, the difficult problem arises as to what means of delivery for tactical nuclear weapon can be used in a limited war, and can these means be used when located outside the zone of the limited war. Regarding the use in such a war of conventional forces and means, under certain circumstances, operations

by the navy or the delivery of strikes by tactical aviation located outside the limits of the territory of a limited war are considered possible.

In addition, it is believed that the tactical nuclear weapon is not good for irregular military operations (suppression of revolts, struggle with guerrillas, etc.), as well as during intervention by the USA and its bloc partners in a war between noncommunist states.

Territorial limitations, as opposed to other types of limitations, are considered to be most effective from the point of view that it is easier to bring them into play when an armed conflict occurs and for the belligerents to observe and mutually control. Precise geographical limitations must be considered depending on the political and military intentions of the belligerents, the character and scale of the military operations, and the geographic, economic, and other characteristics of the region where the armed conflict occurs. Many in the West consider, for instance, that it is easier to localize a war on islands, peninsulas, and in underdeveloped economic regions than in highly developed continental regions, where there are no clear natural boundaries such as, for instance, in Europe.

At the same time, the fact is recognized that the presently existing military-political alliances of states to a large extent complicate the possibility of limiting an armed conflict to a certain territory inasmuch as all the alliance treaties indicate that an attack on one of the countries participating in the treaty will be considered by the other participants as an attack on the alliance as a whole.

In order to keep the war within a limited framework, it is considered necessary to restrict the delivery of strikes (also with nuclear weapons) to strictly defined military objectives (troops in the zone of military operations, control points, air and naval bases, military depots, transport structures, junctions and lines of communication, etc.), while not destroying strategic objectives and large populated points, even if they are in the geographic area of the limited war. However, even here, many complex and difficult to solve problems arise. The United States considers the basic problems to be the following:

- the difficulty of differentiating (in theory and in practice) tactical and strategic objectives and the recognition of such differentiations (even if found) as legal by both the belligerent sides;

- the difficulty of destroying tactical objectives which are territorially related to strategic objectives, without destroying the latter and thus violating the accepted restrictions;

- the ability of the belligerents to demonstrate a tolerant attitude toward accidental destruction of strategic objects.

By its character, a limited war contains two problems: on the one hand such a war must be conducted decisively and with the best methods using the necessary forces and means to achieve the set political and military goals; on the other hand, in a limited war, the armed forces must be used in such a way as to reduce the risk of a limited armed conflict escalating into general war to a minimum. The contradiction of this situation is clearly seen, if only because the need for success in a limited war is incompatible with the requirement for limiting the scale of combat operations, as regards territory, forces and means, the number of participants in the armed conflict, etc.

In the opinion of Pentagon officials and a number of Western military theoreticians, in the event a limited war breaks out, especially if even tactical nuclear weapons are used, danger of the emergence of a general nuclear war will appear. Thus, the well-known military theoretician Kissinger points out that "limited nuclear war will automatically escalate into a general war because the losing side will continually commit new resources in order to restore the situation."

The American theoretician, B. Brodie, writes on this problem: "In the event of the use of any type of nuclear weapon, it will be probably much more difficult to preserve a limited character in the war, if only for the simple reason that it is much easier to draw a line between the use and nonuse of nuclear weapons, than between use above or below some arbitrarily established limit. The moral aspect of this problem stems from the impossibility of determining the consequences of the use of nuclear weapons."

The most candid statement of opinion by the military-political leadership of the USA on this question was the statement of the former Deputy Secretary of Defense of the United States, Gilpatric, who in one of his press conferences in June, 1961, announced: "...As for me, I never believed in a so-called limited nuclear war. I simply do not imagine how one can establish such limitations, once any sort of nuclear weapon is launched"

Regarding the NATO zone, the command of that bloc, while working out the principles for conducting a limited war in the European theater of military operations, has put forth a concept of so-called gradual restraint or of a nuclear threshold whose application, in their opinion, must reduce the risk of a limited war growing into a general one. According to this concept, the armed forces of the bloc must first use only conventional means and attempt to solve problems within a limited armed conflict. However, if troops with the conventional armaments are unable to solve the set problems due to the numerical superiority of the enemy for instance, it is planned to use tactical nuclear weapons on the battlefield so as to attain the desired military goals regardless. Finally, NATO armed forces must be prepared to use tactical nuclear weapons on a broader scale while at the same time taking precautions to keep the armed conflict within limits.

In spite of all these theories and concepts, one can state with assurance that the strategy of limited warfare based on the use of only tactical nuclear weapons, will involve the dangers analogous to those connected with the strategy of "massive retaliation."

Various limitations are mostly forced and conditional. A limited war is fraught with a tremendous danger of escalating into general war, especially if tactical nuclear weapons are used. This is also recognized by American theoreticians.[12]

On occasion, the possible use of tactical nuclear weapons in local wars where the U.S. and Soviets are not in direct confrontation, is merely acknowledged, as in this discussion of U.S. defense planning:

Studies are made to determine the adequacy of these plans and programs in satisfying military and political objectives set before the armed forces in the light of the strategy of flexible response, which anticipated constant readiness of the armed forces for the conduct of one or two local wars in various regions of the globe, with or without the use of nuclear weapons. As a rule, under these conditions mobilization of the economy is not anticipated. The current level of defense production should be adequate for the conduct of such wars. At the same time the armed forces must be ready for all-out nuclear war.[13]

However, the discussion usually reverts to what seems to be the underlying Soviet focus of concern, as in the 1968 edition:

In the West a so-called classical system, or phasing, of nuclear war has been developed: - first phase (initial phase) - massive nuclear strikes or aerospace operations lasting from several hours to two-three days (according to individual

statements, up to two weeks); - second phase - elimination of the consequences of nuclear strikes lasting from one week up to one month; - third phase - final operations primarily by ground forces and aviation (the conduct of strategic-attack operations within the principal theater of military operations).

In this scheme, decisive significance is attached to the first phase - a period of intense nuclear exchange. It is supposed that after expending their accumulated nuclear rocket means, the opponents will be incapable of conducting any type of military operations for an extended period of time, excepting isolated areas. The second phase will be used by the opponents to clarify the situation, bring about order among their armed forces, render aid to the population, organize the restoration of the vitality of the countries, determine the consequent relationship between their forces, and to arrange negotiations for a peaceful settlement. If the negotiations lead to naught and forces remain to continue the war, the third phase commences.

Other schemes are also being advanced, one massive nuclear strike lasting several days and negotiations over a peaceful settlement, if that appears possible; a limited war, regulated (controlled) nuclear strikes, military operations in the theaters using nuclear weapons and simultaneous negotiations, etc.

There are many such schemes. Most often they reflect the opinion of the individual military theoreticians and practitioners. However, in these opinions, there is probably also some reflection of official doctrine. Recently, publicity has been intensified for a so-called cautious-type conduct of war, i.e., that the ruling circles of the imperialistic countries supposedly are willing to push for limited aims and try not to allow circumstances to develop to a dangerous point.

At the same time, much attention is paid to a "fog of war," i.e., dissemination of false information and camouflaging actual plans and measures in preparing for a nuclear war.

It is quite obvious that a new world war cannot be reduced to some single scheme inasmuch as the concrete circumstances may produce the most varied and sometimes unexpected situations. Apparently, from the multitude of concrete situations, it is necessary to choose the most probable and construct schemes for solving its theoretical and practical problems.

In a nuclear world war, the initial phase will be of particular significance. The nuclear-missile weapons and other new means of combat sharply increase the possibilities of a surprise attack when compared with the last war. It is not ruled out that the aggressive imperialists countries will use this circumstance as has often been in the past. They can start an adventure and after a short direct preparation, make a surprise nuclear strike against the socialist countries.[14]

The notion that future war where the U.S. and its allies are in direct confrontation with the Soviets might be confined to a theatre, in the Western sense, is not apparent in this work. Consistent with their expressed view that such war would entail nuclear rocket strikes, the authors see it as a worldwide conflict.

From the point of view of the means of armed combat, a third world war will be first of all a nuclear-rocket war. The mass use of nuclear, particularly thermonuclear, weapons will impart to the war an unprecedented destructive and devastating nature. Entire countries will be wiped off the face of the earth. The main means of attaining the goals of the war and for solving the main strategic and operational problems will be rockets with nuclear charges. Consequently, the leading service of the Armed Forces will be the Strategic Rocket Troops, while the role and purpose of the other services will be essentially changed. At the same time, final victory will be attained only as a result of the mutual efforts of all services of the Armed Forces.

The basic method of waging war will be massed nuclear-rocket attacks inflicted for the purpose of destroying the aggressor's means of nuclear attack and for the simultaneous mass destruction and devastation of the vitally important objectives comprising the enemy's military, political, and economic might and also for crushing his will to resist and for achieving victory within the shortest possible time.

The center of gravity of the entire armed combat under these conditions is transferred from the zone of contact between the adversaries, as was the case in past wars, into the depth of the enemy's location, including the most remote regions. As a result, the war will acquire an unprecedented spatial scope.[15]

One of the characteristic features of a future war will be its enormous spatial scope. The decisiveness of the political and military goals of the adversaries will cause armed combat to be

waged not only in the zone of contact between the adversaries, but, in essence, over the entire territory of the countries in the belligerent coalitions, since both sides will strive to completely disorganize the enemy rear. The mass nature, the high degree of strategic maneuverability, and the long-range nature of the means of destruction will assure the placing of the enemy under fire over his entire territory, including its most remote regions. As a result of the enormous dimensions of these territories and the features of the military-geographical positions of the adversaries, the war would encompass practically every continent of the world. The war will be waged not only on land and sea, but along long-distance lines of communication as well. The concept of "geographic expanse" of war in the future will require a substantial supplementation inasmuch as military operations may embrace outer space.

The enormous spatial scope of a future war requires the development and improvement, above all, of those means of destruction which would be capable of really solving the problems over any distance. Such means include strategic rockets, rocket-carrying nuclear submarines, and, to a certain extent, rocket-carrying aircraft.[16]

The colossal destructive power of this weapon and the possibility of making nuclear strikes at any distance now make it possible to solve strategic problems and to achieve the strategic aims of war not by successive destruction of the armed forces of the enemy on the battlefield or by seizing his territories, but by simultaneous attack on the most vulnerable targets over all enemy territory and against the most important groupings of his armed forces. The targets for destruction will now include not only and not so much armed forces deployed in theaters of military operations, but in the first instance the economies of the belligerents which are the material basis for the conduct of the war, the strategic offensive nuclear weapons, deployed outside of military theaters, the system of governmental and military control and the main communications centers.

Consequently, the influence of combat means is now spread over the entire territory of belligerent countries, so that in a future war the boundaries between the front and rear will be erased and real possibilities will be created for the rapid destruction and withdrawal from the war of entire nations, especially those with small territories.[17]

The changes which are introduced into strategy by the appearance of new means of armed conflict touch not only upon the principles and rules of military strategy, but also upon the basic strategic categories. Thus, the concept of a theater of military operations has changed completely.

In the classic definition, a theater of military operations was a territory or aquatory in which direct military operations took place. The boundaries of such a theater were determined primarily by the aims of the armed conflict in the given theater and by the range of the weapons, which until World War II rarely penetrated beyond the operational rear areas. Thus, the strategic rear area and the entire territory of the belligerent country beyond these boundaries were not part of the theater of military operations.

The development of long-range bomber aviation and the appearance of nuclear weapons especially that of ICBM's have significantly changed the concept of a theater of military operations.

The modern concept of a theater of military operations may include the entire territory of a belligerent or coalition, whole continents, large bodies of water, and extensive regions of the atmosphere, including space. On this basis, the traditional theaters of military operations can be grouped together: western, near eastern, far eastern, etc. Thus, the zone of military operations is no longer limited to the firing range of weapons, since the latter is almost unlimited. This zone can be determined, depending on the boundaries of the continent or body of water as well as on the location of strategic targets subject to attack.[18]

Perfection of the means of delivery of nuclear weapons to their target, their great range, and the ability to be retargeted in a short period of time from one target to another, change the previous concept of strategic maneuver. This was previously defined as the creation of the most favorable formations of forces and materiel in a theater of military operations or a strategic direction; today the essence of a strategic maneuver, obviously, consists in the creation of favorable conditions by the shift and concentration of nuclear strikes for the resolution of the main problems and aims of war, as well as for the achievement of strategic results by all services of the armed forces.

> The realization of strategic maneuver in the past war was accomplished by moving large commands and formations by rail and motor transport from one front or theater of military operations to another. The high vulnerability of communications and the lack of time necessary for such regrouping make these maneuvers difficult to accomplish and in a number of instances inexpedient.
>
> Consequently, strategic maneuvers under conditions of nuclear rocket war can be defined as the shift of effort from one strategic direction or objective to another, mainly by fire and maneuver with nuclear weapons. Maneuver in the old sense may find application primarily within theaters of military operation by the ground, aviation, and naval forces.[19]

An even more explicit statement in the retained language of the original edition ends with an interesting observation on Soviet Naval operations that is surprising for 1962:

> However, few believe in the possibility of localizing a nuclear war. Active military operations will probably take place in all main areas of the globe, primarily in North America, Europe, Asia, the Atlantic and the Pacific Oceans. All countries that are in the opposing coalitions where the important political and military objectives, military bases and groupings of armed forces are located would inevitably be subject to nuclear blows. As for the actions of the army and naval groupings, they can occur simultaneously in all the main theaters of military operations first in the main and then in the other theaters.[20]

Within the general concept of future war indicated by the foregoing, the Soviet theoreticians attempted to assess the implications for organization of their armed forces (i.e., roles and missions) and operational employment.

Stating that the nuclear weapon was already the basis of the combat might of all services in the armed forces, the authors believed that:

> Creating the advantage over the enemy in this weapon and methods of its use is the most important task in the building up of the armed forces in peacetime as well as wartime.[21]

While the Strategic Rocket Forces were considered the primary means for doing so, a prominent role was ascribed to each of the services. The concepts on which the Soviet Navy was to be developed were seen as follows:

The direction in the building of Naval Forces, as in all other services of the Armed Forces, is determined not only by the nature of weapons and other military equipment, but also by those missions which they will be designated to perform in a future war. Imperialist countries with aggressive policies directed against the USSR and the other socialist countries are directing the main efforts in the development of their navies to the building of offensive forces and in the first instance aircraft carriers and missile-carrying submarines which are able to make nuclear attacks on important objectives in coastal regions as well as deep within the territory of the socialist camp.

At the same time, the Navy will keep such important tasks as combatting the enemy's naval forces on the sea and at bases and also disrupting his ocean and sea transport. These problems can be solved most effectively by submarines and planes armed with nuclear rocket weapons and torpedoes. A certain number of surface ships are also necessary to safeguard the activities of submarines and to perform secondary missions such as protection of naval communication lanes and coordination with Ground Troops in operations carried out in coastal regions.

The most important features which submarines should have are: high autonomy, high speed, the ability to fire missiles when submerged, a reasonably large supply of missiles and torpedoes, high protective capabilities and particularly great depth and speed of submersion, and the ability to remain submerged for long period of time.

These features allow submarine forces to make nuclear rocket strikes against coastal objectives and to engage in successful combat with the navy of the enemy.

Naval aviation must be able to attack enemy warships at sea at a distance at which they will not be able to use their aircraft-carrier forces and missiles for attacking targets in the socialist countries. In addition, naval aviation will be called upon to destroy enemy transportation at sea and at their bases.

In order to safeguard naval combat operations, it is necessary to have sufficient reconnaissance and antisubmarine aircraft, and also special antisubmarine (PLO) and air defense (PVO) ships, radar patrol ships, minesweepers, etc.

Account must also be taken, in the development and organization of the Navy, of the problem of assuring joint operations with Ground Troops and, primarily, the mission of bringing ashore amphibious landing forces.

The organizational structure of the fleet must correspond to the projected methods of combat at sea and to the requirements of a future war.[22]

It is interesting that this is essentially the language of the 1962 edition; deleted was an explicit statement that the principal naval mission would be combat with enemy naval forces at sea and at their bases; added in the 1963 edition was reference to joint operations with Ground Troops and the amphibious mission.

Other points of note were the prescriptive requirement for submerged missile launch (not yet a reality for the USSR in 1962) and the role of surface ships to safeguard their own submarines (and not seek out and destroy the U.S. missile carrying submarines). The attribution of missile strike capabilities to surface ships could have referred to REGULUS, or more probably the MLF concept then current.

The second edition also had an interesting addition with respect to the role of Long Range Aviation:

Long-range bomber craft, armed with long-range missiles, retain the capacity of delivering independent blows to enemy targets, especially at sea and in the ocean, but also on the coast and in the deep areas of the enemy territory. At least for the immediate future, the air force will still retain likewise such combat missions as joint operations with ground and naval forces, especially the conduct of aerial reconnaissance, landing of troops and transport of materiel, evacuation of wounded and sick and assurance of communication.[23]

The use of the phrase "in the ocean" with regard to LRA missile capability is interesting, if meant literally.

In addressing the concepts for operational employment of their forces, these thoughts were put forward:

The objects of actions in a modern war will be the strategic means of an enemy nuclear attack, his economy, his system of government and military control, and also the groups of forces and his fleet in the theaters of military operations. In this case the main objectives will be beyond theater limits, deep within enemy territory. The destruction of strategic means, the disorganization of the enemy rear, and also the defeat of main groups of forces in land theaters of military operations will be accomplished by powerful strategic means: Strategic Rocket Troops, long-range

aviation, and rocket-carrying submarines. They will fulfill their tasks by carrying out nuclear rocket strikes according to the plans of the Supreme High Command to attain victory over the enemy for the benefit of the entire armed conflict and for the benefit of a rapid defeat of enemy countries as a whole.

The frontline ground troops in conjunction with frontal aviation and with the fleet in coastal regions, using the results of strikes by Strategic Rocket Troops, long-range aviation and rocket-carrying submarines against objectives and enemy groups in the theaters of military operations, will destroy the remaining groups of enemy troops, occupy enemy territory, and protect their own territory.

The fulfillment of these tasks requires strategic operations of the Ground Troops; however the nature of these operations has changed compared with the last war. Now it is not a case of the Strategic Rocket Troops - the basic means for conducting a modern war - timing their operations with those of the Ground Troops, but just the opposite, i.e., the Ground Troops should utilize to the fullest extent the results attained by the Rocket Troops for a rapid fulfillment of their tasks.

We must also bear in mind that the probable enemy will direct his strategic nuclear weapons mainly against large cities, important economic regions and objectives, against missile bases, long-range aviation bases, and naval bases, the strategic reserves throughout the territories of the socialist countries, and also against groups of forces in the theaters of military operations.

The operations of the National PVO Troops also must not be subjugated to the interests of the Ground Troops, since the task of the PVO Troops is to protect the territory of the entire country against which the main strikes of the enemy's nuclear devices are directed.

The Navy's operations also must not be tied to ground theaters since in modern conditions it is called on basically to conduct the struggle on the oceans, often far from ground theaters of military operations.[24]

An extremely important type of strategic operations is the protection of territory of the country from nuclear attacks by the enemy, using PVO (antiair), PRO (antimissile), and PKO (anti-space defense). Without the effective conduct of these operations, successful conduct of a modern war and assurance of the normal vital activities of the country are impossible. These operations

are intended to repel enemy air and rocket attacks and to annihilate his aircraft and rockets in flight, to prevent them from reaching the most important administrative-political centers, economic regions and objectives, groups of rocket troops, aviation, the navy, regions of reserve mobilization, and other objectives.

The protection of the territory of the country from enemy nuclear attacks can be successful only as a result of active military operations of National PVO Troops. These operations go beyond the framework of the strategic defense during World War II since they are conducted throughout the country and are directed against an air enemy, while strategic defense was conducted in theaters of operations restricted to the enemy's offensive front.

Finally, military operations in naval theaters directed against groups of enemy naval forces to destroy his naval communications and to protect our naval communications and coast from nuclear attack from the sea must be considered an independent type of strategic operation. This type of military operation undoubtedly will acquire a much greater scope than was the case during the Great Patriotic War. The equipping of the Soviet Navy with nuclear weapons, rocket-carrying nuclear submarines, and long-range rocket aviation opens vast possibilities for successful conduct of armed combat over vast sea and ocean expanses against an enemy with a powerful navy.[25]

This language was retained from the 1962 original. Again no direct reference is made to a naval defensive mission against U.S. missile submarines. Nor is any clear role ascribed to the major Soviet naval surface units, building in numbers all throughout this period.

Also interesting to note is that the 1963 edition had added language which related the whole treatment of force employment to local wars as well as world-wide nuclear war. This was deleted in the 1968 edition.[26]

Before discussing the Soviet treatment of naval roles, it may be well to note several of the threat perceptions presented.

In the 1968 edition, a detailed discussion of U.S. strategic forces and programs contains the following:

The "Polaris" ballistic missiles aboard nuclear submarines are second in significance as a component part of a strategic means of attack. These missiles are considered an extremely promising strategic weapons system because of their purported

invulnerability to enemy missiles and shore-based antisubmarine defense, which results from the capability to launch missiles from a submerged position, from the autonomy of cruise, high mobility, and from the excellent camouflage of submarines.[27]

"Purported invulnerability" is interesting in this context as is the reference only to "shore-based antisubmarine defense."

This carries forward an assessment in the 1962 edition with regard to concepts for employment of their own naval forces:

> In the foreign press much has been said about the nuclear submarines armed with Polaris missiles. It has been stated that this is the most stable means for the use of missiles. Actually these weapons are vulnerable. Effective weapons against rocket-carrying nuclear submarines are antisubmarine submarines with self-homing missiles and torpedoes and also surface ships.
>
> Rocket-carrying aviation might also carry out the fight with them using some of the weaknesses of these submarines, in particular, the long preparation of the rockets for launch and the great vulnerability to underwater nuclear explosions. In addition, the bases of the submarines might be destroyed with strikes by the Rocket Troops.[28]

Several points should be noted. First, the Soviet use of "stable" equates to "survivable". Second, this represents a view somewhat at variance to those expressed elsewhere in the book and commented on previously. Third, the timing seems to correspond to what was noted in Section V as an apparent shift in Soviet naval emphasis.

Although not treated at the same length as other services in the book, what is said about the Soviet Navy is quite revealing.

In discussing strategic concepts before World War II, the 1963 edition included this appraisal:

> The Navy, which is a component part of the Armed Forces of the USSR, was designed for the active defense of our sea boundaries. The theory of Soviet military strategy envisaged that the tasks assigned to the Navy in each maritime theater of operations, tasks proceeding from the over-all plan for the war, might call for both the conduct of independent operations as well as in operations in cooperation with the ground forces. Cooperation between the various branches of the Navy was considered a basic condition for the successful conduct of combat

operations. Surface vessels, however, were considered as the means capable of resolving basic combat tasks on the sea. With this, large surface vessels -battleships and cruisers - were considered the nucleus of the fleet, inasmuch as they were considered to be the Navy's chief and universal weapons. This resulted in great attention being devoted to the construction of large expensive surface vessels. The role of the submarine fleet and naval aviation in a future war was underestimated.

By carrying out an extensive program of construction of surface ships we aimed at strengthening the striking force of the fleet. However, it was not taken into account that two of our fleets were based in inland seas and it was difficult to bring out the Northern and the Pacific fleets onto the high seas. Under these conditions, the main emphasis should have been on the development of a submarine fleet and naval aviation.[29]

Deleted from the 1962 language was even stronger castigation of the surface forces.[30]

In treating the role of the Navy in World War II, much the same judgment is rendered in the retained language of the 1962 edition:

Very valuable experience was gained in strategic use of the Navy.

As is known, our prewar theory stated that in a future war the operations of the Navy would consist primarily of independent operations of large formations of surface vessels. However, the Navy was characterized not by independent operations, but rather by strategic operations in conjunction with the Ground Troops and the Air Forces. The main efforts of the Navy were aimed at cooperation with the Ground Troops in solving the main problem of destroying fascist Germany and its armed forces.

In participating in joint strategic operations, the Navy performed a number of varied tasks. The most important of these were the covering of coastal flanks of the Ground Troops, coastal defense, amphibious landing on the sea coasts and on rivers, blockade of surrounded enemy troops from the sea and support of regroupings of the Ground Troops.

In addition to participating in combined strategic operations with the Ground Troops and the Air Forces, the Navy during the war also performed a number of independent strategic operations against the maritime communication lines of the enemy and in the defense of our own sea, lake, and river lines of communication. . . .

> . . . The Great Patriotic War redefined the role and place of the various arms of the Navy. Naval aviation, a supporting arm in pre-war times, came to occupy a leading position among the arms of the Navy due to its combat potentials and operational results. Another important arm was submarines which, together with the Air Forces, were the main means of armed conflict in naval theaters of military operation. Large surface ships, considered before the war to be the mainstay of our fleet, lost their leading role in solving tasks placed before the Navy.[31]

Discussing the nature of operations in future war, the following observations carry forward from the 1962 edition:

> Profound changes will take place in the methods of carrying out military operations in naval theaters. It is characteristic that already during World War II up to half of all fleet losses were the results of aircraft operations. With widespread use of strategic nuclear rocket weapons the main task in naval theaters will also be accomplished by means of these weapons. The waging of military operations based on the use of large formations of surface ships will disappear from the scene, together with the surface ships themselves. In a future war the tasks of destroying shore targets, of defeating groupings of the naval forces of an aggressor, his assault carrier formations and rocket-carrying submarines at bases and on the high seas, disruption of sea and ocean communications, will be accomplished by strikes of rocket troops and mobile operations of rocket-carrying submarines cooperating with rocket-carrying aircraft.[32]

It is interesting to note that the 1968 edition dropped from the middle of this passage the following original language:

> "Only rocket-carrying submarines and, to some extent, naval rocket-carrying aircraft will, of all the naval forces, be used in conjunction with nuclear weapons."[33]

The original derogation of the surface ship role and the results of editing through the 1968 edition are interesting.

Taken in sum, this treatment of the role of surface ships has to be weighed against Soviet building programs at the time. Khrushchev's earlier opposition was well known but then the KYNDA and KRESTA I programs eventuated. As noted in Section V, there was an evident orientation of Soviet surface ships to an ASW role during this period. The views on POLARIS vulnerability cited above were also coincident in time. But how does one evaluate the association of nuclear weapons with

surface ships? One inference from the foregoing could be that surface ships will have a nuclear capability in the ASW role, if not in others.

The clearest exposition of the future role of the Soviet Navy is put forward in a summary treatment of the employment concepts for each of the armed services and merits citation in full:

> Military operations in naval theaters in a future world war will acquire vast scope, although these operations can hardly have a decisive effect on the outcome of the war.
>
> During the Great Patriotic War our Navy conducted limited military operations mainly in inland seas: the Black and Baltic Seas. Operations in northern and far-eastern seas were on a very small scale. The naval operations were aimed mainly for support of the Ground Troops during operations in the coastal regions for the destruction of enemy naval forces on closed sea and for the protection of naval communications, mainly in the North.
>
> In a future world war the fleet may have more responsibilities. The world oceans will be the theaters of military operations for the navy.
>
> The main aim of military operations for naval forces on the oceans and in naval theaters is the defeat of the enemy fleet and disruption of his naval and sea communications lines. In addition there may be the task of delivering nuclear rocket strikes against coastal objectives, support of the ground troops, the carrying out of naval shipping, and protection of our own naval communications lines. The presence of a fleet of rocket-carrying nuclear submarines and naval rocket-carrying aircraft will make it possible to conduct naval operations decisively against a strong naval enemy.
>
> The most important task of our fleet from the very outset of the war will be to destroy enemy striking carrier-based units. The enemy will attempt to deploy these units in the most important theaters near the socialist countries and to deliver surprise nuclear attacks against important coastal objectives (naval bases, airfields, missile installations) and, possibly, against objectives quite far from the coast. For example, in the NATO exercise "Autumn-60," a carrier-based striking unit from the Norwegian Sea made 200 simulated nuclear attacks against coastal objectives of our country and against targets deep within our territory. Most of the nuclear attacks were made within 21 hours. Such an attack will present a great danger if the fleet cannot cut it off and destroy the carrier-based striking units. This task can be fulfilled only with a high degree of combat readinesss on the

part of the fleet, their timely deployment, and skillful operations, taking into account the weak aspects of the enemy's assault carrier units.

Assault carrier formations are to be deployed to deliver strikes in a limited region where most of the surface forces are concentrated. In the center will be assault carriers, the basic and most vulnerable target for nuclear-rocket or nuclear-torpedo attack. The assault carriers are protected by surface antisubmarine ships and antisubmarine aircraft. Radar picket forces will be located on the perimeter of the area. But these forces and weapons can no longer reliably protect the attack carriers and other elements of the force from missile strikes from submarines and naval aircraft.

The presence in our fleet of missile-carrying submarines and missile-carrying aircraft permits approaching the aircraft carrier to the distance of missile launch without entering the zone of antisubmarine and air defense of the attack carrier force. It is essential to attempt to destroy the attack carriers before they can launch their planes; we must destroy the security forces and the supply sections, and we must destroy the regions where the carrier units are based. It must be taken into account that these units are highly vulnerable during ocean crossings, during refueling, at the moment they are preparing to launch their planes, and also when the planes are landing again on the carriers.

Attack carrier forces can break up into smaller groups. Such groups can include one attack carrier and covering forces. The American press expresses the idea that attack carriers, especially with atomic power plants, can operate without any protection. All this must be considered in organizing the fight against aircraft carriers. The attack carrier is an extremely vulnerable target for a nuclear strike.

An effective means of combating assault carriers and other surface forces is the use of rocket-carrying nuclear submarines. The old-style submarines destroyed ships by means of direct hits with torpedoes below the waterline; the submarines are close to the target and close to the surface which makes them easy targets. Nuclear submarines carrying guided missiles have become a great threat to surface vessels. They are highly autonomous, have great underwater traveling speed, and can strike with their rockets from great distances, even from under the water. Therefore, the nuclear submarine is less vulnerable, highly maneuverable, and can successfully conduct battles against aircraft carriers and other surface ships.

New methods of submarine operations have come to replace the former methods of torpedo attack from short distances - missile strikes from great distances and from a submerged position. Previously, it was necessary to concentrate several submarines for a mass torpedo strike to destroy a large surface ship. Now, any surface ship can be destroyed with one missile or torpedo having a nuclear warhead.

Assault carrier formations can be successfully combated with naval and long-range aviation. Armed with "air-to-ship" rockets with nuclear warheads, these planes can strike without coming in range of the air defense weapons of the carrier unit.

The strikes of rocket-carrying airplanes using rockets with nuclear warheads against an attack carrier force or group create the necessary condition for the subsequent operations of airplanes and with the aim of final destruction of the enemy. The use of nuclear weapons does not require the assignment of a large number of airplanes to accomplish this mission.

In addition, coastal missile installations can be used to destroy the enemy fleet.

Concentration of all these forces and weapons in the main theaters against large groups of enemy assault carrier formations and their decisive operations can safeguard the countries of the socialist camp against nuclear strikes from the sea.

An important task of the fleet is combat against enemy submarines, particularly rocket-carrying nuclear submarines.

In the aggressive plans of the Anglo-American bloc, great significance is attached to the use of nuclear submarines armed with "Polaris" missiles for nuclear attacks deep in the territory of the socialist countries. By the start of the war, rocket-carrying nuclear submarines can be deployed so as to launch rockets up to 1800 kilometers from the coast, mainly in the Arctic Ocean and the northern seas, in the northeast part of the Atlantic, and in the Mediterranean Sea, and in the Western Pacific. The remaining nuclear submarines are to be used to combat our naval forces and to disrupt communication lines.

Submarines have become the main striking force at sea, not only in our navy but in the navy of the Anglo-American bloc. The nuclear submarine is a formidable underwater vessel. Therefore, in the future, armed conflict in naval theaters may acquire the nature of underwater operations.

Submarines can be successfully combatted by antisubmarine submarines with rockets and torpedoes, by planes, by antisubmarine surface vessels with hydrofoils and armed with nuclear weapons, and also by destroyers, fast torpedo boats, and helicopters. Nuclear submarines with "Polaris" missiles can be destroyed in bases by strikes of the Strategic Rocket Forces and long-range aviation, and while crossing the seas and in position areas, by the operations of antisubmarine submarines, long-range aviation, and other antisubmarine forces and means. Combat with missile-carrying submarines has now been shifted to great distances from the coast - to the open seas and oceans. The former coastal system of antisubmarine defense will now be ineffective against missile-carrying submarines. For successfully combating them, a reliable system of reconnaissance is necessary which will ensure the timely detection of enemy submarines, particularly those carrying missiles, the exact determination of the coordinates of their location, and the guidance of active weapons against them. There must also be precise coordination of the operation of all antisubmarine forces and weapons. Under such conditions we can count on frustrating the enemy rocket strikes using submarines, on safeguarding the fleet and communication lines from submarine attacks.

Among the main tasks of the fleet in a future war will be cutting off enemy ocean and sea shipping and the disruption of communications lines. We must consider that up to three-fourths of all the material and personnel of the probable enemy are located across the ocean. According to the calculations of certain military theoreticians, in the event of war 80-100 large transports should arrive daily at European ports, and 1500-2000 ships, not counting security vessels, will be enroute simultaneously. To safeguard his communication lines the enemy will adopt the most diverse measures: the creation of "giant convoys" requiring smaller security forces, wide use of the method of "patrol zones" where transports will move without security vessels, the one-time use (without security) of fast ocean liners, the use of tankers and trawler ships and underwater transport, etc.

Operations against enemy communications lines should be developed on a large scale at the very beginning of the war. This task might be achieved by strikes of the Strategic Rocket Troops, long-range aviation and rocket-carrying nuclear submarines against sea bases and ports, channels and narrow inlets, the shipbuilding and ship-repair industry; it can be carried out by destroying convoys and transports at sea by means of submarines and aircraft. Of important significance in the disruption of naval communications of the enemy will be the maneuverable use of nuclear submarines, allowing maximum concentration of efforts

against enemy communications within a limited time. Diesel-electric submarines, which will still be used to combat naval communications, can use, as in the past war, the method of mobile screens, systematic operations, or free search.

Although support of the Ground Troops will not be one of the main tasks of the fleet, considerable effort must be expended in this direction. In conjunction with the Ground Troops the fleet can foil enemy landings at the landing points or during the ocean crossing or repel the landing attempt. In turn, the fleet will have the task of conducting landings on enemy coastal territory, assuring the crossing of straits and large water obstacles by the Ground Troops. The fleet will combat forces of the enemy fleet, particularly his carrier and rocket-carrying fleet, thus safeguarding groups of Ground Troops from attacks from the sea. It is also possible that naval forces can be diverted to strike enemy troop units and his nuclear weapons in coastal directions. This task can be successfully accomplished by rocket-carrying submarines, aircraft, and coastal rocket installations.

The enemy may attempt to land large sea-borne assaults in which connection readiness to break up assault operations remains an important requirement of our Navy, Ground Troops, and the other services of the Armed Forces.

In a modern war, as in past wars, mine warfare may be widespread. Mines will be used to defend the coast; to blockade enemy bases, ports, and straits; to disrupt naval communications; and for other purposes.

Conditions for military operations of our fleet in a modern war will differ radically from those during the Great Patriotic War. Our fleets must sail in the world oceans. They will be opposed by a strong enemy, one well-versed in naval operations. The Anglo-American command has devoted great attention to preparing for war against our fleet, particularly against submarines. They intend to strike our naval bases and have prepared a large antisubmarine force. The U.S. Navy has seven antisubmarine groups using heavy antisubmarine aircraft carriers; four groups will operate in the Pacific, and three in the Atlantic. This must be taken into consideration when preparing to repel possible aggression.[34]

The foregoing treatment of Sokolovskiy's Military Strategy has been extensive but has been deemed necessary to establish a bench mark against which other writings at the general and naval levels can be measured for variance or the evident evolution of military thinking.

3. (U) "Marxism - Leninism on War and Army"

A second work reviewed in detail was the product of a collective of authors who are "philosophers, historians and teachers at Soviet military educational establishments". Appearing in five editions published from 1957 to 1968, Marxism - Leninism on War and Army was issued by the Military Publishing House in Moscow. An English-language translation by the Soviets was issued by Progress Publishers of Moscow in 1972. By internal reference to events in the 1971-1972 period it is evident that previous editions had been updated. Listed in the great Soviet Encyclopedia as a basic reference for the subject of military doctrine, it was chosen as an indicator of possible trends in military thought in the years since publication of Military Strategy.

Although considerably more theoretical and emphasizing "dialectics" to a greater extent, there is a marked similarity in the treatment of many issues upon which our analysis focused in Military Strategy.

A considerable effort is made to sustain the Soviet view that nuclear war is compatible with Lenin's dictum that "war is simply the continuation of politics by other means", despite its possible consequences, and of course, that it will only be unleashed by the imperialists. The worldwide scope of a nuclear war is also stressed.

> The differences in the essence of the possible world nuclear missile war will be determined, first, by its concrete political content and by the depth, volume and scale of the political aims. It will resolve not specific limited political interest, but a crucial historical problem, one affecting the fate of all mankind. Never before has such a colossal problem formed the political content of war. This is one of the radical differences between the essence of nuclear missile war and that of all past and present wars.
>
> The difference in the essence of nuclear war will depend, secondly, on the qualitatively new ways of achieving political aims. Whereas in conventional wars political aims are realized mainly by destroying the enemy's armed forces and by imposing on him the victor's will, in nuclear war it will be attained by crushing the enemy's armed forces and nuclear power, as well as his economic, scientific and moral-political potential.

The essence of the new world war will probably differ, thirdly, in specific military and technical respects, that is, qualitatively new methods, means and forms of armed struggle will be used as compared with those applied in the past. The war will draw many countries and peoples into its orbit, will become a coalitional world war.

The difference in the essence of nuclear missile war will be due, fourthly, to its possible consequences. The documents of the International Meeting of Communist and Workers' Parties say: "Today, when nuclear bombs can reach any continent within minutes and lay waste vast territories, a world conflict would spell the death of hundreds of millions of people, and the destruction and incineration of the treasures of world civilization and culture." Such a war, if it is not averted, will be disastrous for the imperialists.[35]

The deepening of the general crisis of capitalism in the post-war years and the intensification of its contradictions have made the politics of imperialism more adventuristic. It now constitutes an ever greater danger to the peoples, to peace and social progress. The imperialists are preparing a new world-war, and have repeatedly provoked international crises, which have pushed mankind to the brink of a thermonuclear conflict.

US imperialism has become the most aggressive force of international imperialist reaction. It is marked by a ferocious hatred of socialism and the revolutionary movement, adventurism and the striving to establish its domination all over the world. There are reactionary forces in other capitalist countries as well, especially in the countries participating in imperialist military blocs. The network of imperialist military blocs, and the possession by the USA of nuclear missiles have enhanced the adventurism of imperialism. All this has wrought certain changes in the purpose and the functions of the armed forces of the imperialist states, has made them even more reactionary and aggressive.[36]

With the change in the relation of forces between the capitalist and socialist systems in favour of the latter, international imperialist reaction, notably US imperialism, is staking its future on mass-destruction weapons. The imperialists are attempting to counter the decisive role of the masses in social life and in modern wars by the force of modern weapons. They are trying to use the revolution in military affairs to exterminate socialism. This can be clearly seen from the postwar doctrines of the Western powers.[37]

In a world thermonuclear war the whole planet can become a battlefield, and all its aerial space can become the theater of operations. Combat actions will be conducted not only at the front, but will extend simultaneously to vast areas on the ground and in the oceans, depriving the old concepts "front" and "rear" of their conventional meaning. Blows will be delivered not only against troops, but against the entire territory of the enemy, in order to disorganise and destroy his industry, transport, communication, towns and population.[38]

The seeming dichotomy between a nuclear war and the necessity for massive conventional forces, noted in Military Strategy, is continued.

In modern conditions the combat efficiency and combat readiness of the armed forces have become particularly important because with the beginning of war the combat operations of the troops, especially of the strategic rocket troops, will have to play a decisive role and their result will determine the subsequent course of the war. Contrary to the views held by some bourgeois military experts, this does not mean that the role of mobilization and the deployment of troops during the war will be reduced to naught. The military potential therefore includes the combat power of the existing armed forces and also the military-mobilizational possibilities of the state (coalition).[39]

The armed forces of the belligerents reached great numerical strength during the Second World War. In modern conditions, when nuclear weapons and other means of destruction may be used, it is still necessary to have big regular armies. This is dictated by the character of modern war: the decisiveness of its aims, the unprecedently large territories involved, the complex and numerous equipment and weapons used, the high percentage of losses, the importance of defending the entire territory of the country in conditions when aerial means of destruction and airborne landing forces will be used, the greater role of communications, their greater length and the necessity to defend them.[40]

And the notion of a Western preemptive strike is maintained.

The troops must be fully prepared morally even before the outbreak of the war. The aggressors stake on a sudden attack on the USSR, on "pre-emptive" nuclear strikes at Soviet political centres, industrial areas and transport junctures, at key military objectives. This makes it necessary for the troops to be constantly ready for combat already in peacetime, to give maximum attention to preparing the soldiers in moral-psychological respects. When the war begins there will be no time for a gradual preparation, for the transition from peacetime to war conditions.[41]

However, the most notable difference that emerges in reflection on the overall tone of the book is the conditional treatment of the character of future war. The inevitability of conflict escalating to all-out nuclear war, so much a theme of Military Strategy, is underplayed or absent in expected contexts. This impression results from phrasing all throughout the book, of which the following examples may be taken as representative; underlining has been supplied:

> In the event of a new world war the use of nuclear missiles may inflict losses on mankind and cause unheard of destruction.[42]
>
> ---
>
> . . . A nuclear missile war, if it is allowed to come to a head, will also be a product of the aggressive policies of U.S. imperialism and its partners in various blocs.[43]
>
> ---
>
> In the new war, if it should be allowed to happen, victory will be with the countries of the world socialist system. . .[44]
>
> ---
>
> The Soviet Armed Forces, equipped with the latest military equipment and weapons, are a mighty factor in the maintenance of universal peace. In case of war they are able to deliver a destructive blow on the enemy and to rout him completely.[45]

A parallel impression is gained of a more explicit deterrent role conceived for the Soviet strategic forces.

> Since the defensive might of the Soviet Union and the whole of the socialist community checks imperialist aggressive designs and serves as a reliable means of preserving and consolidating peace, the book deals with the ways and means of strengthening that might, their combat readiness to foil and rebuff imperialist aggression.[46]
>
> ---
>
> Conversely, the policies of the socialist countries have wrought major changes in military affairs to defend peace, democracy and socialism. They have created a reliable nuclear shield against imperial aggression.[47]
>
> ---
>
> Thirdly, the military power of states (coalitions) forms under the influence of the radical changes in the means of the armed struggle and, in our days, under the decisive influence of nuclear weapons and new means for their delivery. It is commonly known that the creation of these weapons, and the equipment with them of the Soviet Armed Forces, affected the world strategic situation enormously. The nuclear potential of the imperialists

> is confronted by the nuclear missile power of the USSR, a reliable bulwark of peace, democracy and socialism. It is precisely for this reason that stockpiles of nuclear weapons of different designation have been created and that all the services of the Soviet Armed Forces have been increasingly equipped with means for their employment. The strategic rocket troops and atomic submarines, which are the main means of deterring the aggressor and of routing him in war, rapidly increased in strength.[48]

> While the build up of nuclear missile power by the imperialist countries intensifies international tension, pushes the world to the brink of war, the growing military power of the Soviet Union and other socialist countries acts as a factor for peace, as a factor for historical progress.[49]

Despite this evident shift in thinking, there is still little conceptualization of what the nature of conflict might be like below the threshold of all-out nuclear war. There is considerable discussion of socialist aims being pursued by "just wars of national liberation" and "local wars" but there is no connotation that these would involve direct confrontation between the U.S. and the U.S.S.R. "Limited" or "theater" nuclear war, in the U.S. sense, is not considered viable and usually dismissed rather summarily.

The following passages are representative of the treatment of this grey area.

> The classification of wars according to military-technical features only is typical of bourgeois military theoreticians. This is because it is unprofitable for them to reveal the class essence and the aggressive character of the military policies of imperialism. They therefore confine themselves to a "technical" classification of wars, ignoring their class-political content. A typical example of this is Maxwell Taylor's book The Uncertain Trumpet, which lays the foundation for the "flexible response" doctrine, according to which the imperialists are to wage wars of differing scale and apply the most diverse technical means of warfare.

> In framing modern US strategy three kinds of wars are taken into account: 1) total and limited (as regards scale and aims) nuclear wars with the participation of countries belonging to the opposing social system; 2) world and local wars without the use of nuclear weapons; 3) local wars against the national liberation movement of the peoples and the newly independent states.

The imperialists resort ever more frequently to local wars, which are limited as regards territory and the means of armed struggle applied. By waging such wars they attempt to strengthen their position in different parts of the world and to weaken the working people's revolutionary-liberation movement. Lenin exposed the essence of "little wars" and revealed their indissoluble connection with bellicose imperialist policies. Half a century ago he wrote: ". . .take the history of the little wars they waged before the big war - 'little' because few Europeans died in those wars, whereas hundreds of thousands of people belonging to the nations they were subjugating died in them, nations which from their point of view could not be regarded as nations at all (you couldn't very well call those Asians and Africans nations!); the wars waged against these nations were wars against unarmed people, who were simply shot down, machine-gunned. . .

"The present war is a continuation of the policy of conquest, of the shooting down of whole nationalities, of unbelievable atrocities. . ."

Lenin's evaluation of "little" imperialist wars is still relevant today. It helps to understand their essence and the danger they constitute to social progress. A little imperialist war may grow into a world war which is not limited as regards its scale and the technical means of warfare involved. The "escalation" strategy - the intensification of aggressive military actions in a local war - which is an official doctrine of the US ruling circles, inevitably leads to an extension of military conflicts and aggravates the danger of a world war.[50]

To lull the vigilance of the peoples, the US militarists are discussing the possibility of limiting the nuclear war. The prudence of the opponents, they say, will make it possible to "co-ordinate" their nuclear strikes and to limit the targets against which these weapons would be aimed. According to the Western military "theoreticians" such limitations will reduce the destruction of material values and the privations of the peoples to a minimum.

The deliberate falsehood of these assurances is easily exposed. The propaganda of "limited wars" is intended to pacify public opinion, to accustom people to the thought that nuclear war is possible. At the same time all talk about confining nuclear strikes only to military objectives is intended to camouflage the plans for a pre-emptive war (first strike) against the socialist countries.

The peoples of the world cannot rely on the chance that the imperialist aggressors will be "prudent" and will establish certain

limits to the use of nuclear missiles. Their efforts must be concentrated on reining in the imperialists before it is too late, on depriving them of the possibility of applying death-dealing weapons, on preventing thermonuclear war.[51]

The "flexible response" strategy which emerged as a consequence of the reappraisal following the loss by the US of its nuclear monopoly, laid down the main task of the US armed forces in the new situation. It is described in the Field Service Regulations (FM 100-5) introduced in February 1962. According to these Regulations the US armed forces are charged with the following tasks: a) to prepare for world nuclear war; b) to unleash and conduct local wars with conventional weapons or the limited application of nuclear arms; c) to conduct the "cold war".

Hence, the extermination of socialism continues to be one of the main objectives of the US armed forces and those of the other imperialist states. But since a world nuclear war is extremely dangerous for imperialism now, the "flexible response" strategy lays special emphasis on local wars against the socialist countries and the national liberation movement to be waged with conventional weapons.[52]

The US armed forces, notably their Navy and Air Force, are located so as to be able with the men and means at their command to wage a war against the USSR and other socialist countries and to suppress national liberation movements in Asia, Africa and Latin America. After the adoption of the "flexible response" strategy, the armaments, organization and location of the US armed forces have considerably changed with a view to enabling them to conduct military operations with or without nuclear weapons.[53]

For example, some military experts believe that in modern conditions vast manpower and also industrial and material resources are no longer decisive and that nuclear, especially thermonuclear weapons are therefore the only yardstick of a nation's military power. It is difficult to agree with this point of view - the war may start as a conventional one and may only eventually grow into a nuclear one; the warring sides may under definite conditions be strong enough to wage a lengthy war and then its course and outcome will be enormously affected by the state of the combatants' economy.[54]

Nuclear weapons are still being improved. There are two trends in the further development of these weapons. One of them consists in the creation of nuclear charges of smaller power intended for operational-tactical purposes. The other trend is to create charges having a power of many megatons. These are thermonuclear bombs equivalent to 20, 50, 100 and

more million tons of TNT. The Soviet Union has large stockpiles of charges of small and colossal power.[55]

The [U.S.] striving to suppress the national liberation movement in 'limited' wars plays a major role in the development and improvement of nuclear weapons of small power.[56]

The logic of modern war is such that a soldier must be ready to face its trials in advance. In all past wars the final moral tempering, "the baptism of fire", was achieved in the course of operations. Now one cannot rely on that even if the war should begin with conventional weapons. Even then the troops will have to conduct intense, fluid operations and to be constantly ready to use nuclear weapons and to defend themselves against them. The transition from one kind of combat action to the other, from conventional to nuclear weapons, will require enormous moral staunchness.[57]

By studying and generalizing the experience of local wars, the directions and basic trends in the development of military equipment and weapons, and also by taking into account essential socio-political changes, military science forecasts the character of actions in the future war, the specific forms and methods of the armed struggle without, as well as with the use of nuclear missile weapons. The degree to which the changes in the forms and methods of warfare and the conduct of the war as a whole are based on science is therefore an important indicator of the level of the military power of states (coalitions).[58]

The Marxist principles of war are also directly connected with the solution of such important questions of military strategy as the choice of the direction for the main effort, and of the targets for nuclear missile strikes. In fact, the choice of targets will be determined not so much by military-technical, as by political considerations.[59]

The summation of the essence of Soviets military doctrine is similarly unrevealing.

Let us review the basic ideas of Soviet military doctrine. As regards its socio-political nature, the future war, should the imperialists succeed in unleashing it, will be a bitter armed clash between two diametrically opposed social systems, a struggle between two coalitions, the socialist and the imperialists, in which every side will pursue the most decisive aims.

As regards the means used, this war may be a nuclear one. Even though nuclear weapons will play the decisive role in the

war, final victory over the aggressor can be achieved only as a result of the joint actions of all the arms of the services, which must utilize in full measure the results of the nuclear strikes at the enemy and fulfill their specific tasks.

As regards its scope the nuclear war will be a world war and an inter-continental one. This is determined both by its socio-political content and by the fact that both sides possess missiles of practically unlimited range, atomic missile-carrying submarines, and strategic bombers. The war will engulf practically the entire planet.

It will be waged by methods differing radically from those used in the past. Formerly the direct aim of all military actions was to rout the enemy's forces, without which it was impossible to reach his vital strategic centres. Now the situation has changed. The use of nuclear missile weapons makes it possible to attain decisive military results in a very short time, at any distance and on vast territories. In the event of war not only groupings of the enemy's armed forces will be subjected to destructive nuclear strikes but also his industrial and political centres, communication centers, everything that feeds the arteries of war.

The first massive nuclear strikes are able largely to predetermine the subsequent course of the war and to inflict such heavy losses in the rear and among the troops that they may place the people and the country in an extraordinarily difficult position.

Nevertheless, troops possessing an adamant will for victory and inspired by the lofty aims of a just war, can and must wage active offensive operations with whatever forces have survived and strive to rout the enemy completely.

Soviet military doctrine proceeds from the assumption that the imperialists are preparing a surprise nuclear attack against the USSR and other socialist countries. At the same time they consider the possibility of waging military operations with conventional weapons and the possibility of these operations excalating into military actions involving the use of nuclear missile weapons. Therefore, the chief and main task of the Armed Forces consists in being constantly ready to repel a sudden attack of the enemy in any form, to foil his criminal intentions, no matter what means he might use.

Thus, the basic propositions of military doctrine play an important role in the development of military affairs. They act as guiding ideas, as it were, in drafting the principles for the preparation of the Armed Forces and the state as a whole for modern war.

Military doctrine is subject to definite changes. That means, that depending on changed conditions the state may either improve the existing doctrine or, if it is outdated, replace it by a new one. For example, after the Great Patriotic War the USSR at first improved the existing doctrine by taking into account the experience gained in the last war. After that, in the early sixties, a new modern doctrine was worked out. It differs qualitatively from the previous doctrine. However, changes are being made in the present doctrine as well, although they do not affect its essence.[60]

The closest thing to a discussion of theatre war is the effect of nuclear weapons on such considerations as firepower, mobility, and massing of troops, and yet even this is made ambiguous by reference to long-range missile strikes which establish a context of intercontinental exchange.[61]

Soviet naval forces, although included within the term "army" as used in the book, receive practically no specific consideration. Two brief references, however, continue the position noted in Military Strategy:

Modern combat means have an enormous destructive power and owing to rockets also an unprecedented range and accuracy. There is no spot on the globe now that is not accessible to ballistic missiles.

The rapid development of missile equipment has changed the former significance of such combat means as piloted aircraft, cannon artillery, and big surface ships. This alters the correlation of the services, the share of the different arms of the services, their role in combat, operations and the war as a whole.[62]

Even more far-reaching changes were made in the structure of the armed forces after the Second World War. As we mentioned above, the decisive role was assigned to the strategic missile forces. Missiles became the main means of destruction in the land forces as well, while infantry was completed mechanised, and now uses vehicles for travel and even for combat. The importance of tanks and motor vehicles has grown. Artillery

has changed qualitatively. In the air force the role of bomber aircraft has decreased, its key functions having been taken over by various missiles. Surface ships (especially big ones) have lost much of their significance, whereas the role of submarines has increased. A special role is assigned to the air defense troops, whose prime task, in addition to destroying the enemy's aircraft, is to fight his missiles.[63]

U.S. naval forces, as a threat, receive similar scant treatment.

The US ruling circles assign the following tasks to their Navy: to ward off, as effectively as possible, retaliatory nuclear missiles strikes from US territory; to ensure the survival of part of the bases and nuclear delivery means for subsequent nuclear strikes; to preserve these bases along the perimeter of the world socialist system in the event of a forced evacuation of land bases from the European, Asian and African countries; to exert pressure on US allies outside the Western hemisphere; to carry out police functions in the struggle against the national liberation and revolutionary movement on other continents; to safeguard the transportation of troops and military cargoes from the USA to overseas theatres of operations.

The US naval forces have been stationed in keeping with these tasks. Atomic submarines armed with nuclear missiles are constantly patrolling the Northeast Atlantic Ocean and the Mediterranean, ready to strike a nuclear blow. The 7th Fleet, the strongest US naval arm, is patrolling off the coast of the Soviet Far East and the Southeast Asian countries. Warships of the 6th Fleet give the greatest attention to the Mediterranean waters. Part of the 1st Fleet in the Pacific Ocean is also poised against the socialist countries.

The plans to set up NATO multilateral nuclear forces, which some of the US ruling circles are actively promoting, are a major threat to peace.[64]

For the purposes of this study, therefore, War and Army has primary value in signalling possible trends in Soviet military thought: away from the inevitability of all-out nuclear war; toward the possibility of confining a U.S. - Soviet confrontation to the conventional level; and toward the concept of strategic deterrence. Illumination of the Soviet concepts for or consideration of limited nuclear war is still elusive.

4. Sidorenko: "The Offensive"

Despite the evident lack of conceptualization of the circumstances under which the use of nuclear weapons might be initiated in a theatre campaign, the Soviets, and particularly their army, have given extensive thought to the manner in which they might be employed once the decision is made to do so. Writings have been extensive in the military journals with regard to the ground campaign and a fairly clear and comprehensive picture has emerged of Soviet planning and weapon employment concepts in this regard, as typified by the analyses of the combined-arms armies.

An open-source publication which is representative of Soviet ground warfare concepts is The Offensive, issued by the Military Publishing House in Moscow in 1970. The author, Colonel A. A. Sidorenko, a Doctor of Military Science, was at that time a faculty member of the Frunze Military Academy and an established authority in the field of tactics and nuclear weapon employment.

Soviet military theory focuses on four basic kinds of tactical combat actions: the offensive; meeting engagements in which two advancing sides encounter each other; defense; and withdrawal.

This book deals solely with the offensive in a nuclear weapons environment although the foreword to the Soviet edition acknowledges that the importance of questions concerning the conduct of an offensive without the employment of nuclear weapons is such as to warrant independent research.[65]

If one takes the view that the strategic position of the Soviet Navy is not unlike that of their ground forces in Europe, i.e., that it serves as an outer defensive shield to ward off threats to the homeland and must, to attain its wartime objectives, break through and then defeat encircling NATO naval forces, the overall Soviet concepts for conduct of the ground offensive could be highly relevant. On this basis, it is considered worthwhile to consider some of the broad concepts developed in great detail by Sidorenko.

In reviewing the history of ground campaigns through World War II, Sidorenko highlights the evolution of the Soviet concept of the "breakthrough,"

to be achieved by the massing of fire to effect a breach of the enemy defenses which could be rapidly exploited by highly mobile forces, primarily tanks. Once achieved at the tactical level, the breakthrough was to be exploited immediately by the concentration of reserves and unengaged forces from other sectors until it reached a level of strategic significance to the overall theatre campaign. By a successive series of such breakthroughs all along the front, with encirclement and destruction of the opposing forces, the ultimate objectives of the campaign are to be achieved.[66]

With the advent of nuclear weapons, Sidorenko saw only a change in character and not concept for the offensive.

> The mutual employment of nuclear weapons by the sides will give modern combat an absolutely different character in comparison with its former character. Just as combat became a combat of fire with the broad introduction of fast-firing weapons among the troops, modern combat can be characterized as nuclear combat. Of course, this does not repudiate its combined arms character but only stresses the decisive role of nuclear weapons in battle and the special features of the battle itself which follow therefrom. The actions of the troops on the battlefield are coordinated first of all with the nuclear strikes and are directed toward the exploitation of their results. Nuclear strikes, the destruction of enemy means of nuclear attack, and swift, highly maneuverable actions with the exploitation of gaps, breaches, and intervals in the enemy combat formation form the basis of the attack of the motorized rifle and tank podrazdeleniye in modern battle.
>
> Nuclear strikes can destroy the strongest centers and strong points in the enemy defense, his reserves, means of mass destruction, and other important objectives, can form breaches in the enemy defense, and thereby can create favorable conditions for overcoming it swiftly by the attacking troops and developing the attack to a great depth. Under these conditions, the primary mission of the attacking podrazdeleniye and chast' will become the rapid exploitation of nuclear strikes, completion of the smashing of surviving enemy forces, and the seizure of specific positions, areas, and objectives. With the employment of nuclear weapons, the decisiveness and scope of the offensive are increased, the times for the attainment of its goals are reduced and the significance of surprise and the time factor increases even more. In addition, the attacking troops must cross vast zones of destruction and contamination and employ measures for antinuclear defense.

Nuclear weapons have a decisive significance on the change in the methods of attack and on the employment of other means of destruction: they caused a reduction in their density, especially of artillery. Thus, according to calculation data 18,000 rounds of calculated 122-mm shells are required to neutralize enemy personnel who are unobserved under cover on an area of 100 hectares and at a range of 10 km. For the accomplishment of this mission, it was necessary to engage 100 guns for 30 minutes. Now, one missile or bomb with a nuclear warhead of a certain yield can accomplish this mission.[67]

Of all the means for the employment of nuclear weapons, missiles are considered to have the greatest prospects since they possess many remarkable qualities of which the main ones are: great range, tremendous speed, controlability, and invulnerability in flight, sufficiently high accuracy in hitting the target, capability for rapid maneuver, independence of employment from weather conditions, time of year, and time of day. It can be said that if, with the appearance of nuclear weapons, the destructive might of the armed forces increased unprecedentedly, then with the appearance of missiles alone conditions were created for the most complete use of this might to inflict heavy losses on the enemy.

The employment of missiles will increase the range of fire influence on the enemy immeasurably. In contrast to the past, a practical opportunity has now appeared for simultaneous influence throughout the entire depth of the dispositions of the defending enemy. Simultaneously subjected to powerful nuclear missile strikes will be the forces and means of the enemy which are not only in the tactical depth of the defense but also far beyond its limits, operational and even strategic reserves, means of nuclear attack, troops in assembly areas while moving out, at lines of deployment, basing areas for aviation, the disposition areas of control organs, road junctions, crossings, rear areas, and other important objectives in the depth of the enemy defense.

The presence of nuclear missile weapons will give strikes against enemy objectives in depth a new quality. The launching of such strikes permits inflicting such destruction on enemy troops disposed in the depth in short times that it will make them incapable of stubborn resistance for the execution of a rapid maneuver to oppose the attackers. At the same time, the use of nuclear missile weapons will give the attacking troops the opportunity to break through quickly into the operational depth, employ airborne forces widely, and complete the utter defeat of the enemy right after the nuclear strike.

In the offensive, tactical and operational-tactical missiles with nuclear and conventional warheads will find wide application. The missile troop podrazdeleniye possess high mobility and maneuverability, the capability to displace quickly in the course of combat operations, to open fire in short times, and to accomplish various combat missions. The dependability, simplicity of construction, and convenience in operation in aggregate with the other favorable properties of the missiles permits employing them under the most varied conditions of a combat situation.

The presence of operational-tactical missiles with a launching range of from several tens to many hundreds of kilometers provides the opportunity for the attacker to launch powerful strikes against the enemy's defense, his reserves, and other objectives which are located. With the employment of these missiles it is possible to isolate the battlefield from the approach of reserves by launching nuclear strikes on them, by the destruction of roads, and by the creation of obstacles, which favors the rapid defeat of the enemy in detail.

The employment of missiles expands the capability for the execution of the maneuver of nuclear strikes and fire considerably and permits changing the situation in one's favor in a decisive manner and in a short time and inflicting heavy losses on the enemy without even entering into direct contact with him.[68]

Sidorenko then develops what he considers NATO defensive concepts to be, and it is interesting that in this work, at least, NATO is only accorded a defensive intent. Presumably based on "foreign press accounts," Sidorenko develops the NATO views on mobile and position defense, concluding as follows:

The foreign military theorists admit that each type of defense has its strong and weak aspects.

Thus, the strong aspects of the mobile defense are considered to be: the opportunity to launch massed strikes with nuclear weapons, artillery, and aviation against the attacker's main force with the subsequent counterattack by the second echelon (reserve) in a previously prepared area, the presence of a strong, highly mobile reserve (second echelon) on the main direction, the opportunity to prepare the defense in short times, high activity, and the exclusion of stereotype in organizing the combat formation. The weak aspects of this defense are seen as: the insufficient stability of the forward defense area (low density of forces and means, poor engineer improvements, the presence of large intervals between the podrazdeleniye and

chast'); the possibility of the sudden weakening of the entire defensive system in case of destruction by the attacker's means of nuclear attack; increasing the vulnerability of the reserves when moving up and deploying for counterattack; and the great dependence of the employment of the defense on various conditions.

The strong aspects of the position defense (area defense) are recognized as the deep organization and considerable echeloning of the troops, the relatively high density of weapons, and the relatively high density of engineer obstacles in the first echelon. The weak aspects of this type of defense include the difficulty in organizing maneuver along the front within the limits of the forward area, inevitable stereotype in the engineer improvement of the terrain and the organization of the combat formations, and the relative passivity of the defense. It is believed that this type of defense does not permit the complete utilization of the increased shock action of the troops and their maneuverability.[69]

In the face of these defensive concepts, Sidorenko characterizes the essential elements of the offense under nuclear conditions.[70] Briefly paraphrased, these are:

(1) The resoluteness of the goals given the gravity of the political aims of both sides and the destructive capability of nuclear weapons;

(2) The great spatial scope of the offensive given the range of nuclear missiles and the mobility of the forces involved;

(3) The massing of forces and means being predominated by the ability to mass nuclear strikes on selected axes of advance to permit exploitation by follow-up forces;

(4) The dynamic character imparted by the mobility and maneuverability of the forces involved;

(5) The conduct of the offensive over several axes of attack by smaller groups of forces than formerly;

(6) The unevenness of the development of the attack due to the localization of intense combat in several areas along the front where progress may be at different rates;

(7) The rapid and sudden changes in the situation which can result from the mutual use of nuclear weapons and the exploitation

capabilities of the highly maneuverable units, necessitating operational command decisions in minutes and seconds rather than in days or hours;

(8) The necessity to conduct combat actions in areas of high radiological contamination;

(9) The mass losses of troops and equipment which must be compensated by the reconstitution of forces directly in the course of combat action; and

(10) The employment of various methods for the conduct of the offensive after the breakthrough, e.g., encirclement, isolation, and striking from the rear.

In discussing methods for troops to launch the offensive, the implicit understanding is that the attacks will commence with nuclear missile strikes along the front.[71] Consideration is not given to circumstances where troops may be in contact using conventional weapons only; on the contrary, the situation is foreseen where the troops will not be in direct contact but drawn back from the FEBA (Forward Edge of the Battle Area) and dispersed while within range of the enemy's ground nuclear weapons.[72]

In supporting the concept of launching the attack "from the march" by moving out from a waiting area or by developing the offensive without occupying a waiting area, the following statement is made:

> It is presently recognized in many armies that the launching of the offensive from the march correponds to the greatest degree to the nature of offensive combat in nuclear war; therefore, this method is considered basic. It permits protecting the troops from enemy nuclear strikes to a considerable degree and assuring secrecy of preparation and surprise in the attack.[73]

Detailed use of tactical nuclear weapons with regard to burst mode, yields and target selection is developed "from data in the foreign press." Basic principles of employment attributed to "military theorists of the West" are:[74]

(1) Surprise attained by speed of action, constant combat readiness of nuclear-capable forces, effective reconnaissance, selection of the time and position of the objectives most advantageous for

the launching of nuclear strikes, and maintaining secrecy of all measures for the preparation and launching of nuclear strikes;

(2) Economy in expenditure on significant and well-reconnoitered targets;

(3) Use in combination with conventional weapons; and

(4) Simultaneous use along the entire front and then successively as the offense develops.

Reverting to what are ostensibly his own views, Sidorenko then discusses the use of nuclear weapons in preparing and supporting the offensive. The essential points that emerge are:[75]

(1) Nuclear preparatory fires are best utilized against reserves, troop concentrations, and similar targets throughout the depth of the enemy defenses. Although unstated, the implication is that missiles would be used for this purpose.

(2) Conventional preparatory fire by artillery and aircraft should be conducted concurrently with or following the initial nuclear strikes to neutralize or destroy the most important enemy objectives not destroyed by nuclear weapons. These are seen to be the enemy's tactical means of nuclear attack, artillery, mortars, antiaircraft weapons, tanks, antitank guided missiles, personnel, control points, and selected rear objectives.

(3) Preparatory fire should shift without pause to supporting fire as the troops commence their attack. Artillery and aircraft are used for this purpose, predominantly with conventional munitions although nuclear may be used. Targets are: enemy tactical nuclear capabilities as they are discovered and newly discovered artillery batteries; tanks and antitank units, control points, and communications; the enemy's means of withdrawal and consolidation; counterattacks; support of reserves as committed.

Destruction of the enemy tactical nuclear capability is discussed in some detail. Points made are:[76]

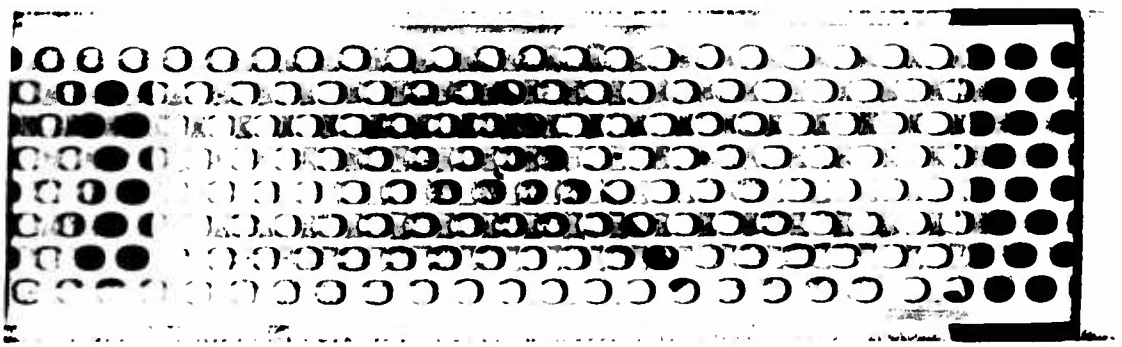
(1) Nuclear-capable units must be attacked as soon as discovered and the effort has to be maintained continuously. Not only the

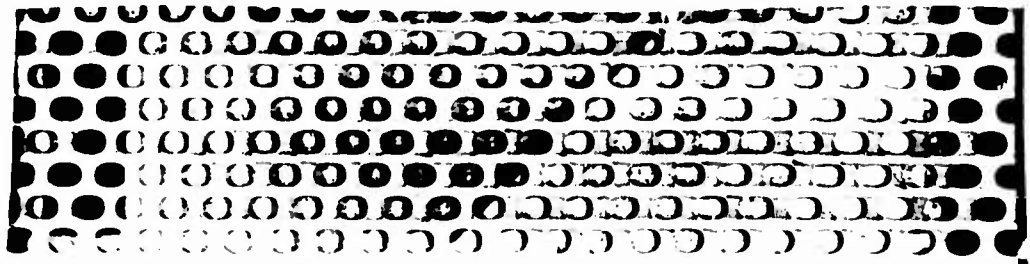
launchers and artillery are to be struck but the nuclear ammunition itself in warehouses, during transportation, and at assembly points.

(2) Intelligence on the location of enemy nuclear capabilities is of paramount importance. It is implied that covert agent activities prior to the outbreak of hostilities will play a major role. However, emphasis is placed on the "combined use of all available intelligence forces and means" in close coordination.

(3) Aircraft with both nuclear and conventional weapons are seen as the most effective weapon although good results can be achieved with artillery. Neutralization of the related command, control and communications by destruction or disruption is also of primary significance.

For the purposes of this study, this book has primary value in that it details certain general concepts for nuclear weapon employment at the theatre level, even though there is a connotation that such may be coincident with or immediately following an intercontinental nuclear exchange. The same concepts are discussed in essentially the same terms in numerous contemporary and succeeding articles by other authors and the net impression gained is that the book represents the body of Soviet military thought on nuclear weapon employment. As will be elaborated at a later point, Soviet naval authors use much the same terminology and generalized concepts. Where such naval writings are lacking in detail, it may be possible to draw inferences from this more generalized and extensive body of thought.





An interesting article in this latter regard appeared in January 1968 under the title "The Encirclement and Destruction of the Enemy During Combat Operations Not Involving the Use of Nuclear Weapons."[77] The following portions are of interest (underlining added):

> Modern world war, if launched by the imperialists will undoubtedly be a nuclear war.
>
> However, a situation may arise in which combat operations begin and are carried out for some time (most probably for a relatively short duration) without the use of nuclear weapons, and only subsequently will a shift to operations with these

weapons take place. At the same time, if both sides have an approximately equal number of troops, then there is not excluded a certain balance of forces, in which combat operations with only the use of conventional weapons can extend over a longer period of time.

In achieving this aim [defeat of the first strategic echelon of the defense] the drive of attacking troops deep into operational formations of the defensive side, into areas where its nuclear rocket weapons and aviation are located, will provide the possibility of defeating opposing ground forces and destroying their nuclear weapons before they can be employed. One of the effective methods of troop operations under these conditions is the encirclement and destruction of enemy groupings by means of combat operations with conventional weapons.

But is it expedient under conditions of attack using only conventional weapons, and with the constant threat of delivery of nuclear strikes by either side, to pose the problem of defeat by means of encirclement and destruction of large defensive groupings?

The basis of operations in encircling and destroying defensive groupings and primarily enemy nuclear rocket weapons, consists of strikes by aviation and artillery and the swift advance of troops along several directions.... Nuclear weapons must be destroyed and crushed immediately as they are revealed and continuously from the very beginning of military operations. Obviously, for this a considerable number of forces and means must be assigned.

Aviation is an important means of defeating the encircled enemy with the use of conventional weapons alone. Its basic task is the destruction of tactical [battlefield] and operational-tactical [front, theatre] nuclear weapons and their carriers by attacks of fighter-bombers and fighter planes.

In conducting combat operations without the use of nuclear weapons, the rockets of ground troops must be maintained in constant readiness since changes of the situation continuously make their tasks more specific, and change or redesignate the targets of attack. Appropriate correctives of planning are required in the event of a shift to nuclear operations.

In conclusion, we will note that under the above-mentioned conditions, encirclement and destruction of enemy groupings continue to remain one of the possible methods,

and in individual cases the most acceptable and effective method, of their defeat. This can very substantially influence the success of the entire offensive.

This consideration of conventional operations was also reflected in an April 1968 article on "Gaining Supremacy in the Air."[78] After the usual historical review, the author made these points:

> This development [the increased role and significance of air supremacy] is of very great importance. It permits one to disclose more completely and understand correctly the problem of achievement of air supremacy in conditions of the beginning of military actions without the use of nuclear weapons in modern conditions.
>
> ...The capabilities of the aircraft themselves have increased considerably. ... Their armament includes conventional and nuclear-missile weapons which can be used at a distance to the target of from several hundred meters to several hundred kilometers.
>
> It is becoming quite obvious from the above that the necessity of gaining air supremacy in conducting military operations without the use of nuclear weapons in modern conditions is becoming even more acute than in the past. However, it is clear that it will be considerably more complex to resolve this problem. It will evidently require a re-evaluation of many factors and a different approach to the use of forces and means.
>
> Above all, it should be stressed in particular that air supremacy will be gained while both sides are constantly ready for the use of nuclear weapons. This will require the allocation of specific forces, including aircraft, for the destruction of nuclear means.

The author then proceeds to discuss tactics, target systems, and the significance of new developments such as V/STOL, but never hints at what point in the battle for air supremacy the shift may be made from conventional to nuclear weapons by either side.

In an October 1968 article,[79] Marshal of the Soviet Union Sokolovskiy engaged in a long discussion of the methodology for development of military strategy and made a strong case for a socio-economic and systems analysis approach. In addressing the problem of economic support of readiness under the threat of a sudden nuclear attack by the imperialist

agressors, he pointed out the impossiblity of counting on full mobilization of the armed forces within the time available. He then added:

> Along with this the possibility is not excluded of wars occurring with the use of conventional weapons, as well as the limited use of nuclear means in one or several theaters of military operations, or of a relatively protracted nuclear war with the use of capabilities of all types of armed forces. To maintain in peacetime massive armed forces for conventional war, and in the case of escalation, nuclear war, is impossible and inexpedient primarily for economic reasons. Therefore, it is necessary to develop appropriate plans for mobilization deployment.

Unfortunately his succeeding discussion related only to the methodology for developing such plans without any revelation of their substantive content.

The increasing attention given to conventional war was exemplified by an article appearing in February 1969 which refuted Sokolovskiy's proposed methodological approach to strategy with implied constraints on force structure due to economic reasons.[80] In it, the authors make clear the necessity for choice of means to achieve political objectives.

> All this [variety of weapons provided by scientific-technical progress] will increase the diversity of the weapons arsenal and open opportunities for varied combinations of application of combat means in the course of a war in accordance with the war's specific political goals and nature. With the appearance of more improved and effective means of destruction, military strategy has the task of more broadly analyzing various methods of military operation in the most favorable combination of their employment and ensuring that the political leadership has a scientific selection of such a combination.
>
> The character of military operations, methods of combat employment of branches of the armed forces, their optimal ratios and formation of strategic groupings will differ considerably depending on whether all combat means are immediately employed in war or just some of them.
>
> Soviet military strategy is primarily required to be able to predict the course of war in accordance with the conditions of its outbreak and conduct. It must also determine which

variation of use of armed forces would be close to optimal from the viewpoint of effectiveness, swiftness of accomplishing political goals and expenditure of friendly forces and supplies.

It is quite clear that the state must have the means and materiel needed both for waging a nuclear war and for conducting military operations with only employment of conventional means of destruction.

From that beginning, the authors make a strong case for utilizing scientific-technical progress to the utmost to ensure military-technical superiority over the imperialist blocs.

The economic issue was apparently of major consequence for it was picked up by Army General Ivanov in article in May 1969.[81] Referring to the fact that certain questions had been raised (by the foregoing two articles), he stated:

Nevertheless it is necessary to turn to them once again inasmuch as such questions comprise the essence of our views on fundamental problems of the military defense of the Soviet State and of all countries of the socialist community from imperialist aggression.

In the succeeding discussion, he put the issue to rest in a tone which seemed to imply he was stating the official position. The following quotations are illustrative and also cast some light on the prevailing view of "limited war."

Under the leadership of the CPSU Central Committee the elaboration of a new military doctrine in the main was completed at the beginning of the 1960's. Subsequently its individual propositions were developed and refined. Let us consider what our military doctrine and strategy embody and what are their main propositions.

Soviet military doctrine and strategy proceed from the actual capabilities of the economy. ...The Soviet economy is the foundation of our socialist society. It generates the creation and development of the military-technical base of the armed forces and their uninterrupted supply with all the essentials. The requirements of military strategy are taken into consideration when drawing up plans for the economic development of the country.

...We proceed from the fact that the sole source of wars is imperialism and primarily U.S. imperialism, which stands at the head of all aggressive forces of the world and is carrying out intensive preparations for a new world war with the objective of liquidating the system of socialism. ...

Thus, if the imperialist forces succeed in unleashing a war against the Soviet Union and other socialist countries, then it will be a world war, a supreme armed conflict in which both sides will pursue extremely diversive objectives....

...All of this leads to the conclusion that a new world war ... will more than likely be a nuclear war....

In the West they connect the problem of the duration of a nuclear war primarily with a surprise attack on the USSR. ... However, the more sober military men and theoreticians have already long ago become convinced that even such a beginning will not save them from inevitable defeat: Nuclear retaliation from the side of the Soviet Union will inevitably follow.

Let us briefly discuss the possibility of the unleashing by the imperialists of a war with the employment of only conventional means of destruction. The availability of a tremendous nuclear missile potential by the Soviet Union and the United States has had a great influence on changing the views relative to the possible character of a war between the two coalitions. ...

...Numerous examples are known of so-called local wars in different regions of the world ... In these wars, despite the major military failures, the imperialists have not decided to employ nuclear weapons.

The U.S. leadership and subsequently NATO also, revised the doctrine of "nuclear retaliation" and adopted a new doctrine--the so-called strategy of "flexible response," in accordance with which along with a general nuclear war there is also envisaged the conduct of other types of wars--with the use of only conventional means of destruction or with the limited employment of nuclear weapons.

Thus there is also considered a possibility of waging non-nuclear warfare under modern conditions. Additionally it is considered that its political objectives can be distinguished from the objective of nuclear warfare. ... At the same time it is recognized that non-nuclear warfare under certain conditions can develop into nuclear warfare.

> In regard to a war with the limited use of nuclear weapons its theory is being worked out to the advantage of the U.S. imperialists. The fact of the matter is that for the thickly populated regions of Europe the employment of even only operational-tactical nuclear weapons will also spell complete catastrophe. In other words, in the conduct of a limited war the territory of the United States does not suffer. Therefore such a concept of the U.S. government and military leaders is advantageous to them and they are advocating it.
>
> Of course, theoretically it can be assumed that for the purpose of scaring one another the belligerants will limit themselves to inflicting some selected nuclear attacks on secondary objectives, but will not dare to expand the nuclear conflict any further. But such an exchange of individual nuclear attacks, even if it should take place, cannot characterize the war in entirety.
>
> ---
>
> Consequently, according to the means of conducting warfare consideration is given [by the USSR] both to nuclear and also non-nuclear, and according to its scales--world and local.
>
> ... Soviet military doctrine and strategy are called on to insure the reliable protection of the Soviet state and the attainment of victory over an aggressor if he should try to attack the USSR or the countries of the socialist community. A decisive advantage of Soviet Military doctrine and strategy is the fact that it is supported by the tremendous capabilities of the socialist economy...

During this same 1968-1969 time frame and despite the evident increased consideration of the possibility of strategic deterrence and conventional conflict, there were still recurrent themes of the all-out nuclear war.

A January 1968 review of U.S. literature "on preparations for a Third World War" still drew the conclusion that the U.S. was seriously considering a "preventive" nuclear war and that the Federal Republic of Germany was intent on achieving a nuclear capability.[82] A lengthy article replete with mathematical formulations in the October 1968 issue considered optimal means for regrouping forces and employing reinforcements in a ground campaign after a massive strategic missile exchange.[83]

weapons take place. At the same time, if both sides have an approximately equal number of troops, then there is not excluded a certain balance of forces, in which combat operations with only the use of conventional weapons can extend over a longer period of time.

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In conclusion, we will note that under the above-mentioned conditions, encirclement and destruction of enemy groupings continue to remain one of the possible methods,

The question of "surprise" and the outbreak of war received considerable treatment in the issues of this period.

A June 1968 article treated the element of surprise with respect to war initiation and how it might be achieved during the course of nuclear warfighting.[84] Purporting to be a reflection of Western literature and planning, a number of interesting points were made, most of which could have had analogues if the Soviets were the ones to initiate the attack.

With regard to initiation of a strategic exchange, these views surfaced:

(1) In contemplating a surprise attack, the aggressor must ensure the protection of his armed forces and "objectives in the deep rear" from retaliatory attack. Missile defenses, continuous radar observation and combat alert of the entire air defense system would be required.

(2) New types of weapons might be used, including automatic and manned "space apparatuses of varied designation."

(3) High altitude nuclear explosives could be carried out at the commencement and during the attack to destroy command and control communications and suppress antimissile and antiair defense radars as well as aircraft control systems.

(4) Changing the optimum sequence of use of strategic nuclear forces, i.e. ICBMS, missile submarines, and strategic aircraft. One such possibility would be the use of "operational-tactical missiles" before ICBMS.

(5) Attack from an increased readiness posture after commencing hostilities at a conventional level.

(6) Attack from a training or exercise posture.

After the nuclear exchange, and presumably at the theater level, surprise can be achieved by:

(1) Speed, swiftness and the prompt entry into combat of new forces and means capable of exploiting the results of the first strike.

(2) Skillful use of nuclear weapons in follow-on strikes against the most important objectives.

(3) The daring use of mobile troops and airborne and naval landing troops.

In discussing "Wars of the Modern Era" in a May 1969 article,[85] the author focuses on the manner in which the "imperialists" might "unleash war." After acknowledging that Soviet strategic missile capabilit, might deter the imperialists from initiating an all-out nuclear exchange at the outset, the author develops several possibilities: a nuclear attack with limited goals; a conventional attack after preliminary mobilization; and an expansion of a local conflict in which the vitally important interests of the socialist world are involved. In all of these, a period of tension--"a threatening period"--will be involved which will require vigilance:

> In order not to be caught by surprise and to make it possible to put into operation in an organized and timely manner the forces and means, operational and prudent leadership of the armed forces is especially required during the duration of the threatening period. A very deep evaluation of this developing situation and immediate reaction to measures and operations of the enemy will be necessary. The main thing here is not to be late or to exclude surprise and not to give the enemy any advantages in developing the readiness of his armed forces.

The discussion of the limited nuclear attack is of interest because of its perception of escalation.

> A nuclear attack with limited goals is specified by the NATO leadership as one of the variants of unleashing a war in the secondary theaters of military operations, but it is not excluded even in Europe. True, in the latter case it is hardly probable that military operations will succeed for any length of time in staying within a limited framework. Most likely they will grow into a general nuclear war. The most dangerous in this regard might be the periods when the crisis situation is created for the aggressor and there is imminent danger of destruction of his armed forces or loss of most important regions of territory in the theater of military operations, and therefore he switches to unlimited use of the entire arsenal of nuclear means.

This same author continued the discussion of future war in a July 1969 article,[86] using as his framework the all-out nuclear war, the conventional war and the local war.

In discussing war initiated by nuclear missile strikes, he makes this statement:

> Simultaneously with the infliction of nuclear strikes, a struggle will develop in the sea and ocean regions with the goal of destroying surface and underwater forces of the navy as well as in the air for repulsing nuclear strikes of the enemy. The forces and means of civil defense will go into operation. Thus in a nuclear-missile war, the offensive and defensive operations will coincide in time with the decisive role of this offensive operation.

His discussion of conventional war is in the framework of the purported NATO concept of conducting war in three stages: conventional, tactical nuclear, and strategic.

> First on the duration of the non-nuclear operations ... the duration of this stage depends on many factors, and in particular on the capability of both sides to continue the struggle without the use of nuclear weapons. Usually at NATO training exercises, the duration of the non-nuclear stage depended on the capability of the troops to hold the advance defensive line. Recently the tendency to increase its duration has begun to appear and it is possible to conduct large-scale operations in the course of this stage.
>
> It is felt that the spatial scope of non-nuclear operations will be limited. They will develop in certain continental and ocean theaters and envelop at first a space which is relatively small in depth. Although the Air Force and Navy are capable of inflicting strikes against objectives at great depth, these strikes will hardly be decisive. The distant regions, especially on land, will be beyond the effect of fire.
>
> In conditions of combat readiness of both sides for the use of nuclear weapons, the most important distinguishing features of the stage of non-nuclear operations are concentration of forces for destruction above all of means of nuclear attack at their bases and regions of deployment; retaining in constant readiness the strategic and operational-tactical nuclear means for operations and the regular elaboration of plans for their combat use in accordance with the changing

> situation; constant and fast reinforcement of groupings of troops in the main zones by means of moving forward the reserves from the depths of the countries of the coalitions; completing the deployment of naval forces and posts for mobile basing; and the special feature of echeloning and utilizing the forces and means in connection with the necessity of allocating in a number of forms of armed forces, mainly in aircraft, of the so-called "nuclear echelons."
>
> As an evaluation of the second stage, the main content of which, in the opinion of the heads of the NATO bloc consists in the use of tactical nuclear weapons, one can cite the statement of General Norstad: "I do not agree with those who consider that such a fire, after it begins, can be controlled with precision and coolness. I believe that this is the most dangerous and destructive thing of all."
>
> ... In other words, many bourgeois ideologists do not believe in the reality of the conception of the so-called "regulated" or "limited" use of nuclear weapons. And it is also difficult to believe in such "limitation" if one evaluates the actual effects as they are, and does not engage in simplification of them. The conception of the "limited" use of nuclear weapons constitutes deception of the people's masses, it is a lie of the Pentagon and the official NATO strategists. A nuclear fire which has begun cannot be localized by anybody. It will envelop without fail the entire world, and capitalism as a socio-economic structure will perish once and for all in its fire.

An interesting pair of articles appeared on the concept of defense in nuclear war which stand in contrast to Sidorenko's The Offensive discussed earlier.

The first appeared in December 1968[87] wherein the authors developed at some length the situations in which the Soviets might have to assume a defensive posture in both nuclear and non-nuclear war. The discussion was entirely in the context of ground operations and in all situations the defensive was seen either as a transitory stage until the enemy could be contained and a counterattack mounted or a holding action while the offensive was pursued on other axes. Because of the rapidity with which it might be necessary to go on the defensive, great importance was attached to foresight and preliminary measures by all commanders.

Unfortunately for the purposes of this study, there was no clear discussion of the point at which nuclear weapons might be used in repelling or stopping a conventional attack; the closest thing to such came in the concluding section on "general principles."

> As is well known, the methods for conducting defensive operations and defeating an attacking enemy, in each specific instance will be determined by the conditions under which the transition to defensive operations was made, the goals of the operation, damage to the enemy caused by weapons belonging to the senior chief, the combat structure of the enemy's offensive groupings and the potential and nature of its operations.
>
> When selecting the method to be used in repelling the enemy's offensive, it is our opinion that initial consideration should be given to the use of nuclear weapons. The use of a particular method for defeating an enemy's offensive, or a combination of methods, must ensure fulfillment of the defense task.
>
> Under the conditions examined above for converting to defensive operations, a battle with an attacking enemy will be extremely complex and will require the adoption of more effective methods for defeating that enemy. The defending forces must strive to have their weapons destroy the attacking enemy grouping throughout the entire depth of its arrangement. However it is not always possible to inflict a simultaneous and decisive defeat due to a lack of weapons, particularly nuclear ammunition. Consequently, the defeat of an enemy before he can launch his attack should be carried out in a selective manner. During this period of destruction, involving the use of nuclear weapons, prime attention should be given to the destruction of the enemy's nuclear-missile weapons, which could have an effect on defense and also to the first echelons of his groupings, which are either prepared for an offensive or have already commenced one. The fire weapons, second echelons and reserves of the attacking enemy, situated in the rear areas and not exerting any pressure on the defense at this time, should subsequently be destroyed as they advance towards the region of combat operations.
>
> ... However effective the strikes inflicted on the enemy during a defensive posture might be, they may not always succeed in disrupting his offensive. This can be achieved only through the skillful use of the principal means of destruction, successful

> combat operations by units and a stubborn defense by these units of their regions and lines, in combination with counter-attacks and counter-strikes. ...

Their article evoked critical comment in a succeeding article of July 1969.[88] While asserting that the discussion of the defensive was timely and one that should be considered further, the authors made the following points:

(1) Defensive operations were also highly likely in "secondary" theaters of operations;

(2) In a nuclear war, defense tasks will be handled primarily by nuclear weapons, although conventional weapons will also find use;

(3) "Optimal" use of weapons should be made to halt the enemy on established lines around important objectives; ground nuclear bursts were specifically cited due to the effects of radioactive contamination;

(4) The location of the principal defending force must be concealed from the advancing enemy, for which the creation of false targets was important;

(5) Prepared nuclear strike plans should focus on the distant and close approaches to the defense line.

Illustrative of the fact that the dialectical treatment of future wars in War and Army was the evolving official position was an article of February 1968.[89] In almost identical language, the categorization of wars as "just" and "unjust" on the basis of their socio-political content is developed at great length. Aggressive imperialism, of course, initiates the unjust wars in opposition to the wars of national liberation and the anti-fascist civil wars. The efforts of the imperialists to escalate such wars to nuclear world war must be prevented by all Marxist-Leninist parties.

The main lines of the new Soviet strategy and doctrine appear to have been resolved in the 1968-1969 period, the articles in succeeding years consisted primarily of an elaboration or repetition of central themes.

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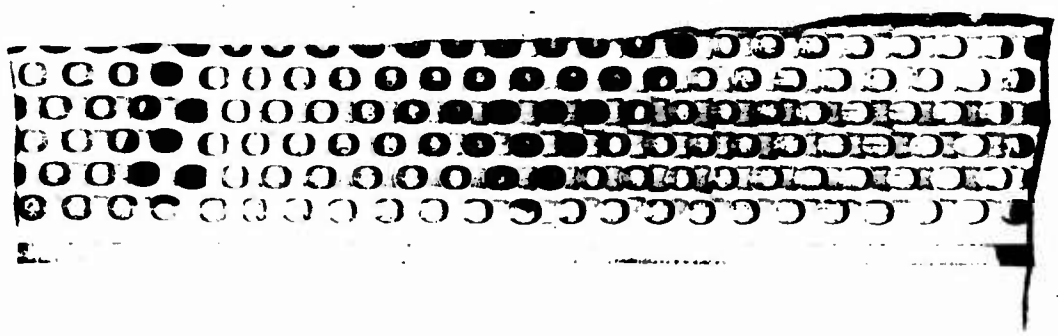
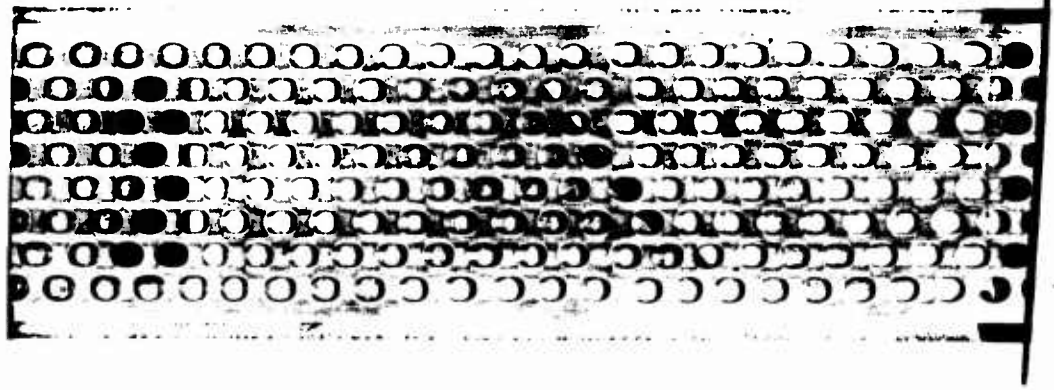


C. THE NAVAL DIALOGUE

1. Introduction

Against the foregoing backdrop of general Soviet military thought, the writings of Soviet naval authors have been reviewed. With the availability of certain classified elements of the internal Soviet dialogue that appeared to be seminal in shaping the present Soviet Navy, the approach has been taken to proceed from "inside out" to check for consistency, i.e. from guarded internal dialogue to the open-source Soviet naval journal Morskoy Sbornik. Because of the singular importance attached in the West to the writings of Fleet Admiral of the Soviet Union Gorshkov, his writings at both levels have been treated as a separate entity.



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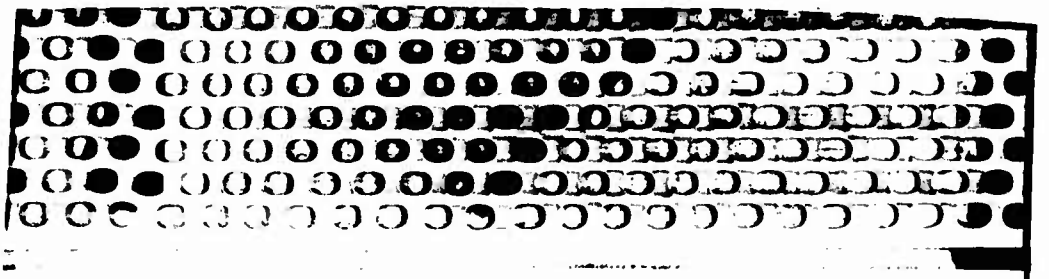
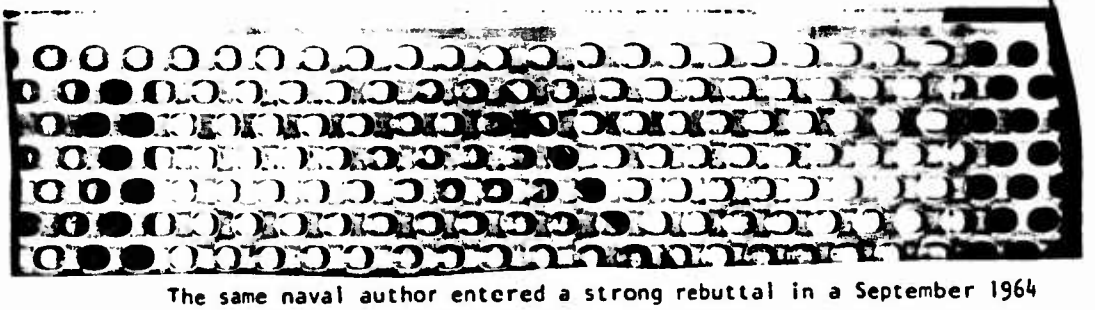




The same naval author entered a strong rebuttal in a September 1964 article[154] commenting on an earlier article[155] which advocated a gradua!

sequential application of nuclear strikes until a certain level of destruction was reached over time. This was seen as unrealistic due to the inability to replace naval nuclear strike units once the exchange began; instead, decisive single strikes at the very outset were advocated.

In an article of September 1965 entitled "Joint Operations of the Navy and Ground Troops in Modern Warfare,"[156] the author took specific exception to an implication in the 1963 edition of Sokolovskiy's Military Strategy that support of ground troops would not be one of the chief missions of the navy. It was acknowledged that the navy could not be attached to ground theaters of operations "since under present-day conditions it is chiefly called upon to fight on the high seas, frequently far removed from the ground theaters of military operations." Nonetheless, the author made a strong case for joint naval and ground operations even under conditions of all-out nuclear warfare. Stating that such operations could have goals, missions, and scale of tactical, operational, and even strategic nature, he focused on those at the operational [theatre] level, 'such operations subordinated to the achievement of operational goals of unions of these types of armed forces conducting the war in the coastal areas of the ground fronts." The following points were made:

(1) The U.S. and U.K. carrier forces regularly exercise in support of amphibious operations after execution of strike missions in an "all-out nuclear attack";

(2) "Great changes in the character and depth of joint naval and ground operations in coastal areas were introduced with the rearmament of naval ships and aircraft with nuclear missiles capable of destroying at long range not only sea, but also ground targets, and also the equipping of ground troops with rockets of varying types and with quick-moving motorized means." [In the context, these were Soviet capabilities, presumably the shipboard SS-N-1 and SS-N-3B missiles in service at that time and the air-launched AS-1, AS-2, and AS-5 of SNA. Only the LRA BEAR B/C had the AS-3.]

(3) "Joint navy and ground forces operations in modern warfare find no less broad an application than in earlier wars in offensive and defensive operations of the troops of a front in coastal areas. They can be...the destruction of enemy naval forces opposing the friendly ground troops on the coast; providing amphibious landings on the coast and on islands; repulsing landings; destruction of enemy ground elements which have been surrounded and forced to the sea; securing the sea movement of troops and cargo to friendly forces operating on the coast; disruption and destruction of enemy sea shipments. ...In connection with the development of highly maneuverable long range forces and long range means of destruction (rockets and aircraft), naval operations in support of coastal ground troups encompass not only the coastal zone of the sea, but also spread to its distant regions."

(4) In addressing defensive operations: "Under present day conditions ground troops can be struck from the sea by long-range missiles from surface ships, and in a number of instances even from submarines (Polaris-type missiles) from considerable distances--2000 kilometers and more. Carrier aircraft in support of ground troops can operate from distances of up to 2500 kilometers. The presence in the navy of atomic submarines and naval rocket and antisubmarine aircraft armed with long-range rockets and improved means of search, detection and destruction of the unfriendly missile submarines allows us to destroy the naval strike forces of the hostile side in remote regions of the seas and oceans beyond the range of their weapons (missiles and carrier-based aircraft) which could be used against the ground troops ashore." [The attribution of POLARIS capability to surface ships is noteworthy].

(5) "Nuclear and other means of mass destruction, if examined in a military-scientific perspective, do not cover the actuality of amphibious landing operations on coasts and islands as a more active form of joint naval and ground forces operations and of

unions of other types of armed forces. ...The landing of amphibious tactical and operational elements on a shore, on a flank, and in the rear of a defender in order to support the movements of attacking ground troops will also find broad application in nuclear warfare. The use of amphibious forces to seize fortified islands having an operational, and at times a strategic significance will in a number of cases be the only means of possessing them." [The foregoing is of considerable interest if read in a Baltic context].

(6) "It is held that an amphibious landing will be preceded by a nuclear blow by the attacker on the objectives of the defender. Thus, in particular, the military doctrine of the NATO countries calls for the beginning of a landing by amphibious elements onto shore immediately after powerful nuclear strikes are inflicted (all-out nuclear offensive) to seize certain areas and to support offensive operations of ground troops."

(7) Sea control in the coastal zone will be an important navy mission to enable support of landed troops until they can link up with troops of the front; in some instances, this could entail participation by national air defense, rocket troops and frontal aviation.

(8) The encirclement and destruction of enemy troops forced to the sea could require sea blockade and the destruction of forces attempting to evacuate the troops. "The use in these operations of ships and naval aircraft armed with rockets with nuclear and conventional warheads will afford the possibility of inflicting from long ranges and with high accuracy powerful destructive blows on the ports and assembly points of the enemy troops and of formations of transport and combat ships of the enemy."

(9) While supporting ground troops in coastal areas, the navy could be required to disrupt and destroy shipments of reinforcements and supplies to the opposing troops. "Atomic missile submarines and naval rocket-carrying aircraft are capable of inflicting

powerful nuclear missile blows on ports and transport delivery and pickup points. Enemy convoys and single transports crossing the sea can be subjected to strikes of missile and torpedo submarines, naval rocket-carrying and long-range aircraft, and also surface missile ships, and on the approaches to delivery ports can in addition be subjected to strikes by rocket and torpedo cutters and shore missile installations which are mobile." [While not so stated, this could be read in the context of a Soviet ground assault in northern Norway. In the article, the succeeding paragraph refers to Northern Fleet operations against the Germans in Norway during the Great Patriotic War]

(10) Repulse of an enemy amphibious assault is another possible mission. "Under present conditions with the technical means of reconnaissance and long range detection of a landing at sea, highly maneuverable high speed striking forces of the navy and air force, and also missiles with nuclear and conventional warheads, there are opportunities to detect the enemy in a timely manner and by the joint efforts of the navy and commands of other arms of the armed forces to break up his landing at sea, far from the approach to the landing areas. [In the context, it is not clear that coastal defense missiles are the only ones being referred to]."

(11) "An antilanding operation can begin with nuclear missile strikes from submarines, naval aviation and in some instances strategic missiles against ports and points of troop embarkation and loading of military equipment onto landing ships, as established by reconnaissance. The convoy and combat formations of the landing detachments during their movement at sea can be kept under the continual influence of faster atomic submarines and surface ships armed with missiles and long-range homing torpedoes with conventional and nuclear warheads, and also of carrier- and shore-based aviation. Using nuclear warheads of high gain it is possible to inflict great losses on the landing detachments."

[Reference to "homing" torpedoes with nuclear warheads goes beyond generally estimated Soviet capabilities. The reference to "carrier-based" aviation is also of interest; the MOSKVA class was then building and could have had such capability with VTOL aircraft or the KIEV-class may have been in gestation.]

The author concludes with the statement that "further improvement and development of joint operations of naval and ground forces will raise even higher the level of combat readiness of our armed forces."

In the same September 1965 issue, two naval authors contribute a lengthy article on "The Theory of the Escalation of the War (Based on foreign press materials)."[157] Essentially the same Western authors are cited as previously noted in Military Strategy and War and Army and the same position is taken, without any attribution of specific naval significance, i.e.:

> Moreover, almost all the works dealing with escalation are based on rather disputable position, i.e., that in the course of any controllable war there may be achieved a certain tacit agreement between the combatants as to possible courses of action, aims which can be pursued, weapons which can be used, and even methods of armed conflict. With the existence of multi-megaton nuclear and thermonuclear weapons and perfected means of delivering them to targets, along with the state of extreme nervous tension during modern armed conflict, such a "return to a knightly tournament" is either a fantasy, or an attempt to mask the true state of affairs, i.e., to conceal the inability and the impossibility of US "nuclear strategists" to find ways of implementing the strategy of "protracted conflict" with a minimum degree of risk.
>
> The theory of "excalation" of war has the aim of giving freedom of action to US reactionary circles in unleashing any war, even with the use of nuclear weapons, in the interests of monopolistic capital. With this theory American militarists are trying to disguise the destructive nature of modern war, to legalize it as a means of deciding all controversial international problems, and thereby to frustrate the struggle of peoples for peace and complete general disarmament.

An April 1967 article on "Defense of Sea Lines of Communications"[158] contained an unusually straightforward account of what would be required to

protect Soviet sea lines of communications during nuclear war, from the context presumably those in the Baltic. Defeat of the opposing forces and "all of his nuclear forces and means" was, of course, essential; not only naval forces had to be engaged but those other forces, presumably land-based air, which could attack shipping in ports of embarkation and debarkation and enroute, necessitating "prompt (i.e., in advance of the shipping operation) conduct of a number of combat actions by various forces, designed to establish safe shipping conditions in all phases."

The ASW orientation of the Soviet Navy, noted and commented upon previously, was again underscored in a October 1967 article by Admiral Kharlamov entitled "Some Trends in the Development of Navies."[159] Stating that "a definite period of creating qualitatively new weapons appears to have been completed in the navies," he went on:

> The contemplated further development of the navies is mainly the improvement of all forces and means for the purpose of increasing their striking power and achieving maximum employment effectiveness.
>
> ...The work done to increase the combat efficiency of missile-carrying submarines has resulted in the fact that antisubmarine defense has become a high priority task. Therefore, antisubmarine forces, and mainly multipurpose submarines, are being developed intensively. Multipurpose atomic submarines, for example, are being evaluated by military experts...as the most effective means of combat against missile-carrying submarines.

The most notable feature about the balance of the article is that it concerned itself primarily with conventional weaponry.

In an April 1963 article on "Gaining Supremacy in the Air" cited earlier,[160] the author makes several points of naval interest.

> Because in the utilization of conventional means a portion of the aircraft will evidently have to carry out other missions and a portion of them will be in constant readiness to use nuclear weapons, in order to insure a simultaneous strike against the airfields, the combatants can employ missile troops, certain ships, and missile-carrying submarines. Incidentally, very great hopes are placed on submarines in a number of countries in operations against airfields, especially along the

coastal zone. [Reading this from the Soviet side, it highlights Soviet Navy roles against airfields in theatre at the conventional level, and quite probably at the nuclear as well.]

A new factor which will now also be considered in evaluating the airfields as strike objectives is the equipping of aviation [Soviet, in the context] with V/STOL aircraft.

In examining airfields as the strike objectives in the struggle for air suppremacy, the ships which insure the basing of carrier-based aircraft should be discussed separately. Possessing a high degree of maneuverability, they can influence considerably supremacy in the air in a number of cases in operating independently, and also by suddenly increasing or quickly replenishing the forces of aircraft, they can give support to the troops (or carry out other missions on their behalf) in remote regions of combat operations. In certain conditions they are also less vulnerable to strikes from the air than are airfields on land. At the same time, success in the use of such ships depends to a large extent on the capabilities of the combat and special support of them by other forces of the fleet, as well as on the hydrometeorological conditions. Thus, for example, the take-off of aircraft and especially the landing of them in stormy weather are difficult and sometimes quite impossible. [The MOSKVA-class was becoming operational at this time but only with helicopters; this could reflect conceptualization of the KIEV-class, in which event the roles in this clearly theatre war context are considerably different from the generally estimated ASW mission.]

A significant article on "The Disruption of Sea and Ocean Transport" appeared in the December 1968 issue.[161] After establishing an historical perspective and the reliance of NATO on ocean shipping, these points are developed:

(1) "During a nuclear war the importance of naval communications could increase even more, since they might then become the principal means of supplying troops, after all railroads have been put out of action. However, nuclear weapons and the long-range resources for delivering these weapons to the targets have also increased the combat potential for disrupting navigation. The warring parties now have the potential to influence all elements of communications, particularly the large ports of any continent.

In addition to the loading and unloading ports, the centers of the shipbuilding industry will also be subject to attack. During the last war this only happened infrequently." The latter point is developed at length to emphasize that only "forces in being" need be countered in the SLOC campaign.

(2) Attack against either the convoys themselves or the covering naval forces can each provide certain advantages and the emphasis or choice must be made in consideration of the particular conditions at the time.

(3) Submarines will be the "principal forces for waging combat along the lines of communications" with missile-equipped aviation "an indispensable participant."

(4) "The use of large surface ships to destroy the enemy's lines of communication is somewhat less probable, since modern means of technical surveillance enables an enemy to detect these ships in a timely manner and to take the necessary defensive measures. It is quite possible however that large surface ships, particularly artillery-missile ships, will participate in the destruction of the convoy during the last stage of its transit. This would be possible, for example, in a situation where the convoy's escort group has suffered great losses and where it becomes evident that the enemy, weakened by submarine and air attack, can be destroyed with supremacy in the air shifting to our forces."

(5) "The struggle to obtain the lines of communications will be characterized by clearly defined targets and operations. Using nuclear weapons, an operation can be launched to completely destroy a large convoy."

(6) "The suddenness of action is an indispensable condition for resolving strategic, operational and tactical tasks. In order to achieve such action, the forces must be deployed in a timely manner and positions along the probable routes of movement of convoys must be occupied particularly by submarine units."

(7) NATO's concept for defense of the Atlantic SLOC is stated to be an anti-submarine defense line through the "straits and narrows" [i.e., the G-I-UK "gap"]. "Several hundred thousand" mines would be required just to establish one defense line. "However, as NATO specialists have indicated, this will not furnish the desired probability of destruction of submarines. Moreover in order to detect a submarine which has already penetrated the defense line, a large force of anti-submarine aircraft and surface vessels will have to be employed at the beginning of combat operations." [No mention is made of a NATO SSN barrier.]

(8) "According to foreign opinion, the deployment of submarines will take place secretly and in coordination with surface vessels and aviation which break through the PLO [anti-submarine defense] line. In the latter case, the anti-submarine defense line will be overcome during the course of battle with PLO forces. Actually, submarines cannot independently and actively engage anti-submarine surface and aviation forces in combat. Their operations must be supported by other forces.
The deployment of submarines can be supported by systematic naval operations or it could serve as a partial task of an operation aimed at disrupting the enemy's transport operations. In special cases, a special operation can be launched in the interests of submarine operations."

A February 1969 article by Fleet Admiral Kasatonov on "The Role of Surface Ships in Combat at Sea"[162] is of interest, considering the generally disparaging view of surface ships put forth in Military Strategy and some of the articles of this period cited earlier. In it, he makes a rather substantial case for medium and small ships, particularly those that are missile equipped, in ASW, amphibious, minesweeping, and certain combat operations, which in context, appear to be of a "closed sea" character.

His position on large surface ships seems to be reflected in the following:

> And if the expediency of using large gun ships as part of the fleet in modern armed conflict at sea was often placed in doubt in the postwar years, in not one of the fleets of the naval powers was the necessity disputed to have in their composition such surface ships as antisubmarine, rocket, gun, assault landing, anti-mine warfare, and other ships. The question of these ships was raised in the press primarily for the purpose of clarifying which qualities they should possess in order sucessfully to accomplish combat missions in nuclear war and participate effectively in local and limited wars.
>
> Of course the role and place of these surface ships in modern armed conflict at sea will be different than in preceeding wars. But they have not lost the capability sucessfully to accomplish their already new, it is true, combat missions. These ships have retained to a considerable degree those qualities which are inherent to only a given combat arm and without which it is difficult to imagine a modern fleet.
>
> ---
>
> It should be stressed once more that a missile ship does not compete with the modern atomic missile submarine. In a number of cases, it is sooner an important supplement to its combat capabilities.

If one recalls that the evident shift from anti-ship to anti-submarine capabilities was occurring in the Soviet Navy at this time, several inferences can be drawn. First, the KYNDA and KRESTA I classes were expedients that now only supplement the "modern," i.e. CHARLIE, missile submarine in certain cases, as perhaps in the Mediterranean. Secondly, and based tenuously on Kasatonov's earlier historical references to battleships determining the "prestige of naval powers in the international arena," these earlier missile cruisers with "those qualities which are inherent to only a given combat arm" have taken on a new role in establishing naval presence, or possibly in the "local and limited wars" he refers to.

Kasatonov's treatment of the role of aircraft carriers is also somewhat ambiguous. He cites their vulnerability to air and missile attack and concludes:

> Thus, if we examine the combat quality of aircraft carriers through a 'large' prism--nuclear war--it will be clear to every unprejudiced person that carrier forces are presently undergoing a sort of depression. On the one hand, they still possess great striking power which is continuing to grow. On the other hand the development of formidable opponents to the aircraft carriers is proceeding at accelerated rates--strongly pronounced prospective forces--submarines and naval aviation.

There had been a parallel discussion of the efforts being taken in the U.S. and UK to increase carrier survivability, including protective forces such as air defense ships, ASW ships and radar picket ships. The concluding paragraph follows the one quoted above:

> If we speak of the role and place of aircraft carriers in local wars and in various conflicts, they appear differently. During recent years, aircraft carriers repeatedly stepped forth as the main forces of the navy in ... Korea ... Suez ... Middle East ... Vietnam. Using aircraft carriers, the fleets of the imperialist countries are trying to accomplish main tasks in the wars against the peoples of the underdeveloped countries, countries which do not have modern means of armed conflict.

Considering that the decision on the KIEV-class had probably been made by the time of the article, one can wonder if one of their roles was seen to be in limited and local wars, perhaps in support of the "forces of national liberation."

Kasatonov's treatment of ASW surface ships is of similar interest.

> One should tell especially about the ships which are usually grouped together by such a generalizing notion as "antisubmarine warfare" ships. These are ships of different classes and capabilities, beginning with antisubmarine aircraft carriers, helicopter carriers, and cruisers, and ending with ships of small displacement and even motor boats. ....
>
> Considering the main purposes of these ships, their development in the postwar years has not stopped. At individual stages they were alloted one of the leading places in surface shipbuilding. In this connection, the more intensively the construction of atomic submarines was conducted, the more the process of creating the forces capable of combating them was accelerated.

> At the present time, the composition of the fleets of the great powers includes quite a large number of antisubmarine warfare ships of medium and small displacement capable of independently conducting search, pursuit, and the destruction of submarines on the open regions of the sea as well as in their coastal waters. Characteristic of them is the constant improvement of means of underwater observation which leads to an increase in the dependability of their detection of submarines, as well as the development of means of destruction which, in the aggregate, increases significantly the effectiveness of combat employment of surface antisubmarine warfare ships.

One notes that all the ASW capabilities described are for "hunter-killer" operations. What is the "main purpose of these ships?" What atomic submarines were being "intensively" constructed? And then read KIEV, MOSKVA, KRESTA II, SUW-N-1/FRAS-1 and SS-NX-14 in the appropriate places; they were either in being or under construction/development at the time. Kasatonov removes any doubt when he concludes his ASW section by discussing submarines, airplanes, and helicopters already supplementing US and UK carrier hunter-killer groups, and states: "But they do not replace surface antisubmarine warfare ships. The combating of missile submarines requires their joint actions."

A March 1969 article discussed the coordination of national air defense forces with the navy in considerable detail.[163] The context of the article was entirely that of conventional war operations and revealed a fairly sophisticated delineation of zones of responsibility and framework for coordination. Of interest are the main roles as described to the air defense forces:

(1) To protect naval bases and ports, airfields and other shore targets of the fleet, from air strikes;

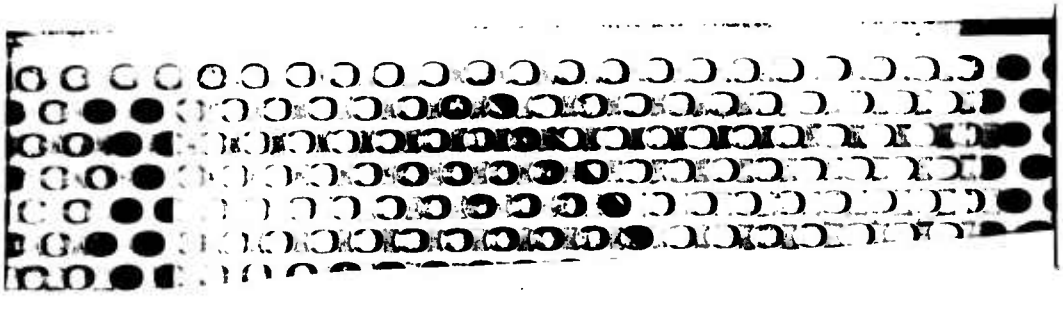
(2) To protect ships at sea during transit and when engaging in combat;

(3) To engage units of the enemy's anti-submarine aviation force, engaged in the detection and destruction of submarines in the combat area and during movements at sea beyond the limits of the zones of responsibility of the country's PVO (air defense) forces;

(4) To prevent mine laying by enemy aviation;

(5) To protect the naval missile air units from attack by enemy fighter aircraft (within the combat radius of patrol fighter aircraft) when flying to the target and back;

(6) To engage units of the enemy's air intelligence groupings in combat, in the areas of the naval bases and where the fleet is engaged in combat.



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4. "MORSKOY SBORNIK"

For the purposes of this study, the Soviet naval journal Morskoy Sbornik has proven to be a somewhat disappointing source.

In the first instance, this stems from the fact that translated copies of the journal have not been maintained centrally. Selected articles from 1970 are available providing consecutive coverage. However, prior to that time, only scattered coverage has been attained after the most exhaustive search of private and government holdings in the Washington metropolitan area; none have been located prior to 1963, and yet the period in the early to mid-1960s was one of considerable ferment in the Soviet Navy, much of which was reflected in Morskoy Sbornik as evidenced by internal references in the few articles uncovered and in the works of certain Western analysts at the time.

In the second instance, the content of Morskoy Sbornik apparently underwent a change in the late 1960s. An article by Admiral Orel in the May 1969 issue of Military Thought[170] reviewed the contribution of the naval journal to military science in the preceding year and entered a strong plea that greater attention be devoted to discussion of military art and specifically its naval component. That the contrary was a matter of policy was revealed in an article in the February 1971 issue of Morskoy Sbornik itself.[171] It was stated therein that the Military Council of the Navy had considered the content of the journal and had directed the editorial board to undertake additional efforts to improve its worth.

> The Military Council of the Soviet Navy has obliged Morskoy Sbornik to elucidate in depth for naval personnel the concepts of Marxism-Leninism and the policy of the Communist Party and the Soviet Government. It is imperative that special attention be devoted to the dissemination of information on the CPSU 24th Party Congress and to the mobilization of fleet crew members to the successful fulfillment of tasks in combat and political training, to increasing the vigilance and combat readiness of ships and units, and to the strengthening of troop discipline. It is imperative to more actively expose the reactionary nature of Western ideology and to inculcate a class hatred toward imperialism.
>
> The foremost task of the journal is to cultivate in navymen an ideological conviction, a boundless devotion to the Communist Party . . . and a readiness to fight selflessly . . . .

> It is imperative to broadly propagandize the revolutionary and battle traditions of the Communist Party . . . and the glorious history of our country's Navy.
>
> It must thoroughly expound combat and political training and Party political training and Party political work . . . and deal more specifically with problems of seamanship.
>
> It must nurture in officers a love for the sea . . . a desire for long cruises . . . . It is imperative to devote greater attention to young officers and to the training of officer personnel at naval training schools. . . . It must expose the reactionary nature of bourgeois naval theory . . . .
>
> And [it recommends] to the commanders, staffs and political organs . . . that they explain to officers that the journal is a vital means for improving their political, military, and specialized knowledge, and for broadening of their operational-tactical views.

Compliance with this policy is quite evident. Morskoy Sbornik no longer contains exchanges between authors on significant aspects of naval art. What few articles do treat naval warfare have the polemic ring of official pronouncements, and in the case of authors who also appear in Military Thought, a more bland and didactic approach than evidenced in the higher-level journal.

It might also be noted that the series of articles on "Navies in War and Peace" by Admiral Gorshkov, which attracted such wide attention in the West, began in this journal exactly a year after the adoption of the editorial policy outlined above. Read in this light, the series can take on a rather different character from that which many analysts have accorded to it.

Despite these shortcomings, Morskoy Sbornik has provided a number of useful insights.

In a June 1963 article[173] on air-to-surface nuclear missiles, the author addressed both the utility of the missiles and the changes that would be necessary in tactics and equipment. Noteworthy points made include:

(1) Nuclear ASM had a role against submarines. Granted the difficulty of detection and localization," ...it will be easier to destroy a submarine with the help of nuclear weapons, especially with self-guided torpedoes (missiles of the air-to-submarine class) than with

former destructive weapons." A 2.5 KT warhead was effective at a distance of 610-915 meters, and at submergence depth limit, a 10 MT charge could destroy a submarine at distances up to 70km.

(2) Dispersed ship formations will facilitate target identification and missile acquisition and dilute defenses against the missile.

(3) The use of surface-to-air and air-to-air missiles with both conventional and nuclear warheads by the enemy prohibits mass bomber raids. Instead, dispersed attack formations will be required, necessitating airborne radar and secure radio communications for position keeping and control.

(4) Reconnaissance aircraft will require precise navigation means and, from the description, a video data link to permit launch aircraft to be effective.

(5) Longer range missiles of 500-600 km would permit launch outside of shipborne interceptor range.

(6) Low-level approach will inhibit detection.

(7) Self-protection from air-to-air missiles can be afforded by radar controlled, high-rate-of-fire guns.

A November 1963 article[173] on naval tactics is of particular interest because it reflects, at the tactical level, the attempt to think out the implications of nuclear warfare noted at a higher level in 1960-1962 as reviewed earlier. The article, by internal reference, was apparently a concluding one in a series discussing "Naval Tactics and its Study" which commenced in July 1962. Reflecting the Soviet penchant for categorizing elements of warfare and working out the theory in excruciating detail, this article was nominally on the content and relationship of the standard concepts of attack, strike, and combat. In it the author makes several points, indicated by the following excerpts and appraisals:

(1) "Taking into account the aggressive course of the imperialist powers, first of all, the United States in preparing for a thermonuclear war against the countries of the Socialist camp, our military science has been compelled to consider rocket nuclear weapons as the principal means of achieving victory over the enemy. Let us

emphasize the principal weapon and not a reserve or auxiliary weapon pon, nor a means of achieving success using standard types of weapons. On the contrary, the standard weapon is no longer the principal weapon, but a supplementary one, sometimes kept in reserve. These views are, in our opinion starting points when we consider the forms of combat operations at sea both on an operational and tactical scale."

(2) With nuclear rocket weapons, the "strike" is the principal and independent form of combat operations at sea. It has the following characteristics: Sudden and swift movements of the attacking groups; massed, tactically-coordinated use of forces and combat weapons; relatively simultaneous use of offensive weapons against selected objectives; skillful maneuvering against a weak point in the enemy's defense. "The general feature of a well-prepared strike is that it cannot be repulsed."

(3) A primary task is to work out the principles and methods for joint combat use of the varied rocket forces for the conduct of principle assignments at sea and to examine theoretically strikes against land objectives.

(4) The principal of massing should be discussed in an operational sense, as against a large force of ships consisting of a number of important objectives and having a strong defense. A massive use of various types of naval forces may be required, but not necessarily the massive use of rocket nuclear weapons.

(5) Coordination of forces must be looked at differently. "Successful combat with nuclear assault forces depends primarily upon the condition that the enemy should not be permitted to use his nuclear weapons." At the local engagement level, the principle of "no one waits for anyone" is preferred; however, when considering "tactical coordination of forces in a strike in far-off places," elimination of the enemy's nuclear response capability must dominate.

A March 1964 article[174] on concepts of a world-wide nuclear war echoes the themes of Military Strategy, except that the primacy of the naval threat appears to be given to the U.S. SSBN force.

Under the title "Coordination of Aviation and Submarines," an April 1965 article[175] discusses coordinated operations against surface targets and submarines in considerable detail. The bulk of the article, however, concerns ASW operations.

Support for own submarines is given considerable attention and the notion of "breaking out," commented an earlier, is quite evident. This is seen to require considerable aviation effort "to weaken opposing ASW air strength, to destroy their bases [ASW aircraft], and to destroy the groups of ASW surface ships after the submarines have put to sea. Of course, operations such as this will have already gone beyond the scope of tactical operations [i.e., theatre wide]."

Operations to penetrate barriers are discussed in some detail, with activity exptected to be greatest during the periods of mass submarine deployments and return from combat actions. The following extract is of interest:

> The maintenance of secrecy is also considered important to successful penetration of ASW barriers. This is, to some extent, facilitated by the timely discovery of ASW barriers, and of air combat operations aimed at destroying ASW forces covering those barriers. Considering that ASW barriers are usually equipped with strongly positioned systems of obstacles, one of the aviation's missions can be to create passageways for the submarines . . . specialists are of the opinion that long range bombers employing nuclear depth bombs are capable of executing this mission. It is considered that nuclear strikes against ASW barriers can be carried out beforehand or just prior to the submarine breakthrough, depending upon the situation. The most effective technique in air support for submarine penetration of strongly fortified ASW barriers is considered to be the destruction of ASW aircraft and ships. Strike aviation is the primary system for this mission. Destruction of ASW aircraft and ships in the ASW barrier areas may be carried out with the goal of masking submarine operations. It is probable that such strikes will be conducted periodically over a wide front. Of course, there may still be enemy action against the submarines, even after they penetrate the ASW barriers. However, the capability of aviation to support submarines in the combat operations areas will be quite limited in many instances. Despite the considerable

> range of modern aircraft, it is hardly possible to count on them for uninterrupted support of submarines . . . . It is more probable that they will be employed only during the most critical moments of combat mission execution by the submarines.

Coordinated strike operations against ship formations, presumably attack aircraft carrier task groups, are discussed and the following points made:

(1) Strikes need not be simultaneous but in any "pre-selected sequence" as long as they are mutually supporting;

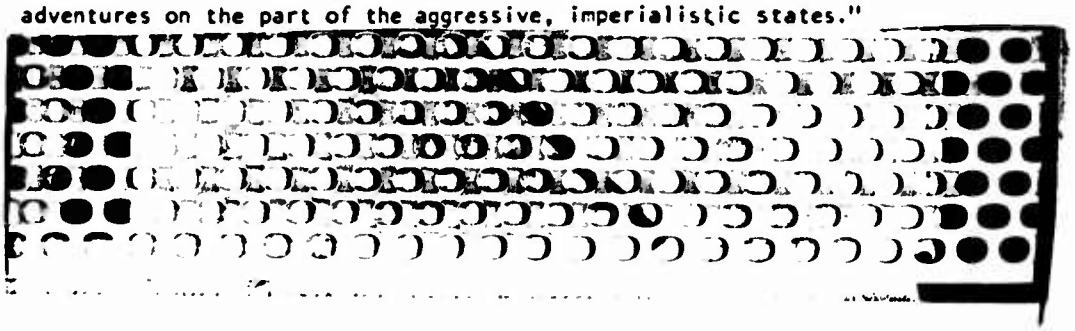
(2) Strikes at a "previously planned line" must be by nuclear air burst only, presumably to safeguard the submarine. When both surface and subsurface bursts are to be used, then the strikes must be conducted in sequential zones.

With regard to coordinated attacks against missile submarines, the following points are made:

(1) With new recognition and communications systems, ASW aircraft and ASW submarines can now conduct strikes in the same zone;

(2) ASW submarines detect and attack the missile submarine independently; if they can not destroy it or reattack, they maintain trail and call in ASW aircraft. Patrol aircraft in the area then call in the "ASW strike group" to search for and destroy the submarine.

The future of the aircraft carrier is discussed in this same April 1965 issue.[176] While acknowledging the vulnerability of an aircraft carrier in a nuclear war, the author concedes that such is not the case in a conventional war. Noting that the imperialists plan to continue building and operating carriers, which could be effective in local wars, he concludes that the Soviet Navy "must be ready to suppress any military provocations and adventures on the part of the aggressive, imperialistic states."



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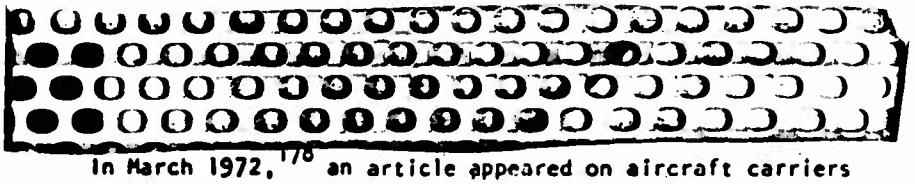


In March 1972,[178] an article appeared on aircraft carriers under the title, "The Destruction of Large Surface Ships At Sea By Aviation." Tracing the emergence and use of aircraft carriers in World War II, the authors, on the one hand, cited the many general purpose functions an aircraft carrier could fulfill, and on the other, the vulnerability to air-to-surface missile attack with nuclear warheads. The article concludes with statements of the importance of air defense, and particularly against the weapon and not the aircraft platform. "Both today and in the future the protection of warships from air attacks remains one of the main missions in the defensive systems of surface ships at sea." With the KIEV-class already building, the treatment of both mission and survivability seemed ambiguous.

The primacy of the SSBN threat is again reflected in a November 1973 article[179] on "The Fleets of the Great Powers in the Postwar Period."

> Nuclear ballistic missile submarines were immediately assigned to the strategic naval forces, and as their number increased they acquired significance as a main strike force and became the most important element in the nation's overall strategic forces. Strike carriers, remaining in the composition of forces intended for general nuclear war, were reassigned from strategic forces to 'General purpose forces.' . . . they also remain a basic naval strike force in limited war.

The future role of surface ships was treated in a March 1974 article.[180] Once again the U.S. aircraft carrier "joined the ranks of general-purpose forces found in the second-echelon of a nuclear-missile war and designed to intensify the strikes of guided-missile submarines and provide direct support to ground troops. Recently their main mission . . . once more became the destruction of the naval surface forces of the enemy (while retaining at the same time the missions of intensifying nuclear strikes and supporting troops)."

The concluding paragraph of the article is of interest because it highlights the submarine support mission and hints at a peacetime presence role for the surface ship.

> The principal strategic strike forces of the navies of the main sea-powers are now the submarine forces. However, a modern navy cannot be only a submarine navy. The result of under-estimating the necessity of supporting submarine operations by aircraft and surface ships is well known from the history of the two world wars. For this reason Soviet naval science, in giving priority to the development of the submarine forces, believes that our navy needs not only submarines but also surface ships of various types. Besides giving combat stability [survivability] to submarines, surface ships are meant to perform a broad range of missions both in time of peace and in the course of a war.

In general, the recent issues of Morskoy Sbornik shed little additional light on Soviet naval tactics or operational aspects of nuclear warfighting. While the prospect of nuclear-missile war generally appears somewhere in the background, the net impression gained from articles in recent years is of an emphasis on fostering professionalism and exploiting capabilities to meet the Soviet Navy's perceived new roles rather than theorizing on the conduct of war.

Throughout the period of the transformation of the Soviet Navy, one of its most articulate spokesmen has been its long-time Commander-in-Chief, Fleet Admiral of the Soviet Union S. G. Gorshkov. Unfortunately for the purposes of this study, the bulk of his writings has addressed the larger aspects of the Soviet Navy role vis-à-vis the other Soviet armed services and, as often interpreted, on the world scene. Little of his writing addresses issues of concern to this study at the level of detail that would be helpful; nonetheless, certain of the principles he advocates are relevant and, because of his position, add validity to similar thoughts expressed by other naval authors of lesser rank.

Gorshkov is a master in the effective use of historical allegory. Almost all of his writing is so heavy with historical prologue and loaded with historical references that the message seems buried. It is only after reading successive articles that the historical themes emerge:

(1) The Soviet Navy traditionally had an offensive spirit which was not previously supported by its equipment, even in the Great Patriotic War;

(2) Only because of its equipment limitations and the criticality of the ground campaign in previous wars was the Soviet Navy tied essentially to a support role in the coastal zones;

(3) The Soviet Navy has always demonstrated its combat readiness, even noting German naval preparations in time to avert the loss of a single ship in the first attack of the Great Patriotic War;

(4) Soviet submarines, aviation and amphibious forces made important contributions in the Great Patriotic War even though insufficient recognition was given to the significance of combined operations;

(5) The Soviet Navy has always recognized the necessity for the closest coordination between its various arms;

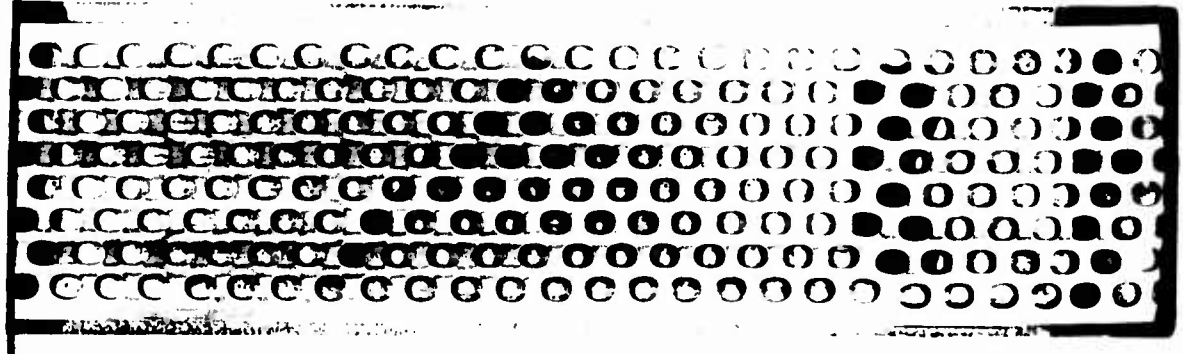
(6) The Soviet Navy has always demonstrated its "supremacy in the art of using new methods of armed conflict."

From this basis, Gorshkov projects his navy into the present and future, noting the decisions of the mid-1950s and the adaptation of the results of the "scientific-technical revolution" which have shaped the present composition and roles of the Soviet Navy. Underlying his whole rationale, particularly in the early years and even to a great extent later, was the strategic nuclear threat to the Soviet homeland posed by the U.S. aircraft carriers and later SSBNs. To cope with this threat and break out of the "imperialist bloc encirclement," the Soviet Navy had to go into "blue water" and not be bound to the coastal zone.

Gorshkov was an infrequent contributor to Military Thought, but even here before his senior military colleages he sounded the same themes. In the earliest article located, a May 1965 piece entitled "The Soviet Navy in the Great Patriotic War,"[181] Gorshkov elaborated on precisely the historical themes noted above.

In a January 1968 article entitled "The Navy of the Socialist State,"[182] he extends the historical treatment to rationalize the current composition of the Soviet Navy. The nuclear-missile submarines "carry out the chief missions of the navy" in providing strategic offensive capability. Naval aviation and atomic-powered submarines provide strategic defense by "utilizing most effectively their formidable weapons to destroy an aggressor

in remote areas of the ocean" since it is necessary "that the peaceful policy of the Soviet Union be supported by its indestructible defensive might." With vigilance and constant readiness, "the personnel of the Soviet Navy are always ready to carry out their military duty and, in single combat formation with the Soviet Army, to destroy any aggressor and to gain the victory worthy of the motherland of October."



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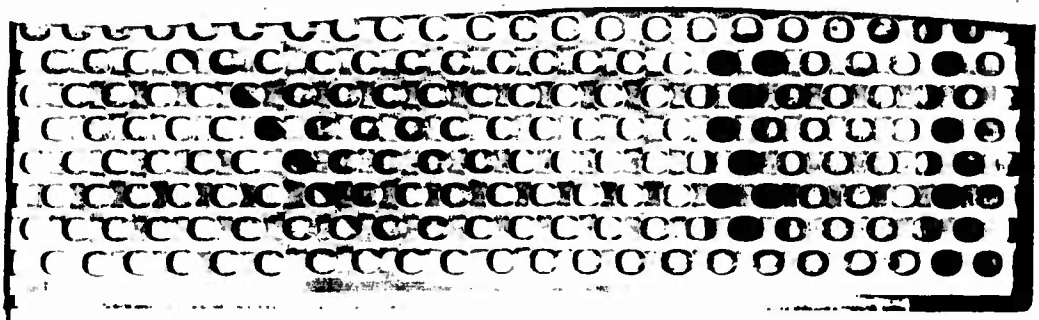


Gorshkov frequently uses the pages of Morskoy Sbornik to promulgate his message not only throughout his own navy but, presumably, its Western readership as well.

A February 1967 article[137] entitled "The Development of Soviet Naval Science" develops his usual historical themes and rationale for the present Soviet navy composition. However, he does include some specific comments indicative of Soviet threat perceptions and views current at that time.

The largest of the imperialist countries initially took the path of creating fleet strike forces based on aircraft carrier forces, with the idea in mind of assigning to each ship a division of jet aircraft which could serve as the carriers of nuclear bombs, and which would have a long flying range. Carrier strike forces were primarily designed to deliver nuclear strikes against strategic objectives deep within the territory of the U.S.S.R.

Later on the fleets of the more developed of the capitalist countries began to add atomic powered submarines armed with ballistic missiles.

Analysis of the new combat capabilities of fleet forces at the dawn of the era of nuclear missiles led us to the conclusion that the process of the sun setting on aircraft carriers as well had begun and that the process was irreversible. And although carriers were, at that time, powerful, and would, for some time to come, still be able to pose a serious threat to the safety of our Motherland, it was, nevertheless, clear that seeking for ways in which to use them as a primary strike force in the armed struggle at sea had no future.

We were never in doubt that the replacement of long-range guns in surface ships with artillery using nuclear ammunition, and even missiles, would render them any less vulnerable, or less suited for use in a nuclear war as a primary fleet strike force in the struggle at sea.

Time has confirmed the correctness of these views. Not one of the sea powers is building heavy surface ships with atomic guns.

...So far as the aircraft carriers are concerned, they have, in recent years, appeared repeatedly in the form of a primary strike force ...Korea...Suez...Middle East...Vietnam...in local wars against the peoples of the underdeveloped countries, countries which have no modern means for carrying on an armed struggle at their disposal. True, the west is, as usual, assigning important missions in a nuclear missile war as well to aircraft carriers. ... But at the same time this loses sight of the important fact that the combat capabilities of aircraft carriers, even the atomic powered ones, cannot stand comparison with the strike capabilities of submarine-air forces. And analyzing the ways in which to develop the Soviet fleet, or the fleets of the other naval powers, we are all the more persuaded of the correctness of the course we have selected in its construction.

For the first time in its history our navy was converted, in the full sense of the word, into an offensive type of long-range armed force.

> By a well-balanced fleet we mean a fleet which, in composition and armament, is capable of carrying out missions assigned it, not only in a nuclear war, but in a war which does not make use of nuclear weapons, and is also able to support state interests at sea in peacetime.
>
> ---
>
> ...the more new weapons for the armed struggle the fleet received, mastering them quickly during intensive combat training, the more clearly the fleet felt the need to develop principally new means and methods for the combat utilization of its forces... and, consequently, the better they responded to the requirements of nuclear war.
>
> ---
>
> Soviet naval science...provides for its [Soviet Navy] requirements in contemporary methods of struggle in a nuclear missile war, in carrying out the missions of protecting the state interests of the U.S.S.R. on the seas and oceans. All of these means and methods of the armed struggle are regularly checked out in the course of combat training, are refined and concretized by virture of mastering new equipments, and are enriched by the experience gained from using weapons on fleet maneuvers and exercises.

The 1972 eleven-part series on "Navies in War and in Peace" which appeared in Morskoy Sbornik and was subsequently published in the U.S. Naval Institute Proceedings[188] has been the subject of considerable attention and analysis in the U.S. and elsewhere in the West.

In evaluating the significance of this series, several points might be borne in mind. First, the editorial policy of Morskoy Sbornik enunciated the year before. Secondly, Gorshkov's penchant for historical allegory, which may do some violence to the facts. And thirdly, the worldwide attention that focused on the significance of the OKEAN exercise of 1970.

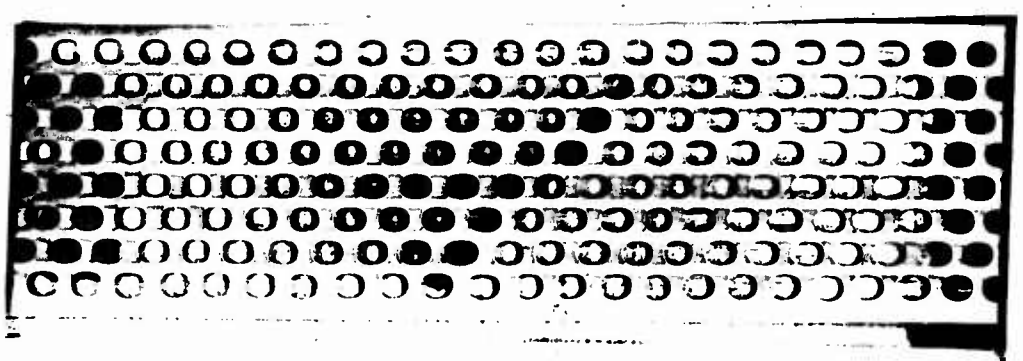
While it is undoubtedly true that the series trumpeted a new worldwide role for the Soviet Navy that merits serious attention and concern, the treatment of issues relevant to this study was not remarkable. Little was said that had not been said by Gorshkov himself or other Soviets naval and military writers in the preceeding years.

What may be remarkable was that which was not addressed. Given an increased worldwide role for the Soviet Navy and the increased probability of confrontation at sea with its adversary, the U.S. Navy, how would conflict be managed when major or vital national interests became engaged? The nuclear-missile might of the Soviet Navy was a prominent backdrop throughout

the Gorshkov series, but the character of future war between the major naval powers was never clarified; one gets the impression that it was visualized by Gorshkov to begin at a conventional level but the evidence is thin.

Perhaps the most relevant thoughts appear in Gorshkov's last article in the series.

> Under today's conditions the basic missions of navies of the great powers in a world-wide nuclear war is their participation in the attacks of the country's strategic nuclear forces, the blunting of the nuclear attacks by the enemy navy from the direction of the oceans, and participation in the operations conducted by ground forces in the continental theaters of military operations. In this instance, navies will perform a large number of complex and major missions.
>
> Important missions in protecting the interests of the Soviet state and the countries of the Socialist community confront the Navy in peacetime too.
>
> This latter point is particularly important because local wars, which imperialism is waging practically uninterruptedly, invariably remain within the sphere of imperialist policy. Today these wars can be regarded as a special form of the manifestation of the 'flexible response' strategy. ...Under certain circumstances such actions carry with them the threat of escalation into a world war.
>
> The constant upgrading of its readiness for immediate combat operations in the most complex situation is a most important precondition determining the development of the Navy. At the present time, when in a matter of minutes it is possible to reach major strategic targets and even to accomplish particular missions of the war in certain areas, the need is objectively arising to maintain the highest readiness for naval forces and weaponry. This is a consequence of the effect of the development of naval equipment and weaponry and also of the conditions in which navies have to carry out missions.
>
> In light of what has been said above, the old well known formula--'the battle for the first salvo'--is taking on a special meaning in naval battle under present-day conditions (conditions including the possible employment of combat means of colossal power). Delay in the employment of weapons in a naval battle or operation inevitably will be fraught with the most serious and even fatal consequences, regardless of where the fleet is located, at sea or in port.



Another Morskoy Sbornik article that attracted wide attention appeared in December 1974 under the title "The Development of the Art of Naval Warfare."[190] In it Gorshkov spelled out certain of the characteristics of future naval warfare, highlighting the following:

(1) Scope (of vast spatial scale);

(2) Strike (the main method of using naval forces);

(3) Battle (which is always waged to destroy the enemy; and will now focus on the weapon and not the weapon platform);

(4) Maneuver (now by weapon trajectories, replacing maneuver by the platform to a considerable degree);

(5) Massing of forces (rather than in terms of platforms, now by the variety of weapons and their density);

(6) Mutual Support (between the arms of the navy and between the branches of the armed services);

(7) Swiftness (combined with surprise to beat the enemy to the punch);

(8) Tempo (destruction of a hostile force in a very short time frame before it is able to employ its own weaponry in full measure);

(9) Control ("Under today's conditions when opposing groupings of forces have nuclear weapons at their disposal which are essentially sufficient to completely destroy one another many times over, control of forces is related to the employment of various automated equipment to ensure surprise and swiftness of operations and to gain time over the enemy. In this case, control of forces is a guarantee of success. It has become especially critical in the realm of the employment of nuclear forces and of the forces whose mission it is to knock them out");

(10) And Organization (necessarily centralized "as the missions of the Navy develop further, and as its missions, the military-political situation, and the conditions for waging naval warfare change").

6. Summary Observations

Throughout this extensive review of the Soviet doctrinal dialogue, several impressions became increasingly firm.

First, there is consistency between what the Soviets say publicly and what they say in so much of their internal dialogue as we have been privy to.

Secondly, there is consistency between what the Soviets say their military capabilities are and our intelligence estimates, specifically in terms of weapons systems.

And thirdly, there is a general body of Soviet military thought and doctrine with which Soviet naval thought and doctrine is consistent; the basic concepts carry through regardless of the branch of the armed services.

FOOTNOTES

1. Marshall V.D. Sokolovskiy, ed., Military Strategy (U), 3rd Edition, Moscow, 1968. (Page references are to the annotated translation by Harriett F. Scott in Soviet Military Strategy, Crane, Russak & Co., New York; 1975). P. 11. (UNCLASSIFIED)
2. Sokolovskiy, p. 193
3. Sokolovskiy, pp. 194-195
4. Sokolovskiy, p. 201
5. Sokolovskiy, p. 210
6. Sokolovskiy, p. 211
7. Sokolovskiy, pp. 278-279
8. Sokolovskiy, pp. 60-62
9. Sokolovskiy, p. 101
10. Sokolovskiy, p. 57
11. Sokolovskiy, pp. 393-395
12. Sokolovskiy, pp. 64-69
13. Sokolovskiy, pp. 113
14. Sokolovskiy, pp. 279-280
15. Sokolovskiy, p. 210
16. Sokolovskiy, p. 205
17. Sokolovskiy, p. 242
18. Sokolovskiy, pp. 12-13
19. Sokolovskiy, p. 14
20. Sokolovskiy, p. 278
21. Sokolovskiy, p. 242
22. Sokolovskiy, pp. 254-255

FOOTNOTES (Continued)

23. Sokolovskiy, p. 254

24. Sokolovskiy, pp. 282-283

25. Sokolovskiy, pp. 284-285

26. Sokolovskiy, pp. 452-453

27. Sokolovskiy, p. 81

28. Sokolovskiy, p. 290

29. Sokolovskiy, pp. 134-135

30. Sokolovskiy, p. 426

31. Sokolovskiy, pp. 160-162

32. Sokolovskiy, pp. 203

33. Sokolovskiy, p. 432

34. Sokolovskiy, pp. 299-303

35. Marxism-Leninism on War and Army (U), Progress Publishers, Moscow, 1972. (Page references are to the U.S. Government Printing Office edition, Stock Number 0870-00338). pp. 29-30. (UNCLASSIFIED)

36. War and Army, p. 149

37. War and Army, p. 150

38. War and Army, p. 263

39. War and Army, p. 249

40. War and Army, p. 266

41. War and Army, pp. 274-275

42. War and Army, p. 1

43. War and Army, p. 29

44. War and Army, p. 30

FOOTNOTES (Continued)

45. War and Army, p. 325

46. War and Army, pp. 3-4

47. War and Army, p. 251

48. War and Army, p. 216

49. War and Army, p. 259

50. War and Army, pp. 71-72

51. War and Army, p. 73

52. War and Army, p. 150

53. War and Army, p. 160

54. War and Army, p. 223

55. War and Army, p. 255

56. War and Army, p. 256

57. War and Army, p. 275

58. War and Army, pp. 290-291

59. War and Army, p. 301

60. War and Army, pp. 304-305

61. War and Army, pp. 261-268

62. War and Army, p. 262

63. War and Army, p. 267

64. War and Army, pp. 160-161

65. A.A. Sidorenko, The Offensive (U), Moscow, 1970, (Page references are to the U.S. Government Printing Office edition, Stock Number 008-070-00329-5). p. 4. (UNCLASSIFIED)

66. Sidorenko, pp. 5-39

FOOTNOTES (Continued)

67. Sidorenko, pp. 41-42

68. Sidorenko, pp. 43-44

69. Sidorenko, p. 56

70. Sidorenko, pp. 57-64

71. Sidorenko, pp. 64-70

72. Sidorenko, p. 70

73. Sidorenko, p. 67

74. Sidorenko, pp. 109-118

75. Sidorenko, pp. 118-132

76. Sidorenko, pp. 132-137

77. Maj. Gen. S. Shtrik, "The Encirclement and Destruction of the Enemy during Combat Operations Not Involving the Use of Nuclear Weapons (U)," Issue No.1, January 1968; FPD 0093/68. (UNCLASSIFIED)

78. Col. M. Semenov, "Gaining Supremacy in the Air (U)," Issue No. 4, April 1968; FPD 0052/69. (UNCLASSIFIED)

79. Mar SU V. Sokolovskiy and Maj. Gen. M. Cherednichenko, "Military Strategy and Its Problems (U)," Issue No. 10, October 1968; FPD 0084/69. (UNCLASSIFIED)

80. Lt. Gen. G. Semenov and Maj. Gen. V. Prokhorov, "Scientific-Technical Progress and Some Questions of Strategy (U)," Issue No. 2, February 1969; FPD 0060/69. (UNCLASSIFIED)

81. Army Gen. S. Ivanov, "Soviet Military Doctrine and Strategy (U)," Issue No. 5, May 1969; FPD 0117/69. (UNCLASSIFIED)

FOOTNOTES (Continued)

82. Maj. Gen. A. Marinov, "On a Dangerous Path (U)," Issue No. 1, January 1968; FPD 0093/68. (UNCLASSIFIED)

83. Col. D. Samornkov and Col. L. Semeyko, "The Increase of Efforts in Nuclear Warfare Operations (U)," Issue No. 10, October 1968; FPD 0084/69. (UNCLASSIFIED)

84. Maj. Gen. N. Vasendin and Col. N. Kuznetsov, "Modern Warfare and Surprise Attack (U)," Issue No. 6, 1968; FPD 0005/69. (UNCLASSIFIED)

85. Maj. Gen. V. Zemskov, "Wars of the Modern Era (U)," Issue No. 5, May 1969; FPD 0117/69. (UNCLASSIFIED)

86. Maj. Gen. V. Zemskov, "Characteristic Features of Modern Wars and Possible Methods of Conducting Them (U), "Issue No. 7, July 1969; FPD 0022/70. (UNCLASSIFIED)

87. Col. L. Solov'yev and Col. S. Taran, "The Employment of Defense by the Ground Forces Under Modern Conditions (U)," Issue No. 12, December 1968; FPD 0102/69. (UNCLASSIFIED)

88. Cols. N. Popov, A. Kukushkin, and M. Persevalov, "Employment of Defense by the Ground Forces Under Modern Conditions (U)," Issue No. 7, July 1969; FPD 0022/70. (UNCLASSIFIED)

89. Maj. Gen. K. Stepanov and Lt. Col. Ye. Rybkin, "The Nature and Types of Wars of the Modern Era (U)," Issue No. 2, February 1968; FPD 0042/69. (UNCLASSIFIED)

Pages 192 through 195 were deleted

FOOTNOTES (Continued)

160. Colonel N. Semenov, "Gaining Supremacy in the Air (U)," Issue No. 4, April 1968; FPD 0052/69. (UNCLASSIFIED)

161. Captain 1st Rank Ye. Mamayev, "The Disruption of Sea and Ocean Transport (U)," Issue No. 12, December 1968; FPD 0102/69. (UNCLASSIFIED)

162. Fleet Admiral V. Kasatonov, "The Role of Surface Ships in Combat at Sea (U)," Issue No. 2, February 1969; FPD 0060/69. (UNCLASSIFIED)

163. Major General AVN I. Lyubimov, "Coordination of National Air Defense Troops with the Navy (U)," Issue No. 3, March 1969; FPD 0101/69. (UNCLASSIFIED)

170. Admiral A. Orel, "Theoretical Naval Problems As Treated in the Journal 'Morskoy Sbornik' (U)," Issue No. 5, May 1969; FDD 0117/69. (UNCLASSIFIED)

---

171. Unattributed, "About the Journal Morskoy Sbornik (U)," Morskoy Sbornik, Issue No. 2, 1971, pp. 33-34. (UNCLASSIFIED)

172. V. G. Rog, "The Effect of Nuclear Armed Missile Systems on the Use of Aircraft at Sea (U)," Morskoy Sbornik, Issue No. 6, 1963. (UNCLASSIFIED)

173. Captain 1st Rank Yu. V. Kolesnikov, "Certain Categories of Naval Tactics (U)," Morskoy Sbornik, Issue No. 11, 1963. (UNCLASSIFIED)

174. General Lieutenant of Aviation N.A. Sbytov, "The Character and Concepts of a World-wide Nuclear Rocket War (U)," Morskoy Sbornik, Issue No. 3, 1964. (UNCLASSIFIED)

175. Lt. Col. Yu. A. Bryukhanov, "Coordination of Aviation and Submarines (U)," Morskoy Sbornik, Issue No. 4, 1965. (UNCLASSIFIED)

176. Captain 1st Rank K. K. Frantz, "The Past and Future of Aircraft Carriers (U)," Morskoy Sbornik, Issue No. 4, 1965. (UNCLASSIFIED)

177. Captain 1st Rank N. Aleshkin, "Some Trends in the Development of Naval Forces (U)," Morskoy Sbornik, Issue No. 1, 1972. (UNCLASSIFIED)

178. Captain 1st Rank V. Germanovich and N. Klimov, "The Destruction of Large Surface Ships at Sea by Aviation (U)," Morskoy Sbornik, Issue No. 3, 1972. (UNCLASSIFIED)

179. K. Zvyagin, "The Fleets of the Great Powers in the Postwar Period (U)," Morskoy Sbornik, Issue No. 11, 1973. (UNCLASSIFIED)

180. Captain 1st Rank N. Vlasov, "The Past Present, and Future of Surface Ships (U)," Morskoy Sbornik, Issue No. 3, 1974. (UNCLASSIFIED)

181. Admiral SU S. G. Gorshkov, "The Soviet Navy in the Great Patriotic War (U)," Voyennaya Mysl', Issue No. 5, 1965; FDD 949. (UNCLASSIFIED)

182. Admiral SU S.G. Gorshkov, "The Navy of the Socialist State (U)," Voyennaya Mysl', Issue No. 1, 1968; FPD 0093/68. (UNCLASSIFIED)

186. Admiral SU S.G. Gorshkov, "Historical Experience and the Present Day (U)," Voprosy Filosofii, Issue No. 5, 1975; Moscow. (UNCLASSIFIED)

FOOTNOTES (Continued)

187. Admiral SU S. G. Gorshkov, "The Development of Soviet Naval Science (U)," Morskoy Sbornik, Issue No. 2, 1967. (UNCLASSIFIED)

188. Proceedings (U), U.S. Naval Institute, Annapolis, Maryland; January-November 1974. (UNCLASSIFIED)

189. USDAO Moscow IR 6901 0398 1971.

190. Admiral SU S. G. Gorshkov, "The Development of the Art of Naval Warfare (U)," Morskoy Sbornik, Issue No. 12, 1974. (UNCLASSIFIED)

BIBLIOGRAPHY

In addition to the books and articles specifically cited in the preceding footnotes, the following material was reviewed during the course of this research.

Books (U)

The Philosophical Heritage of V.I. Lenin and Problems of Contemporary War (U), Ed. by General Major A.S. Milovidor and Colonel V. G. Koylor; Voenizdat, Moscow, 1972; USAF Translation, GPO 0870-00343. (UNCLASSIFIED)

The Basic Principles of Operational Art and Tactics (U), by Colonel V. Y. Savkin; Voenizdat, Moscow, 1972; USAF Translation, GPO 008-070-00342-2. (UNCLASSIFIED)

Scientific-Technical Progress and the Revolution in Military Affairs (U), by General-Colonel N.A. Lomov; Voenizdat, Moscow, 1973; USAF Translation, GPO 008-070-00340-6. (UNCLASSIFIED)

Concept, Algorithm, Decision (U), by General-Colonel V.V. Durzhinin and Colonel D.S. Kontorov; Voenizdat, Moscow, 1972; USAF Translation, GPO 008-070-00344-9. (UNCLASSIFIED)

Survivability of Warships (U), by G.M. Novak and B.A. Tapslim; Voenizdat, Moscow, 1959; NISC Translation 3684. (UNCLASSIFIED)

Sea Power of the State (U), by Admiral of the Fleet S. G. Gorshkov; Voenizdat, Moscow, 1976; NISC Translation 3825. (UNCLASSIFIED)

Combat Path of the Soviet Navy, 3rd Edition (U), Ed. by A. B. Bacov; Voenizdat, Moscow, 1974. (UNCLASSIFIED)

War, Ocean, Man (U), Ed. by Admiral V. U. Grishanov; Voenizdat, Moscow, 1974. (UNCLASSIFIED)

Military Periodicals (U)

"Morskoi Sbornik (U)," 1963, Issues 7-12; 1964, Issues 1-6, 8-12; 1965, Issues 1, 4, 5, 10, 11, 12; 1966, Issues 1-12; 1967, Issues 1-7, 8-10; 1968, Issues 1-9; 1969, Issues 7, 8, 10-12; 1970, Issues 1-12; 1971, Issues 1-12; 1972, Issues 1-12; 1973, Issues 1-11; 1974, Issues 3, 4, 8-12; 1975, Issues 1-6; Red Star Publishing House, Moscow; OACSI Translations. (UNCLASSIFIED)

"Air Defense Herald (U)," OACSI Holdings; Red Star Publishing House, Moscow; OACSI Translations. (UNCLASSIFIED)

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SECTION VII

SOVIET NAVY DOCTRINE FOR THEATRE NUCLEAR WARFARE

A. INTRODUCTION

In analyzing the Soviet professional military literature relevant to theatre nuclear warfare, it would appear most appropriate to address first the broad, underlying concepts of the overall Soviet doctrine, noting their naval overtones and implications. With this as a basis, the operational and tactical concepts specifically related to the Soviet Navy may then be addressed.

From this analysis, the current Soviet Navy doctrine for theater nuclear warfare will be postulated. In the succeeding phase of this study, this postulation will be tested against the evidence of Soviet naval exercises and force posture for validity or necessary modification.

B. ANALYSIS OF THE DOCTRINAL DIALOGUE

1. Military Doctrine in the Soviet Context

At the outset, it may be well to establish the unique character and role of military doctrine in the Soviet concept, for it has no direct counterpart in U.S. military parlance. While we may speak of a "firing doctrine," an "assault landing doctrine," or even a "doctrine" for military operations on a larger scale, the connotations are generally the same; first, that the matter is of an operational nature, and secondly, that it represents an agreed method which facilitates coordination or ensures uniform application. Soviet military doctrine represents something quite different, stemming from their own policy-making process.

In the Soviet concept, military doctrine represents state policy, shaped and agreed upon by both the political and military leaderships. As such, it provides the parameters both for structuring forces and, if need be, conducting military operations.

Standing at the apex above military strategy, military science, and military art, doctrine provides complete fusion of political purpose with military capabilities and planning. Each of the military sub-elements has its own function in what might best be characterized as a closed-loop cycle. Military art, in the Soviet concept, deals with how forces or weapons systems are to be employed, largely in an operational sense; it also helps to define future needs. Military science addresses force employment at a higher level, both in terms of scope of operations and the amalgamation of diverse capabilities, but still largely in pursuit of military objectives. In addition, military science has the function to discern and propound future potential, by incorporating technological advances or otherwise increasing military capabilities. Military strategy then has the function of devising and making explicit how military capabilities, in being or proposed, can best serve the purposes of the state. Doctrine, when settled upon by the leadership, then flows downward, not only for implementation but also to start this cycle anew.

Soviet military doctrine can -- and does -- change over time. This is implicit in the Lenin dictum, continually stressed by the Soviet military theoreticians, that war is a continuation of politics by violent means; i. conditions the Soviet military to the acceptance of doctrine shaped to support the politcal purposes of the state as they are defined by the Soviet leadership at any one time. If those political or ideological purposes of the state embrace ultimate world hegemony and entail risk of conflict in their pursuit, then Soviet military doctrine must provide the undergirding strength and assurance, not only that the state will survive, but that ultimate victory will be achieved, regardless of how the leadership chooses to proceed.

Thus, the fundamental goals of Soviet military doctrine remain constant: To safeguard the homeland -- and the "gains" of socialism throughout the world, while ensuring its inexorable advance.

To the extent that the Soviet military influence doctrine, it seems to be largely as "worst case" planners. Their role is to ensure that any military situation can be met and that the Soviet leadership can

retain the initiative in pursuit of state purposes - and if hostilities ensue, that the Soviets can and will prevail.

It is against this background that the Soviet professional military literature must be analyzed. Much of what is available to the West lies within the realm of military art, military science, and military strategy. Here the writings generally reflect two aspects; first, that of dissemination of agreed positions or policy, with the implication that they are in implementation of either existing or new doctrine; and second, of proponency, where concepts are being disseminated for the information of one's peers before their incorporation into doctrine. In the latter regard, it must be noted that such writings are in the minority, particularly in recent years where there seems to be little of the argument and rebuttal noted in military journals in the mid-1960's. All of these writings are cleared for publication either by a service or the Ministry of Defense, and unless the issue is one on which discussion is specifically desired, there is little likelihood of significant departure from established positions or policy. On occasion, military doctrine as such is discussed in the professional writings and the tone is invariably expository or interpretive, as befits state policy.

By judging the tone, timing, level of publication, and consistency with the body of military literature, as well as the author's position, one can usually discern policy pronouncement from proponency. Further, by recognizing where the subject matter fits in the hierarchy, it is possible to check for vertical consistency. Through such processes, Soviet military doctrine can be pieced together in some detail from the professional military literature, although there will be voids or vagueness in certain areas which can only be bridged by informed judgment.

Current Soviet Military Doctrine in Broad Outline

Soviet military doctrine has clearly evolved from the mid-1950's embrace of the inevitability of all-out worldwide nuclear war to an accommodation of wars of varying intensity dependent upon the political objectives of the combatants and the criticality of the national interests that are engaged.

This evolution undoubtedly reflected the perception of the "correlation of forces" on the part of the Soviet leadership, but at each step the doctrine seems to have given substance to the posture that the Soviet government took before the world. The dominating influence appears to have been the Soviet self-perception of their strategic nuclear capability and vulnerability at the uppermost end of the conflict scale. Strategic deterrence had to work in their favor, and until they achieved the posture where they were confident it could, doctrine focused on the worst-case situation. The second major influence appears to have been a similar self-perception of their conventional capabilities and vulnerabilities in conflict below the level of strategic exchange. That the Soviets were not confident in - or at least satisfied with - their conventional posture seems implicit in their continuing efforts to maintain and improve that posture at what must be a significant strain on their economy. The third influence, and one which may be gaining the ascendancy, appears to be the Soviet perception of the fortunes of their social and political aims throughout the world and the progress that is being made toward their ultimate goals at levels of conflict which do not involve the direct use of their military forces.

Perhaps the most succinct exposition of current Soviet military doctrine, in its broadest sense, was set forth in one of the Soviet military journals early in 1975. Published on the eve of the celebration of the 30th anniversary of the victory in the Great Patriotic War, the issue was generally devoted to a summing up of the progress made by the individual services since that time and the present Soviet military position in the world. Read in that context, the article[1] takes on added significance; moreover, it passes the consistency test with other professional writings of the time. Specifically, addressing Soviet military doctrine, the high ranking author makes the following points:

(1) Soviet military strategy and state policy comprise an "organic unity" with the latter playing the determinant role.

(2) Until nuclear weapons are banned, there can be no guarantee that there is no possibility of a nuclear world war. As a consequence, the Soviet political leadership took control of nuclear weapons from the very outset. Nonetheless, the unity of political and military leadership is "an undisputable fact."

(3) Soviet politico-military strategic objectives must conform to the realities of Soviet military and economic capabilities.

(4) The pace and resolution with which these politico-military objectives are pursued must fully consider the worldwide nuclear capabilities of the adversary blocs and coalitions.

(5) The locale and timing for the pursuit of politico-military objectives must be skillfully chosen on the basis of the political and economic situation in the target country or region and the local military balance.

(6) While significant politico-military objectives can be achieved by employing non-nuclear weapons in local and limited wars, only major objectives should be pursued in such wars if there is any risk of nuclear escalation, and then only if there is assurance of quick and decisive success at the conventional level.

(7) Given the diversity of political, economic and military means at the disposal of the Soviets, the choice for a politico-military strategic operation should be made on the basis of clearly understood objectives and relative capabilities, the ability to retain the initiative, and the ability to exploit favorable local political and economic conditions. Choice must also consider timing, the ability to bring the chosen means to bear, and the ability to bring other means to bear if necessary to ensure the success of the venture.

(8) And finally, in pursuing politico-military objectives, it must be borne in mind that there are appropriate times for a strategic offense, defense, or even withdrawal.

The foregoing would seem to convey a much more cautious and flexible approach on the part of the Soviets than many Western analyses would suggest. Nonetheless, if Soviet politico-military actions throughout the world are considered since the Cuban missile crisis -- when one might say they had to face the realities -- they can be seen to fit this prescription.

Within this doctrine, the challenge to the Soviet military is to maintain the array of capabilities and the posture which will permit this flexibility and retention of the initiative by their political leadership -- and as always, the ability to prevail should the "worst case" occur.

3. The Nature of Future War

The nature of "wars in the modern era" is a dominant theme in the Soviet professional military literature at every level and its treatment over the years is indicative of the evolution of Soviet military doctrine.

From the 1950s through the mid-1960s, the focus of Soviet military writing was on the all-out nuclear world war. With a dispassion that is notable by Western standards, Soviet authors theorized and discoursed on how such wars could be fought and won. The net impression is that they had come to grips with the prospect and had worked out their concepts to the minutest tactical detail. Their current literature gives much the same impression of readiness for the all-out nuclear exchange and its aftermath, most certainly at the intellectual level, and if taken at face value, the operational level as well.

In the late 1960s, the Soviet military literature began to acknowledge that a world war between the blocs could begin at a conventional level. In discussing the conventional aspects of such a war, the Soviet military authors drew heavily on past Soviet experience and evolutionary concepts, and the impression gained is again that of complete intellectual and operational readiness for warfare at that level.

However, the gray area between worldwide war at the conventional level and the all-out nuclear exchange has been a difficult regime for the Soviet military authors to address. They, of course, are not singular in that regard.

From the early 1960s, the Soviet military theoreticians conceptualized and discussed the use of tactical nuclear weapons in great detail, but it was almost invariably in the context of an on-going intercontinental exchange or the stages of the conflict immediately precedent thereto. Somewhat later, they tried to conceive their separate use and the effect that such use might have on the nature of future wars.

The Soviet authors seemed to acknowledge that local or limited wars -- where the vital interests of neither the U.S. nor the Soviet Union were irrevocably engaged -- had some potential for entering a nuclear phase that need not escalate to an all-out exchange. However, in wars wherein the vital interests of both participants were engaged -- and specifically in the NATO European context -- there was an extremely high potential that they would enter a nuclear phase, the extent of which was seldom specifically addressed.[2] In their more recent writings, the Soviet military authors seem to imply that such a phase need not necessarily eventuate in an all-out intercontinental war. However, the means whereby this "theatre phase" could be controlled and contained is never made explicit; rather, the implication is, that like a master chess player, they can retain the initiative and ultimately "take the board." There is some evidence that the Soviet military theoreticians are attempting to focus more clearly on theatre nuclear warfare, but it is tenuous at best. Whether this vagueness is purposeful or merely reflects the inability of Soviet doctrine to address the intangibles involved is moot. With respect to future war, the Soviets appear to be planning and posturing themselves for the worst while hoping for the best.

4. War Initiation

Another dominant theme in the professional military literature is the initial period of a war. This emphasis has its roots in the totality of the Marxist-Leninist dialectic -- and apparently some rather specific guidance from the political leadership. This is not at all unreasonable, for this is obviously the critical period, where under "modern conditions" everything is going to be won or lost; a draw, or "checkmate", does not outwardly appear to be an acceptable Soviet outcome.

The ostensible scenario in all military writings reviewed is that of the imperialists "unleashing war" if other more rational elements fail to constrain them. By some considerable intellectual exertion, one can impute a Soviet intention to initiate war at the conventional level where the engaged state interests are high enough to immediately entail nuclear confrontation; it is much easier to ascertain a concept of gradual Soviet pressure to uncover the soft spot that can be exploited at manageable risk with conventional means.

It is also possible to read into Soviet military writings the intention to preempt if the situation presents a level of threat where there is any question of Soviet ability to prevail. In earlier years, such writings had nuclear overtones;[3] more recently, the context is conventional or ambiguous.

The issue of preemption is tied to the element of surprise which figures prominently in most Soviet writings. As will be discussed later, this is one of the Soviet "principles of the art of war" and is more complex than it first appears. Accordingly, one has to examine very carefully the context in which an author writes to determine if preemption is indeed the proper interpretation. If one accepts the version of military doctrine set forth earlier, one would infer that preemption would occur only at the uppermost boundary of risk in the face of incontrovertible evidence of planned attack which would put the Soviets at serious disadvantage. If one takes the view that the Soviets have more aggressive intentions and a lower risk tolerance, the same writings would imply that the Soviets would initiate whenever they judge hostilities to be unavoidable.

If Soviet military doctrine is ambiguous on these two critical issues, it may be purposely so to permit the political leadership maximum flexibility. The continual Soviet emphasis on readiness would be consistent with such a purpose.

5. Escalation and Escalation Control

Related to the vagueness on the nature of future wars noted earlier is the apparent inability of Soviet military theoreticians to come to grips intellectually with the concept of escalation.

The tenor of recent military writings suggests that the Soviets believe they have achieved deterrence at the level of strategic exchange and can contain warfare below that level at acceptable risk. Whatever element of risk remains apparently is seen to be covered by preparation of their military forces, industry, and population for nuclear warfighting, which in itself could be interpreted as an effort to improve their deterrent posture.[4]

However, when the Soviet military theoreticians have attempted to address the limited or controlled use of nuclear weapons, particularly in theatre warfare, their writings are notably sterile. The impression given is either of proscription or inability to intellectualize the issues entailed. Soviet military authors have done little but to discredit Western concepts, usually in tones bordering on incredulity. Their commentary on "flexible response" has been the most extensive, and almost invariably to the effect that it is a U.S. effort to deceive its own NATO allies.[5] The "demonstration" use of nuclear weapons by the West is discarded with the flat assertion that it will receive response in kind. Each of the other Western notions of steps in the "escalation ladder" receives similar summary treatment. Recent Soviet military writings have only advanced their position to the point where there is acknowledgment that the political aims and purposes of the conflict would have to be carefully weighed -- presumably by both sides. However, what is significant is that the context within which Soviet military authors address the limited use of nuclear weapons is invariably in Europe and other areas outside the borders of the Soviet Union; none of the Soviet military theoreticians has addressed the situation of limited use which impinges on the homeland. This is evidently the only clearly recognized escalation boundary between theatre or limited use and strategic nuclear warfare.

The threshold between conventional and tactical or theatre nuclear weapon use is similarly ill-defined by Soviet military theoreticians. Some of them acknowledge that the crisis point will be reached when the enemy is posed with the problem of defeat or the loss of significant strategic ter-

ritory behind an established defense line; but even here the prescription for handling such a situation is merely that the Soviet operational and political leadership must have all the relevant information needed to render their best judgment.[6]

In this regard, the Soviet naval writings have been specifically reviewed for perceptions of when an enemy might be impelled to transition from conventional to nuclear weapon use. They are silent on the issue, except for Gorshkov's statement that the loss of a U.S. aircraft carrier would immediately result in nuclear escalation, and even this must be judged in its context.[7]

Soviet military theoreticians acknowledge that there may be situations where they will have to take a defensive posture, either to prepare a counterattack or to hold while other elements of the overall attack proceed on other axes. But even in these defensive situations there is no indication of the threshold where the Soviets would feel impelled to transition from conventional to nuclear weapons. In the context of an ongoing nuclear war, it is clear that the Soviets would rely heavily on the use of nuclear weapons to defend and hold their positions;[8] such is not the case in any of the conventional scenarios they address.

Again, Soviet naval writings were carefully reviewed in this specific regard. The results were similarly negative. Moreover, Soviet naval theoreticians do not address defense in terms of own force or mission survival. The Soviet Navy has the mission of defending the homeland -- defending a coastal zone -- defending their own sea lines of communications -- or even defending their own submarines; but these missions are always discussed in terms of the offensive actions that will be necessary to do so. There is no evident sense of extraordinary defensive measures which must be taken to ensure survival of a unit or force which is critical to mission success. As an example, the vulnerability of Soviet Navy surface units to air attack is widely discussed and the improvement of air defense acknowledged as an urgent requirement. However, in no instance was there even a clear implication that nuclear weapons would be used to do so, despite the fact that this

capability is generally attributed to their surface-to-air missile systems. Much the same is true with regard to the use of anti-submarine weapons.

In trying to understand this anomaly, one can settle on several explanations. The first is that the Soviet Navy has gone to great lengths to inculcate an offensive spirit and outlook in its personnel and discussing such considerations of self-defense would be inimical to this goal. A second explanation might lie in the fact that the Soviet Navy does not seem to embrace the concept of the "high value unit," that one element on whose survival all else depends. This would be consistent with their present force composition and pattern of force employment; offensive capability is widely dispersed both in terms of types and numbers of platforms and these are never so aggregated that "all their eggs are in one basket."

The possible exception to this lack of a defensive concept is with regard to their own SSBN force, which will be discussed at a later point.

The question at this juncture, however, is whether or not the Soviet Navy would differentiate between the enemy's use of defensive weapons and offensive weapons. To be specific, how would the Soviets regard the use of nuclear depth charges or nuclear surface to air missiles to protect a U.S. aircraft carrier? Would this be accepted or would it inevitably trigger their use of nuclear offensive weapons? If the Soviet Navy has no clear perception of a survivability threshold in their own case, would they recognize one on the part of their adversary? Unfortunately, nothing has been found in Soviet naval writings which would provide a definitive answer one way or the other.

A specific effort was also made to ascertain Soviet Navy views on the utility of nuclear weapon use and their self-perception of the adequacy of their conventional weapons to accomplish their missions. Evidence was found of their view of the increased effectiveness of nuclear over conventional weapons but this is hardly remarkable in itself. In writings of the 1960-1962 period, it is clear that nuclear weapons would be used in preference to conventional to ensure destruction

of the enemy nuclear strike forces and the accomplishment of all other major missions. However, the context of these writings was the all-out nuclear war; more recent writings imply renewed consideration of the use of conventional weapons. Soviet naval theoreticians still insist on the destruction of nuclear threat platforms before they can launch their weapons, but the professional writings reviewed to date do not provide any insights as to perceptions of the adequacy of their conventional capabilities to do so. Inasmuch as this could be a significant indicator of the nuclear threshold, other avenues will be pursued in Phase II of this study.

One element that does emerge clearly in Soviet military doctrine is that regardless of how a war starts, and whether conventional or not, the priority targets are the enemy's theatre nuclear strike capabilities. This may seem a simplistic approach to escalation control, but it is impossible to draw any other conclusion from their writings.

In discrediting the concept of "flexible response", Soviet military theoreticians make the point that it would be impossible to differentiate the "limited" use of a strategic weapon system. This conception may underlie what appears as an equally simplistic approach toward the U.S. SSBN force. The message is loud and clear in Soviet doctrinal writings, and particularly those of naval theoreticians: the Soviet Navy intends to hunt for and destroy U.S. missile submarines from the outset of hostilities. This conclusion is incontrovertible in those writings which address all-out nuclear war; and it seems impossible to come to any other conclusion from their writings about war initiated at the conventional level -- if there is any ambiguity it is only in the choice of weapons for such destruction. The notion of establishing and maintaining contact on U.S. SSBNs for preemptive attack on indications of launch preparations can not be sustained by any reasonable interpretation of Soviet naval writings.

This apparent willingness to risk escalation in conventional war by attack on what is considered in Western circles to be a strategic system may be unsettling to some. It cannot be dismissed as bravado or a deceptive ruse.

Nowhere in the Soviet military literature reviewed has there been evidence of concern for "the stability of deterrence" or "destabilizing" actions. The concept, which figures so prominently in Western strategic writings, is simply not addressed by the Soviet military in theirs. Rather than a lack of sophistication, this void might reflect a different military calculus.

As noted above, the only escalation boundary evident in the Soviet military literature seems to be nuclear strikes into the homeland. This could place actions at sea, even against one another's ballistic missile submarines, into somewhat the same category of risk as theatre warfare, subject to the same escalatory pressures and constraints.

The evidence of the increasing ASW orientation of the Soviet Navy would also tend to support the intent of attacking the U.S. SSBN force. However, the Soviet naval writings also reveal a deep-seated concern for the survivability of their own SSBN force. The emphasis on ASW, then, could be seen as an effort to safeguard their own secure strategic retaliatory force just as well as an effort to destroy the U.S. SSBN force in a simplistic effort to control escalation -- or both. One must then question how the Soviets intend to cope with POSEIDON, further and further offshore, and ultimately TRIDENT.

For the purposes of this study, the position will be taken that Soviet declaratory doctrine includes the search for and destruction of the U.S. SSBN force from the outset of hostilities in theatre warfare. Validation of that element of doctrine and resolution of the incongruities entailed will be a major element of the analysis in Phase II.

6. Nuclear Warfighting

One of the striking aspects of Soviet military literature is the heavy emphasis given to nuclear warfighting and the minute detail with which certain of its combat aspects are addressed. This is particularly true with those writings dealing with the ground-air campaign in the continental land theatre but it also carries over into the Soviet naval professional literature. The net impression is that the Soviet military has faced up to the

reality of nuclear warfare, focused on it in their military schools and academies, and at least worked out the theory of how it should be fought and won. There is abundant evidence that the Soviets have designed and structured their forces in accordance with their theoretical writings, giving the impression that they have become doctrine.[9]

The emphasis, of course, was heaviest in the literature of the 1960s which had a primary orientation toward the all-out worldwide nuclear war, but it carries through to the present: nuclear warfighting is still someplace in the background as the ultimate recourse if need be.

The 1960s literature acknowledged that there could be a massive intercontinental exchange of nuclear weapons which would wreak widespread devastation in the Soviet Union. Nonetheless, defensive measures were to be taken concurrently with the counterstrike and the evident expectation was that the war not only could but would continue and had to be pursued to victory. Unrealistic as this might seem to the Western reader, the Soviet military theoreticians wrote in deadly earnest; it cannot be dismissed as sheer bravado - they were indeed "thinking the unthinkable," at a level of grim acceptance which eluded most Western theoreticians.[10]

What is relevant to this analysis is that a theory of nuclear warfare was worked out that had its obvious focus in Europe; if the circumstance of an intercontinental nuclear exchange is removed, it appears reasonable to consider this theory as at least an initial prescription for the Soviet conduct of theatre nuclear warfare.

In the writings of the late 1960s, the Soviets seem to consider nuclear weapons simply as another element in their total arsenal of weapons; they have certain utilities in time and place and they produce certain collateral effects which must be taken into account in operational planning. The treatment is quite straightforward and dispassionate; they are to be used just like any other weapon, and in combination with other weapons, to achieve operational military objectives. Their use is foreseen on the immediate battlefield and concurrently throughout the theatre and no evident distinction is drawn as to what effect this might have on the enemy's

decision to employ his nuclear capabilities; on the contrary, there appears to be the supposition that the enemy will similarly attempt unrestricted use of his own capabilities. To forestall this, the Soviet theoreticians place the highest priority on destruction of the enemy's nuclear capabilities by every available means from the very outset of hostilities and whenever subsequently located.[11] The prevailing view appeared to be that this would entail massive, simultaneous initial nuclear strikes.

As the Soviet military theoreticians later began to consider the possibility that theatre war might be initiated at a conventional level, the prevailing view appeared to be that this would be of short duration.[12] It seems clear that some significant fraction of the dual-capable forces, most notably air, was to be withheld in instant readiness for nuclear strikes when the situation demanded; whether in first use or in response to the enemy's first use was not made explicit.[13] It is notable that even during the conventional phase, the priority targets for initial conventional strikes remained the enemy's nuclear capabilities - storage sites, weapons in transit, and dual-capable delivery systems.

The more recent writings seem to indicate a perception that the conventional phase might be more protracted but still ultimately could lead to a nuclear phase.[14] Attention is being given to the problems of the transition, at least by the ground forces, where there must be a reconciliation of the massing of forces to prosecute the conventional attack and the dispersal of forces to withstand a nuclear strike - or counterstrike; again not specified.[15]

With regard to the conduct of the war, the dominant theme is the Soviet offense: maintenance of the initiative, attack along many axes to find the weak point, and then exploitation by forces held in echeloned readiness. The concept is all-pervasive, whether in nuclear or conventional warfighting.

On the few occasions when Soviet theoreticians addressed the defensive, it was generally in the context of only one element along the front and it seemed clear that this was conceived only as a transitory

situation. Relief was to be achieved either by bringing up echeloned forces, or more frequently, by adjacent forces redirecting to encircle and destroy the enemy forces in opposition; aviation and frontal artillery/missile forces played a major assisting role.[16]

As consideration began to focus more intently on the conventional aspects of theatre war, the need was seen for greater attention to its tactical aspects so that combat could be waged successfully under any and all situations with any and all weapons. The political leadership was to be ensured a "scientific selection" of the most favorable combination of means and methods to achieve the war's specific political goals.[17]

While the bulk of the Soviet theoretical writings on nuclear warfighting addressed either its larger aspects in gross terms or its ground-air aspects in detailed terms, the Soviet naval writings were consistent with the main body of thought. Moreover, the case could be made and substantiated that the Soviet concepts for conduct of the ground campaign have rather direct naval analogues.

The point to be made at this juncture is that the Soviets do seem to have thought through nuclear warfighting to the extent that it can be posed to their political leadership as a theatre option supported by its own rationale and prescription for success - if means can be found to constrain the enemy from ultimate resort to an intercontinental exchange.

7. "Surprise" in the Soviet Concept

When and under what circumstances the Soviet leadership would resort to nuclear warfighting in an escalating situation is undoubtedly a question only they can answer, but it seems inarguable that their choice of the option would result from a net assessment of a number of factors. One which merits discussion at this point is the Soviet focus on the element of surprise.

As indicated earlier, it is all too easy to read Soviet military theoreticians and conclude that their concentration on the element of surprise translates in every instance to an intent to preempt. A close reading indicates that the Soviets consider surprise a two-edged sword that cuts

both ways. Many of their historical allegories, and particularly in the case of Gorshkov, can be read as straightforward object lessons for the troops to give purpose and meaning to the unremitting Soviet emphasis on readiness--to guard against being taken by surprise. At the level of national strategy, surprise can be translated as doing the unexpected--taking a different position than anticipated--coming out with a new weapon system that overturns the existing balance. In ongoing combat surprise can be achieved by the timing of an attack, making a thrust in an unexpected direction, making daring use of airmobile and amphibious troops, the rapidity with which new forces can be brought up and engaged, and in a host of other ways. Surprise, in the naval context, has its own characteristics which will be discussed more fully at a later point.

Suffice to say, Soviet military theoreticians do make a major issue of surprise, but it is just as often in a defensive as offensive context. Prior to war initiation, they foresee a "threatening" period during which the utmost vigilance is required and they still seem to consider that the "imperialists" will attempt a surprise attack.[18] During combat, the continual emphasis is on the avoidance of surprise. The pervasive Soviet stress on surveillance and reconnaissance can be seen, at least in part, as a reflection of this almost paranoid fear of being taken by surprise.

It is true that when indications of an enemy attack or imminent use of nuclear weapons are received, some Soviet military writers talk of "anticipatory measures." In some contexts, these seem to refer to increased measures of readiness or dispersal; in other contexts, the reasonable interpretation is indeed "strike first" to gain the advantage.[19]

Preemption obviously cannot be ruled out but this analysis of Soviet military writings seems to indicate that it will be a political decision that could go either way; the evidence appears too thin to take it as a foregone conclusion.

8. Unified Strategy and Unity of Command

Soviet military writers make it clear that there is a unified strategy for the conduct of war; unified in the sense that it has been

worked out in its essence by the political and military leadership and also unified in the sense that each of the branches of the Armed Forces makes an understood contribution so that the strength of the military entity is greater than the sum of its parts. Stress is also placed on the unity of command, again at both levels. Gorshkov himself continually stresses this theme, both in his allegorical treatment of history and in his more forthright recent articles and statements.[20]

This analysis of doctrinal writings suggests that there are several implications for theatre warfare which merit highlighting with respect to the Soviet Navy, particularly in the dominant European context.

First is the primacy of the land campaign. This is clearly the focus of the Soviet military theoreticians including the naval writers. Gorshkov himself acknowledges the "differing value of continental and ocean theaters of operation in war" in a context that clearly accepts the supremacy of the former.[21]

The linkage of naval operations to the ground campaign is an element that bears consideration. Soviet naval writers often use the phrase "independent operations," but this has to be understood as independent from the coastal defensive zone only and the command organization the latter entails.[22] "Independent operations" are the blue-water operations which now engage a significant fraction of the Soviet Navy; however, there is a clear record of their rationalization and justification on the basis of their direct and immediate contribution to the success of the land campaign. Often overlooked but clearly emphasized by the Soviet naval writers are the roles which engage the other fraction of the Navy that are even more closely wedded to the land campaign: support of the seaward flanks, supportive amphibious assaults, maintenance of sea lines of communications in the "closed seas," and even protection of the land flank from attack by non-U.S. naval forces.[23]

Second is the dependence of the Soviet Navy on other branches of the Armed Forces which, in certain circumstances, could be critical. Long Range Aviation has a supplementary naval role which could be negated by

overriding priorities. The national air defense forces (PVO Strany) and frontal aviation provide air cover within range which is also subject to competing priorities. And there are indications in some writings that at least the IRBMs and MRBMs of the strategic Rocket Forces have a role in naval campaigns in the Baltic and the Mediterranean; these forces, too, are subject to competing priorities.[24]

The significance of the foregoing is both explicit and implicit. On the explicit side are: the range of naval commitments to the land campaign that could dilute the availability of forces for the "independent" bluewater operations, particularly in the case of Soviet Naval Aviation; and the constraints that could be placed on naval operations if overriding priorities are assigned to other branches in support of the land campaign. On the implicit side is the improbability of a freewheeling "war at sea." It seems clear from the literature that the centralized, unified command would insist on tight and close control of naval operations and their synchronization with the land campaign. The question arises, then, whether the Soviet centralized command would permit the conflict at sea to get ahead of the land campaign. Could hostilities start at sea before the ground and air forces were ready to prosecute the land campaign? Or, if hostilities had commenced at the conventional level, would the Soviets initiate the use of nuclear weapons at sea before their forces were postured and ready to use them in the land campaign? The impression gained from the literature, and it can be no more than that, is that the considerations of the land campaign would dominate. If this is true, there could be a willingness to accept considerable losses at sea before a nuclear threshold was perceived by the central leadership.

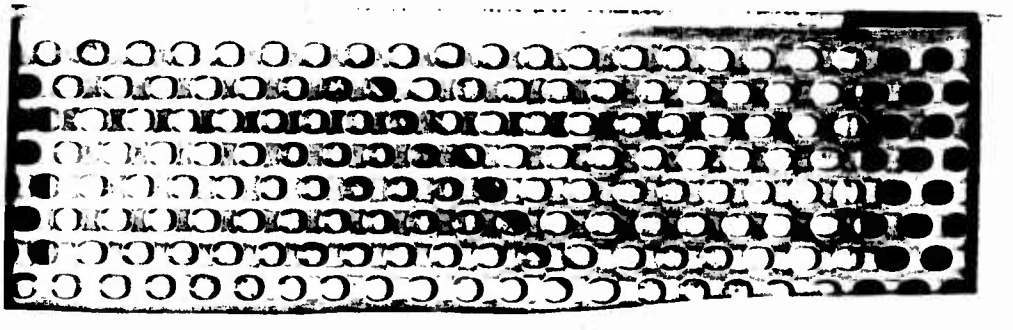
9. Soviet Navy Threat Perceptions

Soviet naval writings make it quite clear that the primary naval nuclear strike threat is now seen to be the SSBN, including those of the UK and France. The aircraft carrier is seen to be a secondary threat, in part because of the belief that the U.S. itself has assigned it a secondary strike mission; however, the literature clearly indicates that the Soviets believe they can readily cope with that threat.[25]

In theatre warfare, the literature implies that both the SSBN force and the aircraft carriers would be primary targets for immediate destructive attack, even at the conventional level, to eliminate or blunt their nuclear strike potential. As indicated earlier, no clear evidence has been found that the Soviets would withhold attacks on the SSBN force out of consideration of the effect on deterrent stability. The aircraft carrier, in addition, is perceived to have the capability to affect the land campaign, adding to the urgency of its destruction.

The nuclear attack submarine is seen by the Soviets to be the dominant threat to their own SSBN force and therefore a primary target for offensive, hunter-killer operations.[26] Additionally, this threat dictates protective ASW operations around their own SSBNs.[27]

In the literature of the earlier period, considerable attention was given to the U.S. amphibious assault capability. Recent writings are virtually silent on this subject; if mentioned, it is usually in the more inclusive context of anti-ship or anti-SLOC operations.



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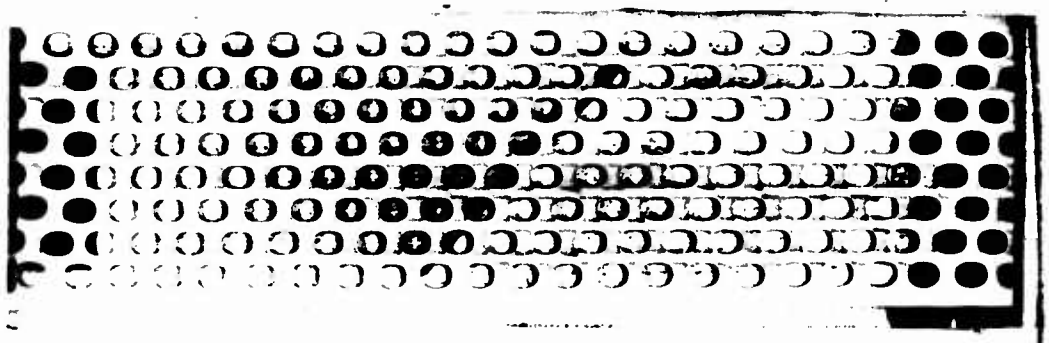


13. Soviet Naval Operational Concepts

Throughout the Soviet naval literature that has been reviewed, a variety of operational concepts have been discussed with varying degrees of detail. In the earlier literature, the context was the all-out nuclear war and the use of particular nuclear weapons was specified quite clearly. Later contexts were more ambiguous but the same concepts appeared to prevail regardless of weapon character. Additionally, the discussion of naval warfare has often been organized around a fairly standard set of characteristics within which the range of concepts can be fitted. For purposes of summation, this latter framework appears to be the most convenient for aggregating the elements of doctrine for theatre warfare.[32]

Scale and vast spatial scope are said to be basic characteristics of modern naval warfare. The concept is most generally applicable to the all-out nuclear war in the Soviet context of such being a war to the finish between opposing social systems. The spatial scope stems from the Soviet naval perception that they must seek out and destroy the enemy naval nuclear strike forces no matter where they might be; Gorshkov implies that with the advent of TRIDENT this could spread warfare throughout all the World Ocean. In some instances, the discussion of an anti-SLOC campaign takes on worldwide connotations. Taken literally, these concepts would

mean that a NATO European theatre war would entail worldwide naval operations whether conducted conventionally or with nuclear weapons. Whether this is hyperbole or not can best be judged by the pattern of Soviet peacetime forward deployments and an evaluation of the ability of the Soviet naval forces to spread out in strength to undertake significant naval operations of this scale. There is clear evidence in earlier Soviet naval writings of the concept of extending naval operations out to the "launch" line or zone defined by the maximum strike range of carrier aircraft and ballistic missile submarines. If this is extrapolated to the increasing range of the latter, Gorshkov's comments certainly fit. Soviet naval writers also discuss pre-positioning submarine attack forces off the bases and operating ports for attack carriers and SSBNs to establish trail and await the commencement of hostilities. The most reasonable interpretation would appear to be a level of hostile submarine activity throughout distant ocean areas consistent with pre-hostilities deployment posture but with the most intense Soviet naval activities closer to the Soviet Union where offensive capabilities can be aggregated to ensure local superiorities.

An element of this concept which bears mention is the Soviet concentration of attention on the base and support facilities for enemy naval forces. The necessity for their destruction is generally seen to have priority almost equivalent to that of the naval forces themselves. This is particularly true in the case of combatting the enemy SSBN force where related communications, navigational aids, support ships and bases are given the highest target priorities. There appears to be a clear intention to devote a significant portion of an initial strike effort, conventional or nuclear, to the destruction of theatre naval support facilities.

Surprise is a characteristic which receives continual attention. As discussed earlier, it has many connotations. Reliance on the submarine as the primary offensive weapon in itself is seen as enhancing the element of surprise because of the nature of its operations and the ability to avoid detection. Use of underwater communications for strike coordination and

encrypted radio communications are seen to have the same quality. The use of active electronic warfare measures to suppress or degrade enemy detection capabilities also fits within this framework. Mention is also made of the necessity to present false targets, decoys, and decoy operations to enhance surprise and the context extends well above the tactical engagement level with implications that are far from clear. Incorporated within the discussion of surprise is an overriding emphasis on reconnaissance and surveillance. Both systems and operational employment modes are heavily stressed. There is a clear record of emphasis on satellite reconnaissance that goes back in the literature until at least the early 1960s. Long range aircraft are otherwise generally considered to be primary reconnaissance platforms with nuclear and diesel submarines following in order. Submarine trailing operations, patrol zones, and barriers fit into the concept and are emphasized. Radio direction finding and signal intercept are key elements and the requirement for greatly improved underwater surveillance capability is stressed heavily.

At the level of force employment, the strike concept receives considerable elaboration as the means whereby not only enemy naval forces can be destroyed but major strategic objectives achieved with one blow. It is clear that cruise missile-equipped submarines and aircraft are the primary strike forces against enemy surface naval units, to be employed in coordinated operations whenever feasible. In ongoing combat, the "no one waits for anyone" principle appears to prevail with other forces joining when and as they can. The situation which would prevail at the initiation of hostilities at Soviet option is not quite as clear. Simultaneity of strikes against all enemy offensive capabilities is evidently a goal to be achieved if at all possible. This runs somewhat counter to the concept of ensuring that each initial strike has sufficient weight so that it cannot be repulsed. In the same context and against enemy surface targets, there appear to be indications that the submarine missile attack would precede the air-launched missile attack to degrade defense against both the air-launched missile and its aircraft platform.

The "battle" characteristic seems to be more theoretic than operative. It is usually discussed in terms which emphasize that future naval combat will be three-dimensional and must be pursued until enemy naval forces are totally destroyed, not merely repulsed or damaged.

Maneuver is discussed in terms with more specific operational relevance. Given the types of offensive forces to be employed, submarines and aircraft, and the range of their weapon systems, the Soviet concept stresses optimum positioning of the force elements so that missile trajectories provide the widest coverage and, presumably, opportunity for coordinated application. The application of this concept would appear to be most relevant to circumstances such as in the Mediterranean but could also be seen as possible in "open ocean" situations such as barriers.

The massing of forces, long a basic Soviet military concept to ensure local superiority, is now interpreted in a new light by the Soviet Navy. At a theoretical level, it is exemplified by putting such a density of weapons on a single platform that it alone can destroy significant enemy naval force elements or, under circumstances which are apparently nuclear, achieve major strategic objectives. In an operational sense, massing is seen to be achieved by the use of a variety of weapon platforms which by virtue of their long-range offensive weapons can concentrate on a target, particularly surface, from widely dispersed locations. Although unstated, this would appear to be the naval solution to the Soviet ground forces' concern for the transition from conventional to nuclear warfighting, i.e. the same disposition of offensive forces suits either mode.

Mutual support, as a Soviet naval concept, is expressed most often in terms of reliance on other branches of the Armed Forces for support of certain naval operations, but it also stresses naval support of those branches, primarily the ground forces. With regard to organic Soviet Navy elements, the concept finds expression in the stated necessity to support the operations of the primary offensive arm, the submarine force. In strike operations, as previously indicated, the concept is implemented by close coordination.

The characteristics of swiftness and tempo appear to be interrelated. Enemy offensive capabilities must be negated or destroyed before he can bring them to bear. Given the spatial scope of operations, the character of the forces involved, and the range and destructive capability of the weapon systems available, the Soviet Navy conceives a high tempo of repetitive strikes until the enemy naval threat is eliminated. In contrast to this concept, Soviet naval writings are virtually silent on the matter of staying power. Some acknowledgement of the need for an at-sea replenishment capability appears occasionally, but it is not a dominant theme. This concept of high tempo operations, if not matched by a concept for at-sea resupply, has significant implications. If the main offensive force is the submarine, there are evident weapons capacity limitations and problems in at-sea resupply. Either the totality of the weapons put to sea in an initial deployment surge must be reckoned capable of sustaining this tempo until the enemy is defeated, or a reduced initial effort must be undertaken with forces echeloned to permit rapid replacement at the scene of the heaviest combat activity. The only other alternative would be acceptance of a significantly lowered nuclear threshold which, as discussed earlier, would appear inconsistent with flexibility on the part of the political leadership and close linkage to the continental ground campaign.

The two remaining characteristics cited, close control and organization, are also interrelated. Because of the spatial scope of operations, the criticality of the missions, and the gravity of nuclear weapon employment, the Soviet naval literature makes it abundantly clear that "bluewater" operations are going to be closely controlled at the highest command echelons in Moscow. The situation with respect to other operations, in the "closed area" such as the Baltic and the Black Sea and in the coastal zones, is less clear with some indication of increased latitude at a lower level such as the Fleet. At the local tactical level, there are similarly clear indications of close control of forces with the on-scene commander being subservient and responsive to close direction by the next command echelon, Moscow in the case of "bluewater" operations and Fleet headquarters in the case of others. Interwoven throughout is an emphasis on surveillance and

reporting to the decision authorities. With regard to nuclear weapon use, the impression gained is one of top-down direction when the judgment is made that they are required; the notion of the on-scene commander requesting selective or conditional release does not appear in the literature. There are some grounds for inferring that once nuclear weapons use is authorized, submarine commanders may have some latitude for employment against targets at sea; otherwise, the indications are that almost every nuclear round would be controlled from on high. The net impression gained from the literature is one of operational and organizational rigidity of control with overtones of inflexibility. Moreover, despite the exhortations for initiative at the lower operational levels, the impression is gained that the whole system depends on everything going just as prescribed, that the loss of a communication link or a command echelon would be more than disruptive, perhaps even catastrophic.

C. SOVIET NAVAL DOCTRINE FOR THEATRE NUCLEAR WARFARE

As the preceding analysis of the Soviet military literature indicates, there are certain elements of the Soviet doctrine for theatre warfare, at either the conventional or nuclear level, which are quite clear However, there are certain key elements of the doctrine -- first use of nuclears, preemption, and thresholds -- on which the only forthright evaluation is that the literature leaves them ambiguous.

Within the outlines of the general doctrine, those aspects which treat with the ground and air forces are usually discussed in greater detail than those which relate to the naval forces. Nonetheless, if the hypothesis is accepted that certain Soviet concepts and "principles of war" have application to all the forces, it is possible to postulate naval analogues where direct discussion is lacking or vague. Specifically, enunciated Soviet Navy concepts at the operational and tactical level can be tested for consistency with the balance of the literature and, where necessary, extrapolated to a reasonable degree.

Pages 230 through 232 were deleted

FOOTNOTES

1. See pp. 128 to 131
2. See p. 115
3. See p. 121
4. See pp. 123 to 124
5. See pp. 70 to 77
6. See p. 117
7. See pp. 184 to 185
8. See pp. 124 to 126
9. E.g., research of The BDM Corporation on the Soviet Combined Arms Armies.
10. The Offensive, by Sidorenko discussed in pages 106 to 113 is a prime example. See also pp. 123 to 126
11. The Offensive is again a prime example. See also p. 123.
12. See p. 114
13. See p. 116
14. See p. 127
15. See p. 128
16. See pp. 124 to 126
17. See p. 117
18. See p. 122
19. See p. 159
20. See pp. 177 to 180

FOOTNOTES (Continued)

21. See p. 178

22. See p. 143

23. See pp. 165 to 166

24. See p. 140

25. See pp. 163 to 164 and 173 to 174

26. See p. 163

27. See pp. 149 and 174 to 175

28. See pp. 156 to 157

29. See p. 158

30. See pp. 154 to 155

31. See pp. 152 and 171

32. See pp. 133 to 142, 158 to 163, 165 to 166, 168 to 172, and 185 to 186.

APPENDIX A
THE EVOLUTION OF U.S. AND SOVIET NAVAL NUCLEAR CAPABILITIES

A. INTRODUCTION

To provide a basis for the evaluation of the Soviet doctrinal dialogue on the use of naval nuclear capabilities in a theatre war, it will be necessary to establish a factual background against which to assess Soviet perceptions and concepts.

It is considered that the most useful framework would be provided by tracing the evolution of nuclear capabilities in both the U.S. and Soviet navies so that their correlation over time will be evident.

The approach chosen in this study is to consider primarily the dual-capable systems and their operational platforms that represent this nuclear capability. While this approach may ignore other trends in both navies of significance in the larger context of missions or net relative capabilities, it is considered a necessary restriction to minimize the range of interpretation of Soviet intent that would otherwise be almost inevitable.

Naval nuclear capabilities will be considered at both the "strategic" and "theatre" level since the two are often interchangable and Soviet writers seldom draw the distinction in their use.

B. STRATEGIC CAPABILITIES

1. U.S. Navy Evolution

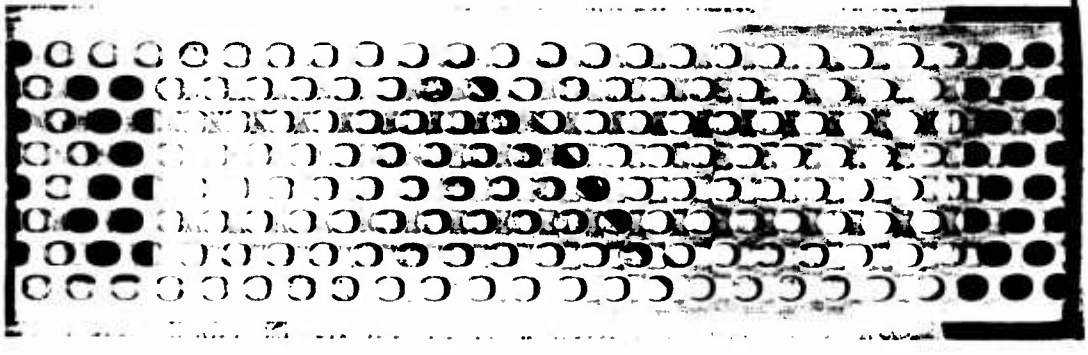
The evolution of strategic nuclear capability in the U.S. Navy may be looked at from two aspects: as it was represented by the attack aircraft carrier force and as it emerged in a new seaborne missile force. A brief reconstruction of events from both aspects will prove useful for later consideration.

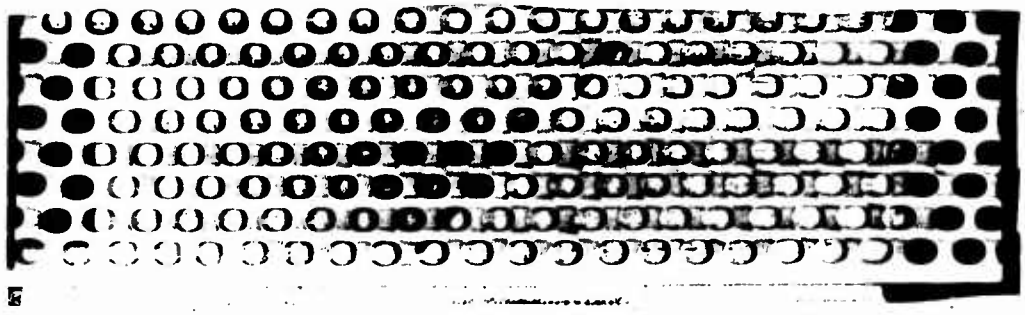
a. [redacted] Attack Aircraft Carrier Capabilities

The years prior to 1955 were marked by the slow accretion of nuclear strike capability in the aircraft carrier force amid

considerable controversy, much of which was public and exposed to Soviet view.

After World War II, the development of a nuclear strike capability for the aircraft carrier was embroiled in the larger roles and missions controversy that wracked the U.S. military. With the future of the aircraft carrier force at stake, the nuclear strike mission was an important one to the Navy.





The AJ-1 had proven to be of marginal suitability and development of the A3D-1 jet heavy attack aircraft was started in 1947. With the first A3D-1 flight in September 1953, the Navy cut back on its modification plans for fighter aircraft. This restriction was eased in July 1955, and modification of several additional fighters, including the new F4H, was authorized.

To supplement the AJ-1 capability and to bridge the hiatus until the new heavy attack aircraft entered service, the Navy fitted several of its attack carriers in 1954-55 with the capability to launch the 600 mile subsonic REGULUS I cruise missile, providing targeting and guidance control by their own embarked aircraft. Marked by controversy, the program demonstrated some success but was dropped when the new heavy attack A3D-1 aircraft entered fleet service in April 1956.

Of major significance in this era was the resumption of the aircraft carrier building program at a rate of one per year. The keel of FORRESTAL, the first of the new and larger ships with ample provision for the nuclear-capable heavy attack aircraft, was laid in July 1952 and she was commissioned in October 1955 to join the 15 ESSEX and 3 MIDWAY-class attack carriers then in service.

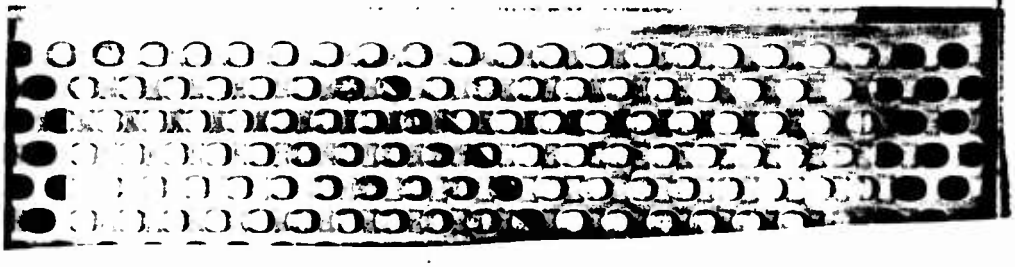
And not to be overlooked was the first U.S. thermonuclear detonation in November 1952.

Specifically how much of the foregoing was known to the Soviet naval planner is difficult to judge. Certainly many of the events

were clearly observable and others discussed openly in the press. The public controversy over roles and missions, the usual industry announcements of development programs in considerable detail, and even the Navy's own publicity undoubtedly filled in much of the picture. Figure A-1, then, probably represents the minimum Soviet naval consciousness of the aircraft carrier nuclear capabilities.

The years beyond 1955 saw the attack carrier force rapidly build up to and then maintain a steady-state nuclear strike capability that has only been marked by gradations in delivery capability, and in a quantitative sense, by variations in the size of the carrier force itself.

KITTY HAWK, CONSTELLATION, and the nuclear-propelled ENTERPRISE were commissioned in 1961 to add their big deck capabilities to the nuclear strike force. They were followed by AMERICA in 1965, JOHN F. KENNEDY in 1968, and the first of the new nuclear propelled carriers, NIMITZ, in 1975.



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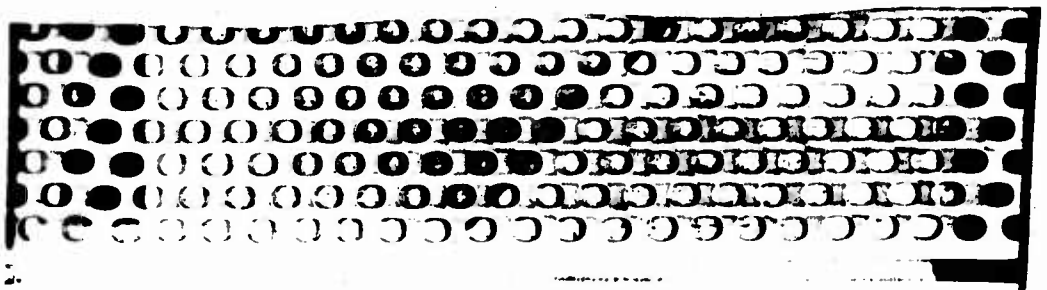

Again, the main events of this period were probably known to the Soviet naval planner, either from open publication, direct observation, or in the case of internal decisions, inferences from observed patterns of operations. Figure A-2 recapitulates the major events of this twenty year period.

b. [redacted] Seaborne Missile Capabilities

With the demonstrated effectiveness of the German V-1 and V-2 missiles, the Navy, after World War II, immediately sought to develop a similar capability for use from seaborne platforms and the decade through 1955 was largely dominated by cruise missile development and operational deployment.

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Stemming from a 1946 decision, efforts were concentrated on developing the RIGEL and REGULUS cruise missiles, the former a supersonic ramjet and the latter a subsonic turbojet, for launch from submarines.

As a step in the development, the German V-1 was adapted as the LOON and successfully fired from a submarine in 1947. Although useful for conceptual experimentation, the program was phased out as the other cruise missile developments matured.

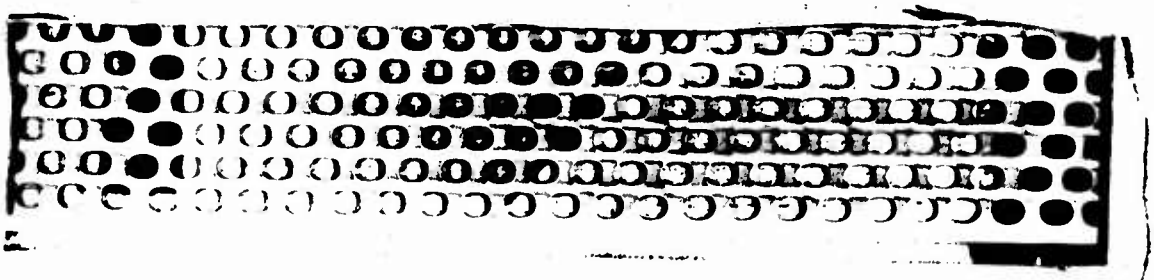
RIGEL, designed for a supersonic range of 300-500 nautical miles, was to be capable of delivery of a nuclear weapon against a target ashore with a 600 yard CEP. After the first hot firing in 1950, development problems ensued and the program was terminated August 1953.

REGULUS progressed steadily from its first test flights in 1951 through successful launch from a ship test platform in 1952. Conversion of existing diesel submarines to carry, surface-launch, and control the missile began with TUNNY, the first to complete in March 1953.

The initial version of the missile, to be called REGULUS I, was limited to a range of about 575 nautical miles. In January 1953, the development of REGULUS II, with a supersonic range of 1,200 nm commenced for an IOC of 1960. Planning envisioned launch from specifically designed diesel and nuclear powered submarines and from the cruisers being configured for surface-to-air defensive missiles. The program initiated was based on an ultimate force of 2 diesel SSGs and 14 nuclear SSGNs with the diesels GRAYBACK and GROWLER and the nuclear HALIBUT the first to be authorized in 1953.

In July 1953, the concept was proven with the first submarine-launched REGULUS I and in May 1954 the system was declared operational.

Soon thereafter, the system was embarked as mobile units aboard heavy cruisers in the Pacific, and as noted previously, attack aircraft carriers also incorporated the capability.



By the end of 1955 then, U.S. Navy cruise missiles were at sea and quite obvious to the Soviet Navy. The key events are recapitulated in Figure A-3.

Development of both cruise and ballistic missile programs continued. In January 1957, the Navy formally announced the establishment of the POLARIS program with an IOC of 1963. The original budget introduced for FY1958 provided $179.1M for prosecution of the missile development.

In 1957, TUNNY commenced the first of what were to become continuously-maintained REGULUS I operational patrols in the Western Pacific. And in November of that year, a heavy cruiser demonstrated REGULUS I guidance handoff capability to two successive submarines for a target hit at 272 miles. GRAYBACK and GROWLER commissioned in 1958 and HALIBUT early in 1960 to share with TUNNY and BARBERO in the WESTPAC deployment commitment starting in mid-1959.

In December 1957, the Secretary of Defense authorized acceleration of the POLARIS program for an IOC of late 1960. The supplemental FY1958 budget request submitted in January 1958 provided an additional $350M for POLARIS, including funds for the first 3 SSBN. Shortly thereafter in April, the FY1959 supplemental budget requested funds for an additional 2 SSBN, but Congress took the initiative and voted funds for 6 to bring the total up to 9. The next increment of 3 SSBN was requested in FY1961, with Congress funding 5. By September 1961, a 41 SSBN program had been established and highest-priority construction was well underway.

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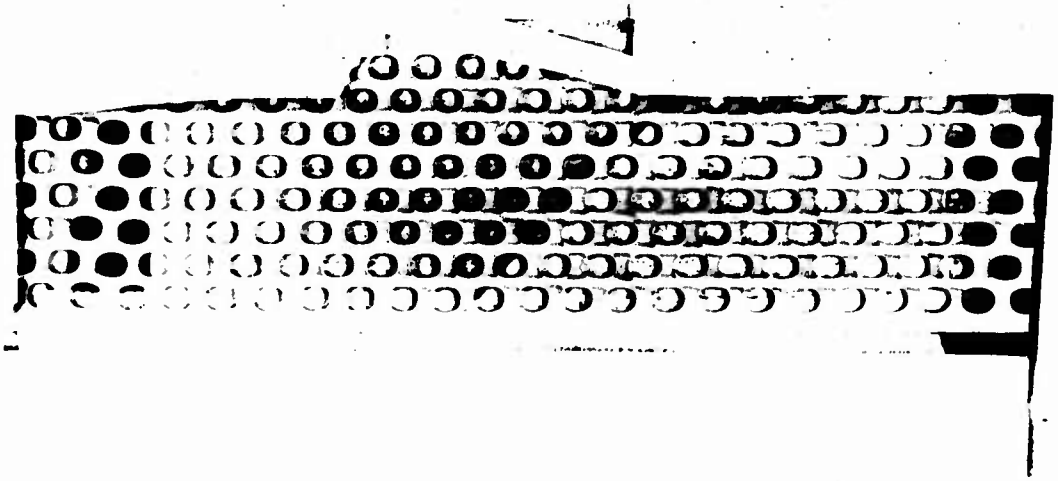


Throughout 1958-1959, the Navy considered arming attack carriers, the new AOEs and DLGs with the POLARIS. Plans were well advanced for installation in the nuclear cruiser LONG BEACH and the converted cruiser ALBANY before the Secretary of Defense cancelled the shipboard program in June 1959.

The first SSBN, GEORGE WASHINGTON, commissioned in December 1959 and conducted the first POLARIS submerged-launch firings in July 1960. The system was declared operational and the first deterrent patrol commenced 15 November 1960, with the second SSBN departing for patrol on 30 December 1960. Others soon followed as the highest-priority SSBN building program delivered. By December 1964, POLARIS was on patrol in the Western Pacific and the REGULUS I SSG/SSGN force was relieved of the deterrent mission and the submarines converted to other uses.

Conceptual studies continued on how seaborne ballistic missile capability could be exploited. The most notable concept was the extra-Navy proposal for a NATO Multilateral Force (MLF) of surface vessels, armed with POLARIS, which was ultimately endorsed and publicly set forth by President Kennedy in May 1961. Despite considerable public interest and a demonstration of the feasibility of mixed-manning in a surface ship, the MLF concept waned by 1965, in the face of the firm commitment to POLARIS/POSEIDON.

Development of the 1,500 nm POLARIS A-2 was underway even before the A-1 became operational with the first test vehicles successfully fired from Cape Canaveral in November 1960. The first submerged SSBN launch occurred in October 1961 and soon thereafter, in June 1962, the first deterrent patrol with the POLARIS A-2 commenced.

In the first and only full systems test of a U.S. ballistic missile system, a POLARIS A-1 missile with nuclear warhead was successfully fired in the Christmas Island tests in June 1962.

Fostered by the continuing advances in solid-propellant technology, the development of the 2,500 nm POLARIS A-3 commenced in 1960, and by August 1962, test launches were underway from Cape Canaveral. The first successful submerged launch from an SSBN occurred in October 1963, and in September 1964, the first A-3 deterrent patrol commenced.

As the earlier SSBNs returned from deterrent patrol, they were modified to carry the A-3. The A-1 was retired in the fall of 1965, the A-2 phased out and by June 1967 the entire SSBN force had the A-3 capability, with the 41st SSBN deploying in October 1367 for deterrent patrol.

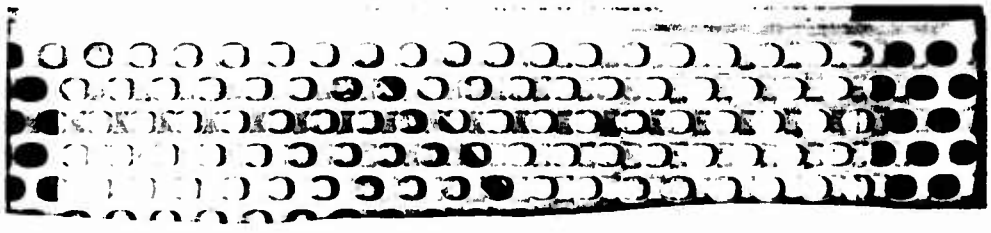
As a consequence of Soviet Anti-Ballistic Missile (ABM) development and deployment, the POLARIS A-3 had been fitted with three multiple-reentry vehicles. To further cope with the ABM, studies in the period 1963-1964 of sea-basing options had begun to focus on the Multiple Independently-targeted Reentry Vehicle (MIRV) technology and how it could be applied to the larger POLARIS B-3 missile already in conceptual design.

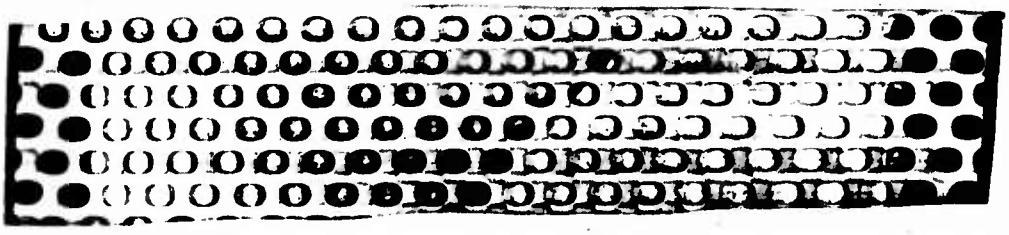
In a message to Congress in January 1965, President Johnson announced that a new FBM system was being proposed for development and labeled it the POSEIDON C-3. Public announcements in April 1965 cited doubled payload, greater accuracy, and increased ability to penetrate enemy defenses and claimed overall effectiveness greatly in excess of the existing A-3. By early 1966, the proposed FY1967 budget requested funding support for accelerated development and by April of that year the MIRV

configuration of the warhead was tentatively decided. In September 1966, the decision was made to deploy POSEIDON with a 1970 operational availability date and to convert 31 of the POLARIS SSBNs to accommodate the new system.

The first two SSBN conversions were funded in the FY1968 budget and flight testing of the POSEIDON missile commenced in August 1968. Congressional opposition arose and public debate centered on the alleged destabilizing effect of the MIRV technology. However, funding was ultimately approved to pursue the conversion of the 31 LAFAYETTE-class SSBNs over an 8 year period and the program proceeded.

The first conversion was completed in June 1970, and in August 1970, the first submarine-launched POSEIDON was fired. On 30 March 1971, the first POSEIDON SSBN deployment commenced.





Given the increasing public dialogue over strategic nuclear issues, "the missile gap," the ABM controversy, Congressional debates over programs, and the discourse attendant to the Strategic Arms Limitations Talks, the Soviet naval planner undoubtedly was well-informed of the events in the development of the U.S. seaborne missile capability recapitulated in Figure A-4.

2. Soviet Navy Evolution

Tracing the evolution of Soviet Navy strategic nuclear capabilities is obviously tenuous; nonetheless, the direct observables and the application of informed technical judgments, for which the capacity has increased significantly in both areas over the years, present a reasonably complete picture.

Immediately after World War II, the Soviet Navy evidenced the same interest as the U.S. Navy in adapting the missile potential demonstrated by the V-1 and V-2 to naval platforms. With the influx of "deported" German missile scientists, their equipment, and drawings, as well as captured missiles, the Soviets had the means to bridge any of their own technology gaps. If it is assumed that intensive efforts were

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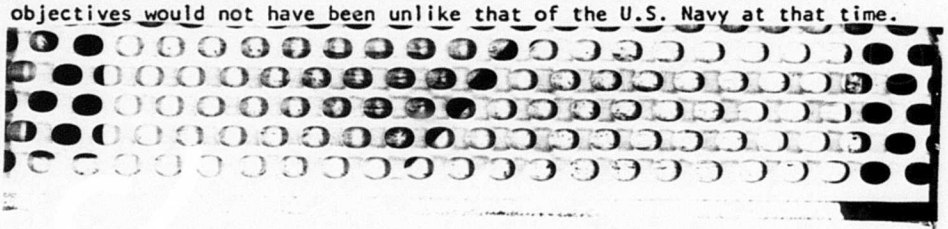
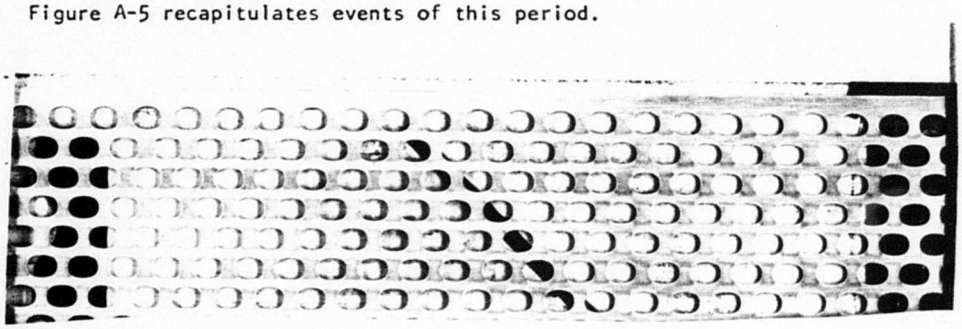
concurrently underway to develop a nuclear weapon capability, Soviet Navy objectives would not have been unlike that of the U.S. Navy at that time.



With the first Soviet atomic detonation in 1949 and their first thermonuclear detonation in 1953, new dimensions were added to the missile capability sought by the Soviet Navy.

By 1955, then, it is evident the Soviet Navy was well-embarked on a cruise missile development program that could embrace a number of missions, including nuclear strike against the U.S. mainland. Figure A-5 recapitulates events of this period.



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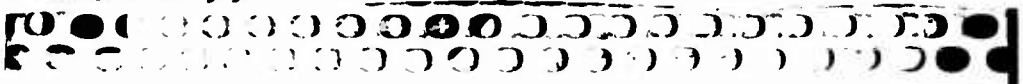
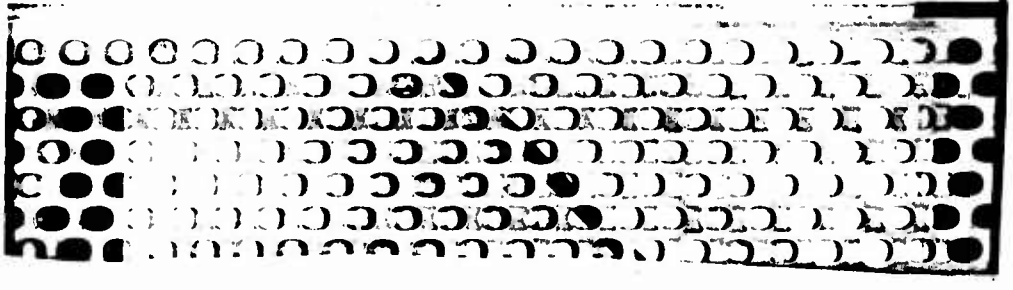
The WHISKEY class submarine, converted in 1957 and since designated SINGLE CYLINDER, was apparently the test bed for there is no evidence the submarine entered operational service and it was apparently dismantled in 1969.



The other SHADDOCK variants, the SS-N-3A for submarine launch and the SS-N-3B for surface ship launch, were equipped with radar terminal homing and their launch platforms fitted with track-command radar systems, leading to the judgment tnat they were primarily intended for anti-ship roles.



The origination of Soviet Navy efforts to adapt ballistic missile potential to the submarine platform cannot be pinpointed but must be assumed to have been a concomitant of the overall Soviet effort in ballistic missile development.

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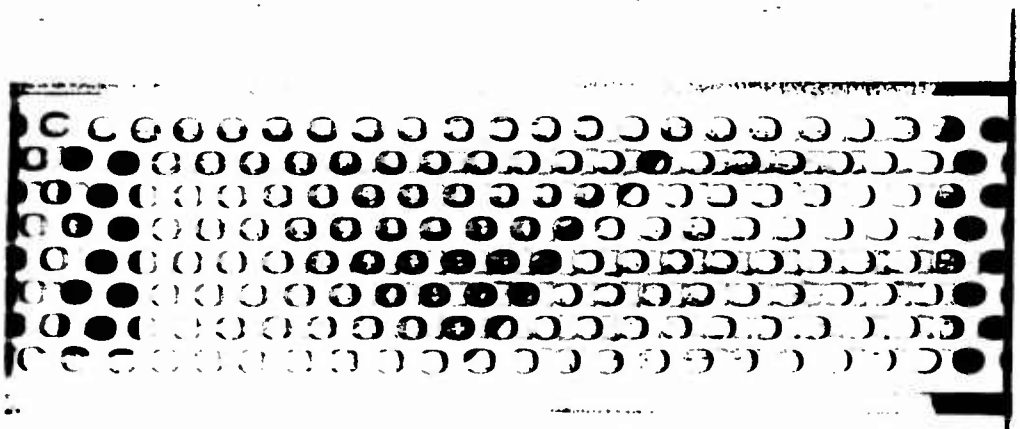
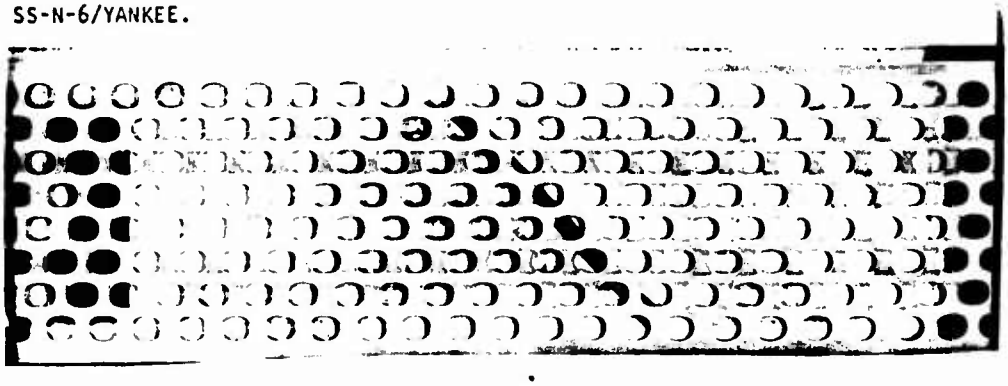
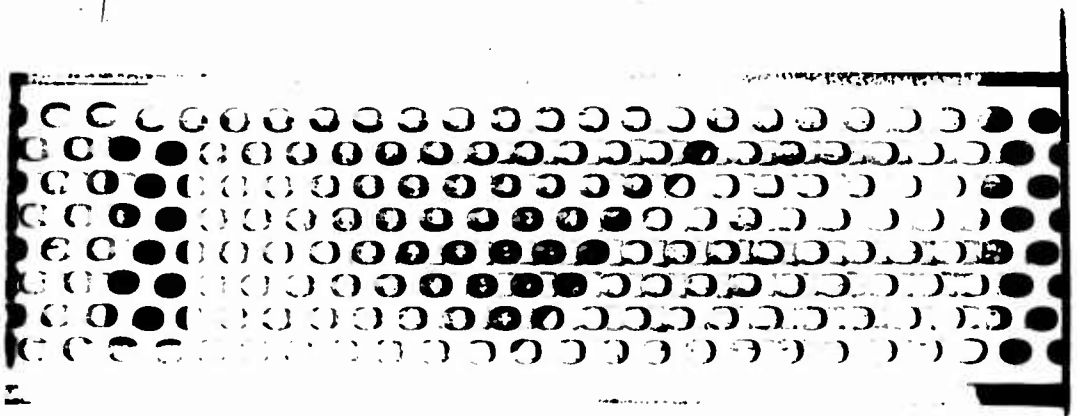
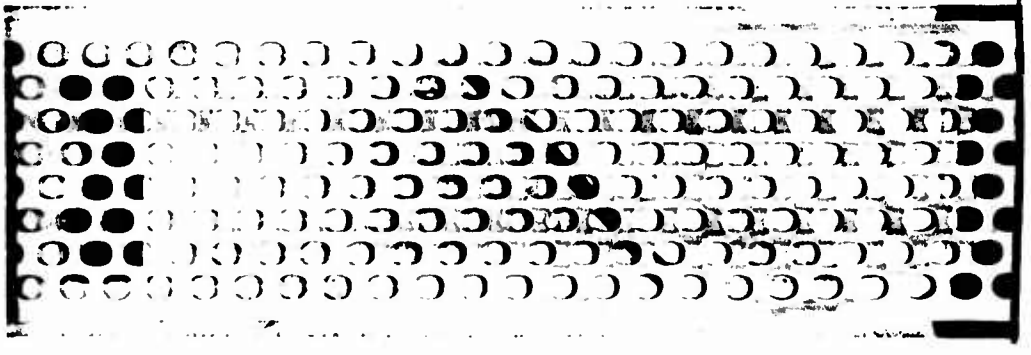


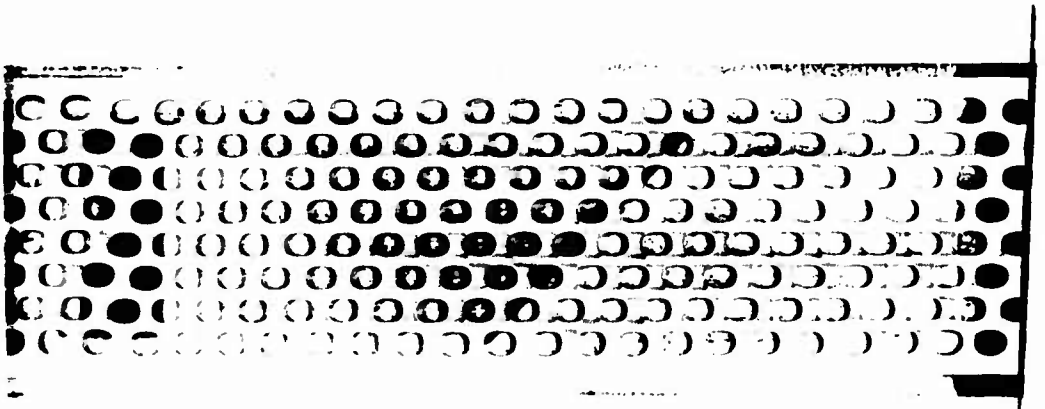
The third ballistic missile system to appear was the SS-N-6/YANKEE.



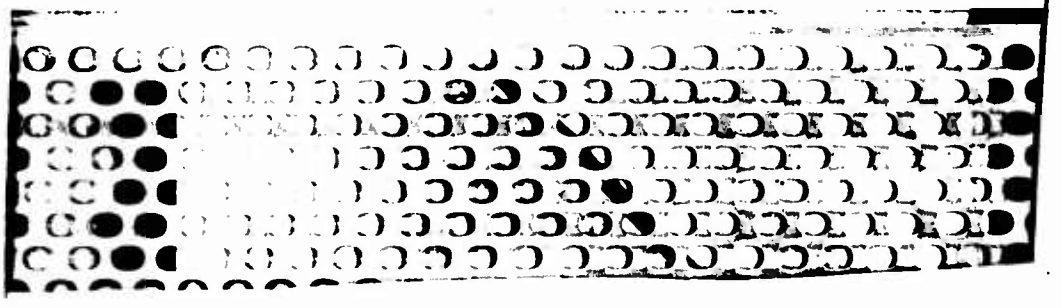


Subsystem design is believed to have commenced in early 1964, with test firings of the missile from land sites noted from June 1969 to December 1971.





The evolution of the Soviet Navy ballistic missile capability in the 20 years since 1956 is recapitualted in Figure A-8. In terms of the steady increase in system capability and the number of platforms at sea, the achievement is quite notable.



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a. (U) Evolution of the U.S. ICBM Capability

With the existence of a long-range nuclear air strike capability at the end of World War II, and the advocacy of its adherents, initial U.S. emphasis was placed on the further development of the manned bomber for strategic missions.

Nonetheless, the potential for missile delivery of nuclear weapons was pursued. Within the constraints of existing technology, this initially took the form of relatively short-ranged cruise and ballistic missiles. However, since the intention was to base these missiles overseas within range of the Soviet homeland, they represented a "strategic" capability in the connotation of this analysis.

The USAF began somewhat parallel development of the 1,500 nm THOR ballistic missile leading to operational capability in 1958. The development of the ATLAS, with intercontinental range, commenced in 1954.

Accordingly, by 1955 the U.S. had a land-based cruise missile capability which could target the Soviet Union from peripheral locations and was embarked on ballistic missile developments of even greater range, as depicted in Figure A-9. Given the inferior Soviet strategic air capability of the era and the technology constraints on developing intercontinental-range missiles, the Soviets might well have looked to the submarine platforms as a means of bringing nuclear strike capability to bear against the continental U.S., at least as an interim measure, to redress the balance.

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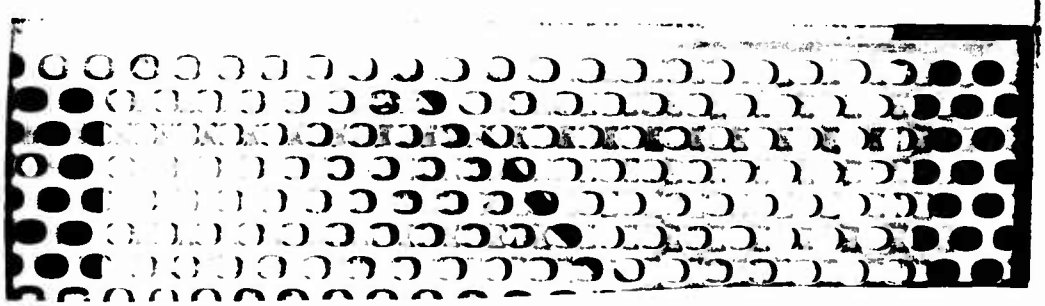
As indicated in Figure A-10, the Soviet military planners during this 20 year period were faced first with a relatively small number of peripherally-located cruise and intermediate range ballistic missiles and then successively with increasing numbers of intercontinental missiles of increasing sophistication and hardness.

b. Evolution of the Soviet ICBM Capability

As one element of the overall post-World War II exploitation of German V-1 technology, the Soviets pursued development of land-based cruise and ballistic missile systems.

Operational cruise missiles did eventuate but they were of medium range, suitable for European and peripheral use but incapable of reaching the U.S.; there were apparently no efforts to achieve intercontinental range as with the U.S. SNARK program.

Figure A-11 presents what little can be surmised of Soviet ICBM development efforts through 1955, for purposes of later consolidation.



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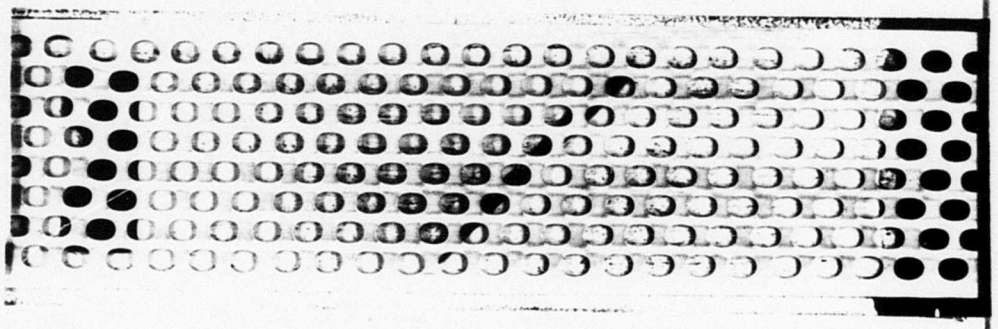

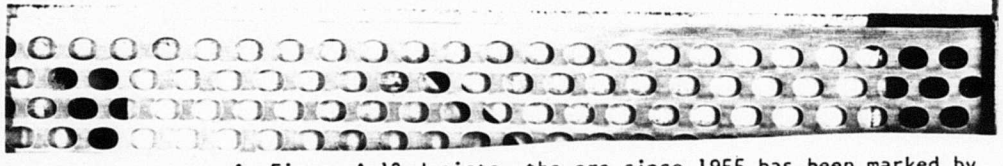

As Figure A-12 depicts, the era since 1955 has been marked by a tremendous Soviet effort to achieve intercontinental strike capability in a ballistic missile force of rather awesome numbers and payload capacity.

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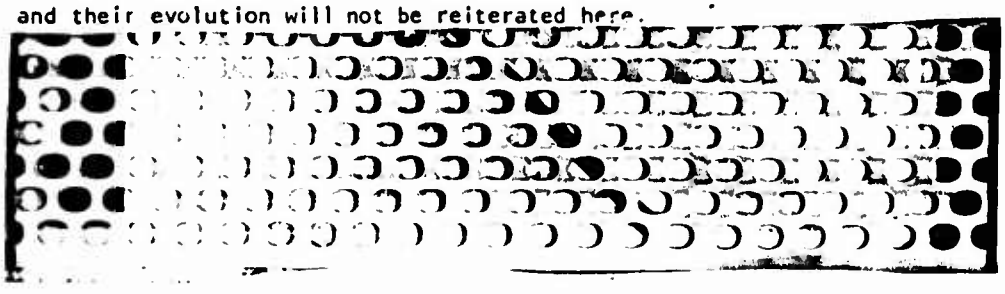
During this period, the Soviet Navy established its own strategic nuclear role, possibly with the early cruise and ballistic missile capability in its submarine force but most certainly with its SS-N-6/YANKEE and SS-N-8/DELTA capabilities.

Moreover, it went on to develop other capabilities considerably beyond those of a "coastal defense" force, many of which are believed to be nuclear, and in the connotation of this analysis, "theatre" weapons.

If "theatre" nuclear warfare is defined as the use of nuclear weapons outside the homelands of the U.S. and U.S.S.R., it is evident that the categorization of many weapons systems is dependent upon their targeting rather than inherent capabilities.

This is certainly the case with the attack aircraft carrier nuclear strike capabilities discussed earlier. While they may have been developed initially for the purpose of striking Soviet targets, their capabilities could have been used against battlefield or other "theatre" targets equally as well - and still can be.

For the purpose of this analysis, then, it is proposed to include these force capabilities in the "theatre" as well as "strategic" categories and their evolution will not be reiterated here.



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The TERRIER system was subsequently deployed in another converted heavy cruiser, 2 converted light cruisers, the nuclear-propelled LONG BEACH, 3 of the FORRESTAL aircraft carriers, and all of the DLGs through DLGN 35.

From the Soviet naval planner's point of view, the nuclear capability which the U.S. Navy could bring to bear in theatre warfare was not inconsiderable. Carrier-based aircraft and submarine-launched missiles could strike land targets virtually anywhere in theatres contiguous to Soviet operations. Carrier-based aircraft could strike forces at sea or engaged in amphibious operations. A variety of weapons could attack submarines either in transit or while attempting to attack a force at sea. Defensive missiles could be used to protect a force at sea from aircraft attack.

Basic systems characteristics were quite widely publicized, and within the "neither confirm nor deny" rubric, the existence of nuclear capabilities was well known. Figure A-13 depicts this growth of U.S. capability.

Tracing the evolution of Soviet Navy theatre nuclear capabilities in the most meaningful way can be complex.

One contributing factor is the very number of new dual-capable systems and platforms introduced in a relatively short time span.

A second factor is that many of the systems could be multimission and hence avoid neat categorization. As one example, the air-to-surface missiles of Soviet Naval Aviation can be used as strike weapons against land targets as well as against surface ships; the same is true of many of the submarine and ship launched weapons. At another level and as noted earlier, submarine "strategic" ballistic missiles could just as easily be used against theatre targets; as an example, a single GOLF submarine could be very effective against the totality of the NATO installations in Iceland.

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To facilitate the later consideration of Soviet doctrinal dialogue, it appears desirable to consider Soviet navy capabilities in mission rather than system categories. Accordingly, the evolution will be traced in terms of: (1) anti-ship capabilities; (2) anti-air capabilities; (3) anti-submarine capabilities: and (4) land-strike capabilities.

[redacted]

The Soviet Navy pursued anti-ship capabilities in all of their platform classes, i.e., ship, submarine, and aircraft. Conventional gun, torpedo, bomb and missile capabilities were developed at a rapid pace and in a wide variety of systems. However, for purposes of this analysis, only the evolution of systems considered to have dual conventional-nuclear capability or to have been precedent systems will be discussed.

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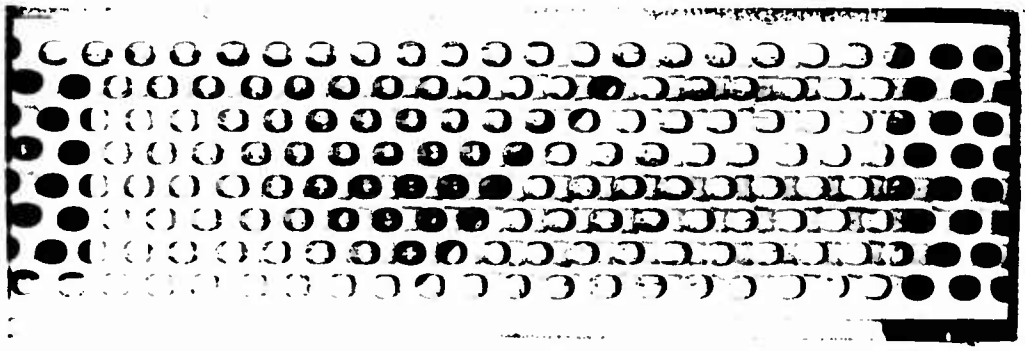
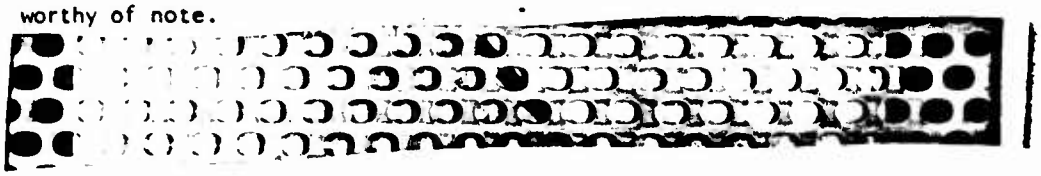


The conjunction in time with the appearance of the solid-propellant SS-N-7 submarine missile, to be discussed later, is also worthy of note.



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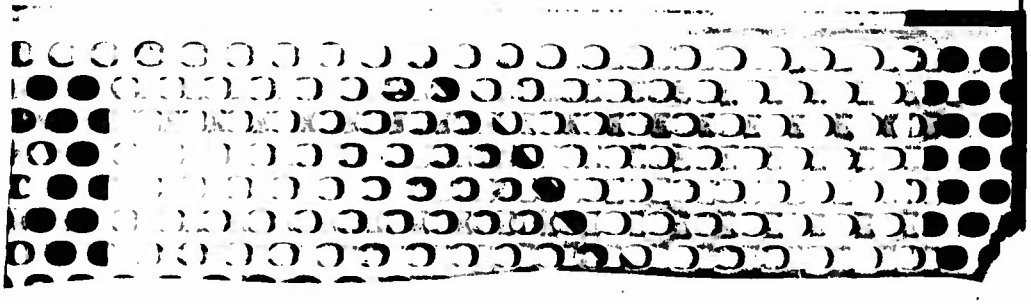
The development of Soviet Naval Aviation has paralleled that of Long Range Aviation to a great degree and has shared in its technological progress. The same aircraft are used by both with the naval variants adapted for sea reconnaissance or strike against ship targets. Moreover, there is evidence that units of Long Range Aviation have secondary naval strike missions and periodically practice their execution



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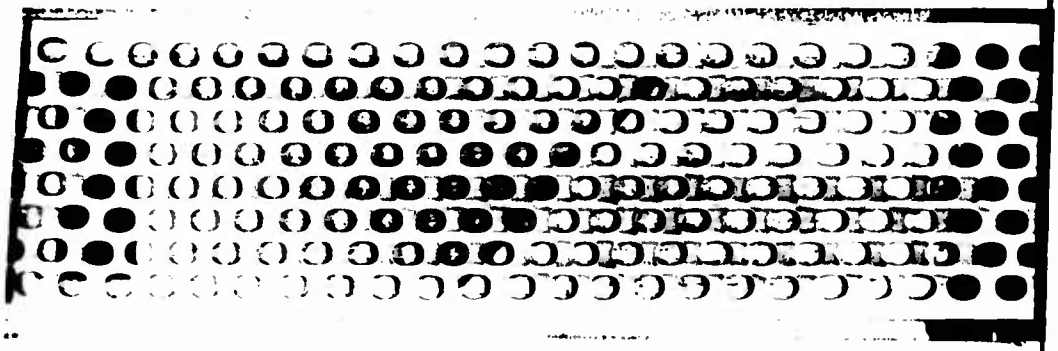
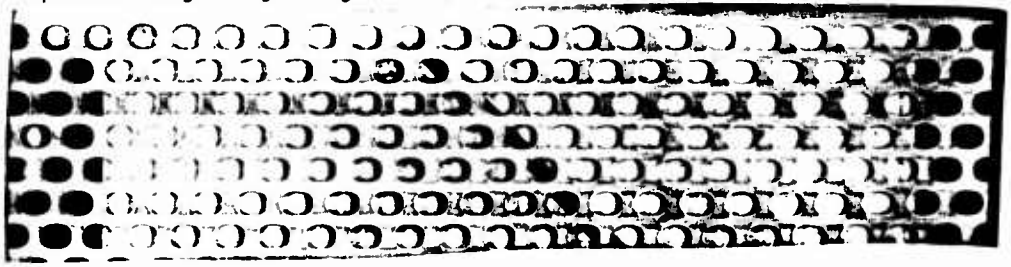


Aside from bomb and missile strike capabilities, the long-range land-based aircraft of Soviet Naval Aviation provide significant reconnaissance and surveillance capability, and in some cases, important targetting and guidance information to other strike forces.



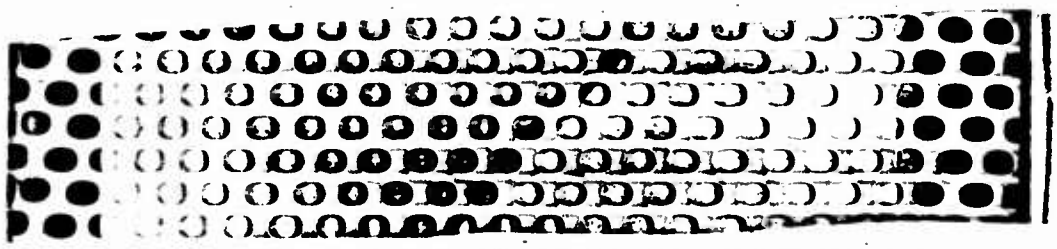
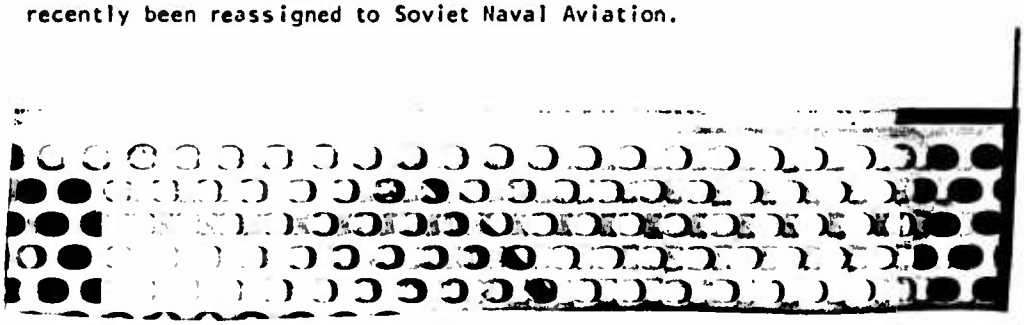


Figure A-14 traces the evolution of anti-ship capability in the Soviet Navy from 1945-55 and Figure A-15 the expansion from 1956 to 1976.

The evolution of anti-air capabilities in the Soviet Navy is marked not as much by innovation as by proliferation.

With its own fighter-interceptor forces transferred to the national air defense organization (PVO STRANY) in 1960, the Soviet Navy was bereft of organic air cover. In a coastal defense or "closed sea" role within the range of PVO aircraft, it would have to rely on coordination for assistance in coping with the adversary air threat; outside that range, it was completely reliant upon its own shipboard systems. The Soviet Navy had developed a number of effective anti-air gun systems and their ships were relatively heavily armed. However, to cope with the adversary's air strike capability on the high seas, it turned to the missile systems then in development for the ground forces. Of interest is the fact that there are indications that fighter interceptors may have recently been reassigned to Soviet Naval Aviation.



The system was widely installed in the new cruisers and larger destroyers delivered from 1962-1967 and backfitted into destroyer conversions during the same period. It was installed in the 4 KYNDA cruisers

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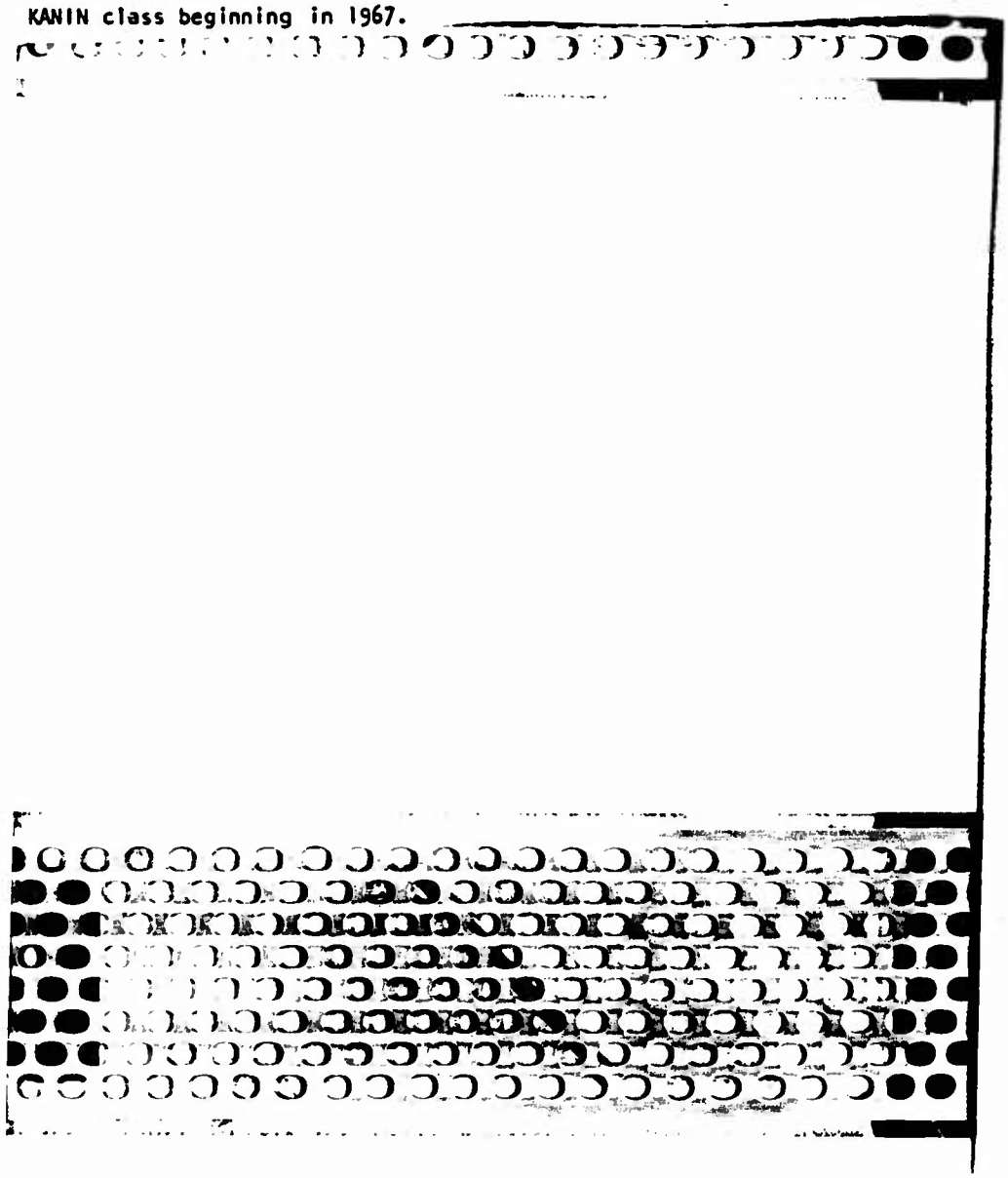
and 20 KASHIN large destroyers that began entering service in 1962 and in 8 SAM KOTLIN destroyer conversions starting the same year. It was also installed in the 4 KRESTA I cruisers that were delivered in 1967-1968, and replaced the SS-N-1 in 7 KRUPNYYs which were converted to the new-designation KANIN class beginning in 1967.



The system first appeared in the NANUCHKA class missile patrol boat in 1969; 12 or more of these boats are in service and production continues. The system also appeared in the GRISHA I patrol craft which began delivery in 1969; 17 or more of these craft have been delivered and production continues, although certain of the craft of the same basic class have a gun system installed in lieu of the SA-N-4.

The system is also installed in the 9 or more KRIVAK class destroyers which began entering service in 1971, the 2 SVERDLOV cruisers converted to command ship in 1972, the KARA cruisers, and the KIEV-class air-capable ships.

Figure A-16 traces the evolution of anti-air capability from 1945-1955 and Figure A-17 from 1956-1976.

The Soviets developed a wide variety of anti-submarine systems for use from all platform classes; however, only a relative few are given a dual-capability.

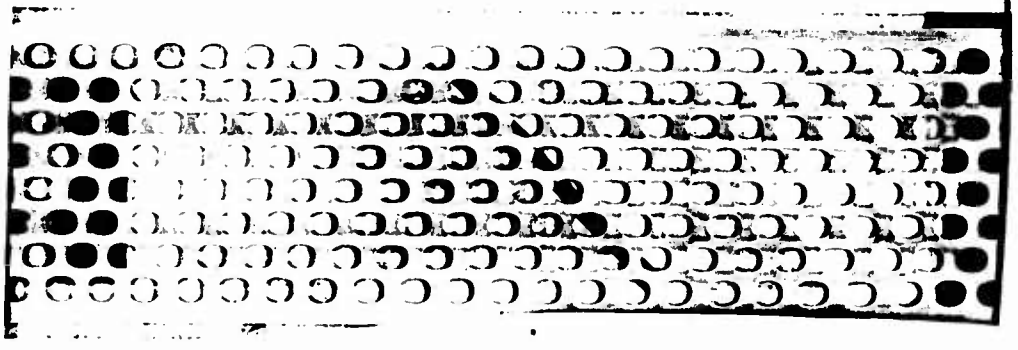


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Figure A-18 depicts the evolution of Soviet ASW capabilities from 1945-1955 and Figure A-19 from 1956-1976.

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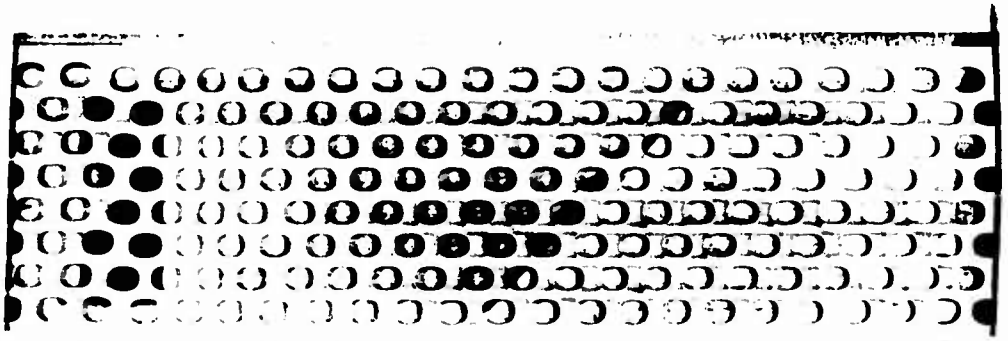

These systems have been discussed in preceding sections in different contexts; to facilitate understanding of the doctrinal dialogue, it would appear sufficient merely to aggregate the systems over time. Figure A-20 presents the capability for nuclear strikes against land targets from 1945 to 1955 and Figure A-21 from 1956 to 1976.

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BIBLIOGRAPHY

SHIPS AND SUBMARINES (U)

Naval Ships Characteristics (USSR) (U), DIA ST-HB-08-41-74; December 1974. (SECRET)

Soviet Major Naval Combatant Ships Weapon System Study Series (U), DIA ST-CS-08-SERIES: various dates. (SECRET)

KARA Class CG (U), DIA DST-1210S-233-76; January 1976. (SECRET)

KIEV Class Weapons System (U), DIA DST-1210S-376-75; June 1975. (SECRET)

MOSKVA Class Guided Missile Helicopter Ship (CHG) Handbooks (U), DIA ST-CS-08-51-74, April 1974. (SECRET)

USSR: Production and Conversion of Major Surface Warships 1947-1980 (U), UK MOD Naval Intelligence Report #40; Spring 1974. (SECRET)

AVIATION (U)

Soviet Long Range Aviation (U), DIA AP-240-6-4-68-INT; March 1968. (SECRET)

Soviet Naval Aviation (U), DIA AP-230-1-3-68-INT; May 1968. (SECRET)

The Soviet Naval Air Force (U), UK MOD S-UR 122.290; June 1973. (SECRET)

Trends And Developments in Soviet Naval Aviation (U), UK MOD Naval Intelligence Report No. 40; Spring 1974. (SECRET)

Aircraft Handbook (Characteristics and Performance) - Eurasion Communist Countries (U), DIA DST 1330H-005-75; April 1974. (SECRET)

Soviet Aircraft Order of Battle (U), DIA DI-240-2A-74; April 1974. (SECRET)

Backfire Weapon System (U), DIA DST-1310S-054-76; July 1976. (SECRET)

WEAPONS SYSTEMS (U)

Ballistic Missile Systems Handbook - USSR and PRC (U), DIA DST-1000H-249-75; June 1975. (SECRET)

SLBM Weapon Systems (Current and Projected) (USSR) (U), DIA ST-CS-10-204-74; May 1974. (SECRET/RESTRICTED DATA)

Submarine Launched Ballistic Missile Systems (Trends) (USSR) (U), DIA DST-1020S-418-75; June 1975. (SECRET/NO FOREIGN DISSEMINATION)

Cruise Missile Handbook - USSR/PRC (U), DIA DST-1330H-248-75; July 1975. (SECRET)

Naval Cruise Missile Systems (Current and Projected)(USSR) (U), DIA ST-CS-10-205A-73; April 1973. (SECRET)

Sea Launched Cruise Missile Systems (Current and Projected)(USSR) (U), DIA DST-1330S-205-75; June 1975. (SECRET/NO FOREIGN DISSEMINATION)

Ship Launched SAM Systems (Current and Projected)(USSR) (U), DIA ST-CS-11-171-74; January 1974. (SECRET/NO FOREIGN DISSEMINATION)

Naval Weapons Systems Handbook - USSR, Vol I (Less Missiles) (U), DIA ST-HB-08-61-73; July 1973. (SECRET/NO FOREIGN DISSEMINATION)

Naval Weapons Systems Handbook - USSR, Vol II (Missiles) (U), DIA ST-HB-10-55-71; September 1971. (SECRET)

Soviet Anti-Submarine Warfare Capabilities (U), DIA DI-230-31-72; October 1972. (SECRET)

The Antisubmarine Warfare Systems of MOSKVA Class Helicopter Ships (U), CIA OSI-STIR/70-2; January 1970. (SECRET)

MISCELLANEOUS (U)

History of the Strategic Arms Competition 1945-1972 (U), Study prepared by Lulejian and Associates under Contract N00014-75-C-0237; October 1975. (TOP SECRET/RESTRICTED DATA)

Strategic Competition 1945-1972 (U), Study prepared by the Air Staff, USAF (Draft); September 1976. (SECRET)