

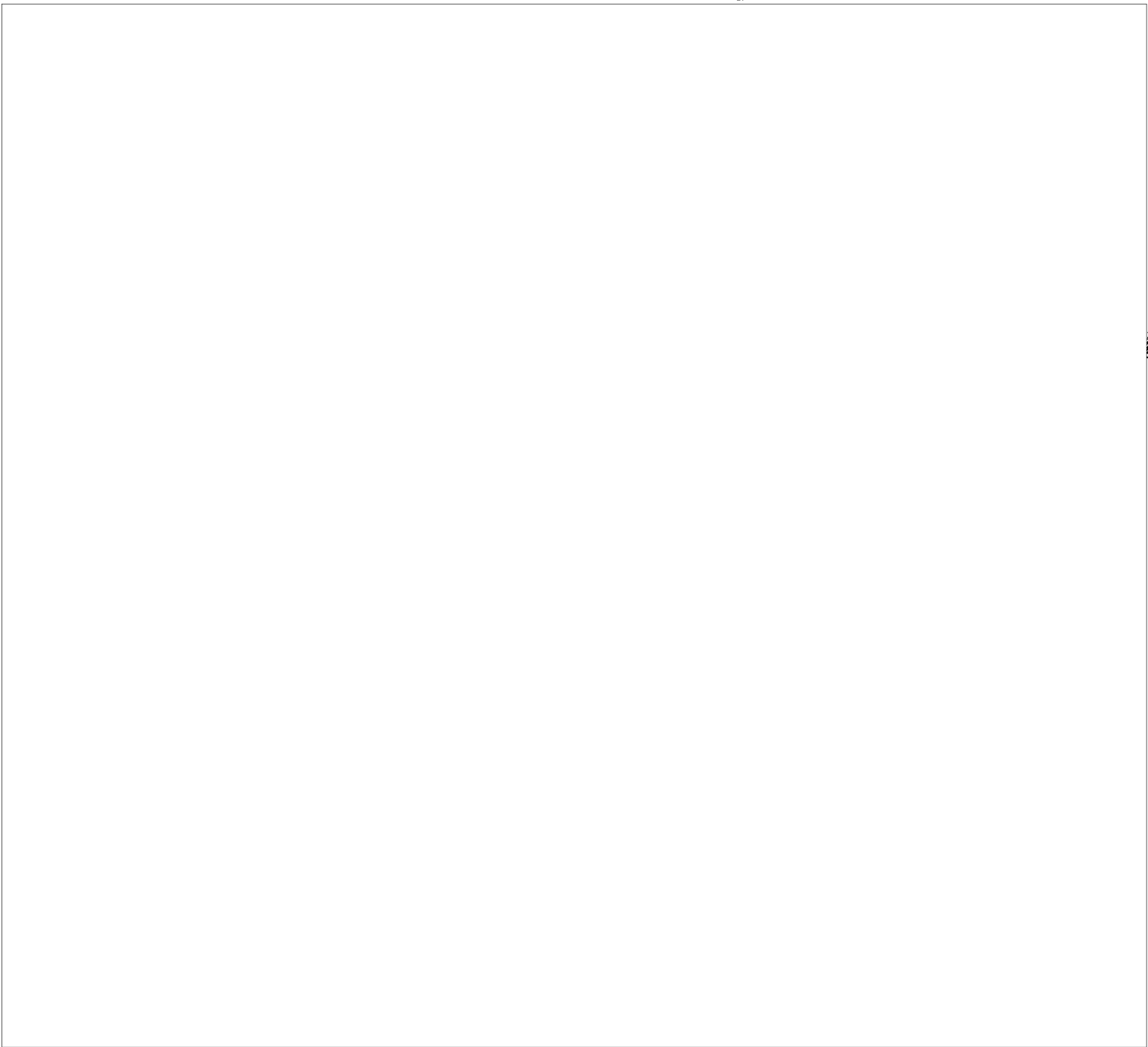
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SUBJECT : MILITARY THOUGHT [redacted] : "On the Question of the Tasks, Organization and Planning of Military-Scientific Work" 50X1-HUM  
by Rear-Admiral V. Bogolepov 50X1-HUM



On the Question of the Tasks, Organization  
and Planning of Military-Scientific Work

by

Rear-Admiral V. Bogolepov

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The thoughts presented in this article are the results of some of the author's experience in the work of scientific-research groups created during the last four years under the Commander-in-Chief of the Navy.

The great and constantly growing significance of science in our country is known. The application of science has become one of the decisive factors in the mighty growth of the productive forces of society. At the XXII Congress of the CPSU, N.S. Khrushchev stated: "The constant improvement of the forms and methods of the management of the national economy, the most rational use of internal resources and potentialities, and adherence to scientifically founded proportions in the development of the branches of the economy are taking on special significance now..." (underlined by me - V.B.)

Life itself demands of the planning and economic management of new developments a much higher order of scientific substantiation and economic calculations. Profound scientific work on the problems of developing economics and technology must precede the formulation of plans and the confirmation of economic measures. Economic and technical research must facilitate the correct performance of economic tasks.

Obviously, military-scientific work should be approached with equally high standards, because it is gradually becoming the cornerstone of Armed Forces


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development. Military-scientific work in the broad sense of the word encompasses all research activity on military subjects. However, military-scientific work is normally considered to be only the part of this work that concerns military theory and that does not touch upon questions of armament and military equipment. In this article we shall arbitrarily call this part of general military-scientific work military-scientific operational work (including in it not only operational but also strategic and tactical questions), and we shall call the second part military-scientific technical work.

The organization of both component parts of military-scientific work is also different. Military-scientific operational work is conducted by certain faculties and in scientific groups of military academies, in military-scientific societies, and also by the scientific aktiv that is gathered around Military Thought, Naval Collection, and other military journals. During the past few years such work has also been performed in the scientific groups cited in the branches of the Armed Forces. Military-scientific technical work is also taken up in part by the majority of the faculties of academies, according to their curricula, and mainly by the numerous specialized scientific-research institutes of the various branches of the Armed Forces. Experimental-design work and, to a certain degree, the scientific-research work of industrial institutes serving the Armed Forces, are combined with their work.

In the second field of military science there is not only a huge numerical superiority of persons working directly on questions of military theory, but also significantly better organization of scientific work. Military-scientific technical work is conducted mainly in specially organized and equipped scientific establishments, such as institutes, and is fulfilled, as a rule, by harmonious scientific collectives. At the

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same time, scientific work in the field of military theory is scattered among a number of establishments, is often fulfilled by persons working alone, not connected with one another, and, if it is fulfilled by collectives, the latter are often selected not on grounds of scientific qualifications, but are staffed by chance (in particular, many scientific groups in the branches of the Armed Forces have actually been selected in this way).

At a time when military-scientific technical work has, for a long time now, been carried out according to specific plans, often connected with large financial appropriations, and is usually fulfilled under rigid supervision, work in the field of military theory began to be planned only recently. It is poorly supervised and in a number of cases its quality leaves much to be desired. As an example, 2 to 4 years ago when one of the scientific groups was working on the problem of combatting ocean-sea communication routes and tried to familiarize itself with existing scientific material on these questions, it was discovered that among the several hundred pertinent monographs, dissertations, graduation theses, and articles, half of them were devoted to one single, important, but isolated topic, "Combat of Submarine and Air Forces Against Remote Enemy Communication Routes". In turn, a large part of the works in this half were compilations that were of no real value. At the same time, a number of vital questions of this combat against communication lines seemed to have dropped out of the field of view of our naval theoretical literature.

Such a situation is characteristic not only of work on this problem, but also on other problems. It can only be explained by deficiencies in planning and by a certain lack of organization in the selection of the subjects of scientific work. With all the need to give scientific personnel freedom in the selection of subjects, the overall maneuvering of scientific forces and capabilities must, first of all, ensure

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research on all the essential questions with the necessary time limits.

Finally, while persons working on questions of armament and military equipment are constantly informed on the latest scientific-technical achievements in their field, since without this their work proves to be fruitless, the majority of the theoretical workers in the operational field, because of security considerations, are often not given access to documents that reflect pertinent achievements in the field of science and technology.

To summarize, with the comparatively large number of operatives and tacticians working on the theoretical front, with their quite high training and essential aptitudes\*, the coefficient of the useful operation of our military-scientific network is not great: the factual results of its work are much lower than its potentialities. Lately, in connection with organizational-staff reductions, the position of operational scientific work has become even worse, not only absolutely but also relatively. These reductions have had less effect on scientific-technical work.

With any personnel reductions in the composition of the Armed Forces, military-scientific work cannot be weakened, but, just the opposite, it is necessary to broaden and deepen it in every possible way,

\* Here we do not examine the situation of laboratory, experimental and the experimental-production base of our academies, and especially, scientific-research institutes. This question deserves separate discussion. It should only be said that in this field much better cooperation is required than exists now between them, especially with organs of industry.

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because only in this way is it possible to compensate for the quantitative reduction of forces. This pertains especially to scientific work in the field of military theory. For, in general, it should stand at the head of the military-scientific, including scientific-technical work. Indeed, this is also demanded by the development of armament and equipment itself.

Of course, changes in the development of weapons and equipment determine changes in the development of military affairs. But, undoubtedly, military theory also exerts its own reciprocal influence on military technology. Military technology cannot develop swiftly without being oriented by military theory. The latter has to indicate paths of development to military technology, the most effective ones from the standpoint of military art. Only on this basis is it possible to develop practical scientific-technical work in the most advantageous directions.

Now, when science and technology are developing so fast, acute scientific thought must be aimed at not less than ten years ahead. Only with this condition is it possible to possess modern armament and equipment of forces at any given moment, because scientific-technical and design work, the testing of experimental models, and the creation of large and small series, on the average, take just ten years.

In particular, the matter of research on comparative military effectiveness stands very poorly, including the military-economic profitableness of various methods of fulfilling particular strategic, operational, and even tactical, tasks. In conditions of the use of weapons of mass destruction, and their delivery to targets by missiles, almost any one of these tasks can be performed by various methods and correspondingly with various constituents of forces and weapons, belonging to various branches of the Armed Forces.

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These forces, weapons, and methods are by no means equal in value - both purely military and military-economic. But, unfortunately, such comparative investigations are mainly conducted in scientific organs of the separate branches of the forces, and this does not ensure their necessary depth and objectivity, not only as a result of "parochial favoritism" and, thus, of a biased attitude toward the capabilities of other branches of forces, but even as a result of the aforementioned insufficient knowledge of future possibilities of their neighbors, and likewise as a result of the lack of a common methodology of comparison.

The tasks of the Armed Forces on ocean-sea axes that are quite characteristic in this respect are shown in the table that follows. On the one hand the water has already lost its former "privileged" position, when it served as the only means of communication between bodies of land separated by it. Now the most universal medium, in this respect, is the air. Even though air transport is still limited in respect to weight and dimensions of cargo, and as a result of its relative high cost, a number of tasks formerly performed only on the water and from the water, now can well be carried out outside this medium.

On the other hand the water medium represents the most diverse field of operations, both for surface, submarine, and air forces and weapons. Moreover, for submarine forces it still ensures a fairly high degree of security.

To summarize the general formulation of the question of the preferred composition, not of the "navy" or even of the "ocean-sea forces" but of the forces capable of operating on ocean-sea axes, now comes to the following. 50X1-HUM

A. To have an effect on any objectives on the water, partially under the water, and also territorial objectives located "across the water", i.e., now it is



also possible to perform the tasks cited in the table — 1a, and all of 2 and 3 — from the shore. But because , in a number of cases, these operations from the shore (especially against mobile targets) require too complex and expensive a system of target designation and guidance, it must be thoroughly examined against which specific objectives, when and under what conditions, specifically at what distances from shore, it is more advantageous to employ weapons, namely missiles, from the shore and when it is advantageous to employ them from "intermediate" carriers, i.e., first load them on special, mobile submarine, air or surface "platforms" and send them to sea (ocean), in order to move the weapons closer to the objectives.

Besides, as regards task 1a, it is necessary to note the importance of its study in this respect. Now submarines are recognized as the most promising forces for antisubmarine defense, including, above all, operations against missile-carrying submarines. Taking into consideration the very great significance of such defense for us and the huge forces required for it, maybe it is more advantageous to direct submarine construction mainly in this direction? But in some conditions our missile-carrying submarines (as the Americans themselves consider) will prove to be more advantageous than intercontinental missiles? All the more reason that the entire problem must be thoroughly analyzed as a whole.

The question of combat against communication lines, i.e., task 2 \* has been studied the most. However even here there is insufficient clarity in

\* See the book "Fundamentals of Employing Submarine and Air Forces Against Ocean... (several words missing) 1960.

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the point that was just emphasized: with what weapons is it more advantageous to destroy enemy ports and bases - missiles from submarines or intercontinental missiles? And in conditions of nuclear warfare ports are the main objective in combat against communication lines!

The question of the optimal forces, weapons and measures for performing task 3 has been developed even less.

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Standard Ocean-Sea Tasks of the Armed Forces and  
Feasible Forces and Weapons for Performing Them.\*

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| Tasks  |                             | Forces and Weapons |           |     |                           |        |                     |  |
|--|-----------------------------|--------------------|-----------|-----|---------------------------|--------|---------------------|--|
| Basic  | Performed<br>Coincidentally | Missile<br>Troops  | Submarine | Air | Submarine<br>/sic-surface | Ground | Airborne<br>Landing | Antisub def-<br>ense/Antimis-<br>sile def-ense |
| <u>Offensive</u>   |                             |                    |           |     |                           |        |                     |  |
| 1. Operations against coasts:                                    |                             |                    |           |     |                           |        |                     |  |
| a. With weapons  | 2a,3,4,5&6                  | G**                | G         | V** | (G)**                     | —      | —                   | —  |
| b. With personnel  | 2a, 6                       | —                  | V         | —   | (G)                       | G      | G                   | —  |
| 2. Operations against Communi-<br>cation Lines:                  |                             |                    |           |     |                           |        |                     |  |
| a. Against ports and bases                                       | 1a,3,5&6                    | G                  | G         | V   | (G)                       | —      | —                   | —  |
| b. At sea  | 3, 5, 6                     | (G)                | G         | G   | (G)                       | —      | —                   | —  |
| 3. Defense coast from the Sea:                                   |                             |                    |           |     |                           |        |                     |  |
| a. From aircraft carriers<br>(AV) and missile car-<br>riers (RN) | 4, 5, 6                     | (G)                | G         | G   | (G)                       | —      | —                   | —  |
| b. From submarines (PLPL)  | 4, 5                        | (G)                | G         | G   | G                         | —      | —                   | —  |
| c. From missiles   | —                           | —                  | V         | V   | V                         | —      | —                   | G  |
| d. From landings   | 2, 5, 6                     | G                  | G         | G   | G                         | G      | V                   | —  |
| 4. Communication lines:  |                             |                    |           |     |                           |        |                     |  |
| a. Coastal   | 3, 5, 6                     | (G)                | V         | G   | G                         | —      | —                   | V  |
| b. Long-range  | 3, 5                        | —                  | —         | (G) | (G)                       | —      | —                   | —  |
| <u>Special</u>   |                             |                    |           |     |                           |        |                     |  |
| 5. Combat with enemy naval<br>forces                             |                             | See 3a & 3b        |           |     |                           |        |                     |  |
| 6. Assistance for army flank***                                  | 1,2,3,4,5                   | G                  | V         | G   | G                         | —      | G                   | V  |

\* The numbering and alphabetical designation correspond to the numbers of the main tasks.

\*\* Key: G-capable of playing a major role; V-capable of playing an auxiliary role; (G)-potential

\*\*\* This task breaks down into a series of previous tasks of various scales..

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As regards task 3a., i.e. combat with aircraft carriers and missile carriers, both aircraft and submarines can and must be used for this. However, the employment of ballistic missiles from the ground against them, as well, seems to be promising and requires thorough investigation.

Task 3b, i.e. combat with missile-carrying submarines of the enemy, is especially complex and requires all-around utilization (and hence, also, all-around investigation) of the potentialities of a number of branches of the Armed Forces.


Despite the fact that the next task, i.e. 3c, antiair defense and antimissile defense, must be performed mainly by the forces and weapons of a special branch of the Armed Forces, the participation of the Navy is also useful in its investigation, because some of its potentialities in this respect, namely, the potentialities of mobile radar patrols, that are brought forward deserve attention.

Understandably, in modern conditions, task 3d, i.e. antilanding combat, requires special cooperation of the various branches of forces and corresponding research work.

B. As regards the more or less similar tasks 1b, 4a and 4b, which relate to sea transport, such short-range transport, within the limits of the possibility of our screening them with air and sea forces, are completely feasible even now. But we are now working enough on the question of the optimum forces, weapons and methods for supporting them, and the main thing is that we do not keep this question in the field of continuous attention.

If we refer to long-range transport, namely trans-oceanic, then, of course, military science must always be ready to report at the first demand of the leadership, comprehensive, clear views on the most advantageous variants of forces, weapons and methods for carrying out such transport, with detailed calculations of the time periods necessary, and the cost of creating these forces and weapons. Logically, the following thoughts should be presented here.

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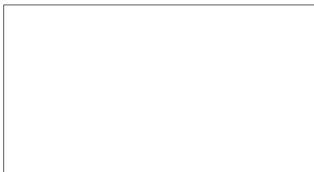
Long-range (transsea and transoceanic) transport may be carried out on the water, in the air and by special methods.

Large-scale underwater transport has poor future prospects, as a result of its high cost and vulnerability.

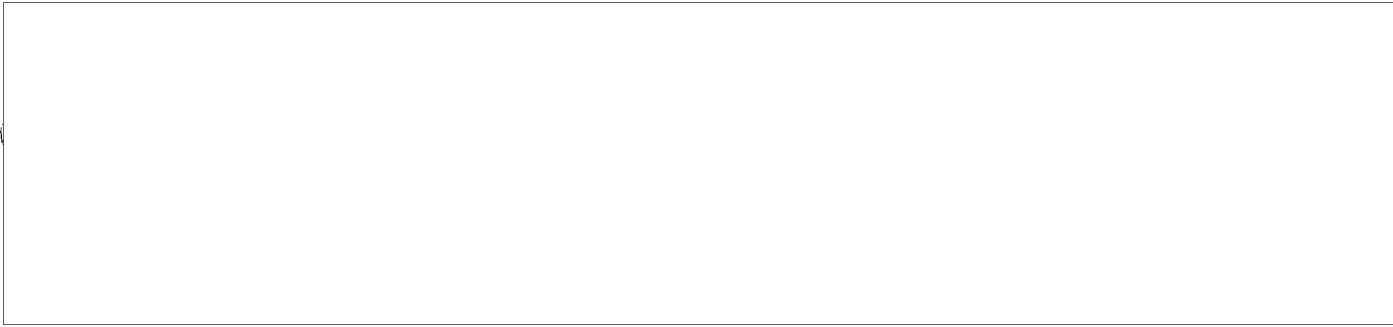
Surface transport is entirely feasible but requires the support of forces that are superior to those of the enemy. What kind of forces? At present, with the inadequate range of aircraft — mainly surface means. Calculations show that if we wanted to we could create such forces no earlier than 15 to 20 years from now, and this is clearly useless. In the first place, in ten years the international situation will have changed sharply. "When the Soviet Union becomes the first industrial power" —said N.S. Khrushchev at the XXII Congress — "when the socialist system is finally transformed into the decisive factor of world development, when the forces of peace multiply even more throughout the entire world, then the balance will finally be tilted in favor of the forces of peace and the barometer of the international weather will show: clear. The threat of a world war will have passed forever."

Secondly, the technical situation also changes: it will suffice for autonomous aircraft to appear, to have the significance of aircraft carriers fall off sharply.

Hence the only realistic possibility for our carrying out such transport consists of creating sufficiently autonomous, powerful aircraft— not only for the direct performance of part of the transport by air, but also for screening the other part of it — the transport carried out by sea. And because we also need these aircraft for other purposes, all efforts should be exerted toward its creation, the more so, because of other reasons, we cannot permit the Americans to outstrip us in this field.



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In his recent speeches President Kennedy spoke coolly about atomic aircraft. Of course, for the USA and Britain, which possess powerful aircraft carrier fleets, atomic aircraft are really unnecessary. But is not the USA simultaneously trying to confuse us with its announcements? Do not the remarks of the President remind us of the objections of the USA and Britain at the 1921-1922 Washington Conference, against submarines, which represented a clear threat to them? We cannot escape this thought.

C. In actuality the possibilities of performing task 5 have already been examined, and as regards task 6, in addition to what was said above, an important question is the creation of an amphibious fleet, which, unfortunately, we hardly concern ourselves with.

A few years ago the former Minister of Defense, Marshal of the Soviet Union Zhukov, said that since the ground forces themselves possess powerful strike weapons, they are not in need of support from the sea. This, of course, is not so. If there is no navy at sea, then some kind of sea-going forces will have to be created by the army itself, as this is done to a significant degree by the U.S. Army, even though they possess a navy. The question is only a matter of what is more advantageous.

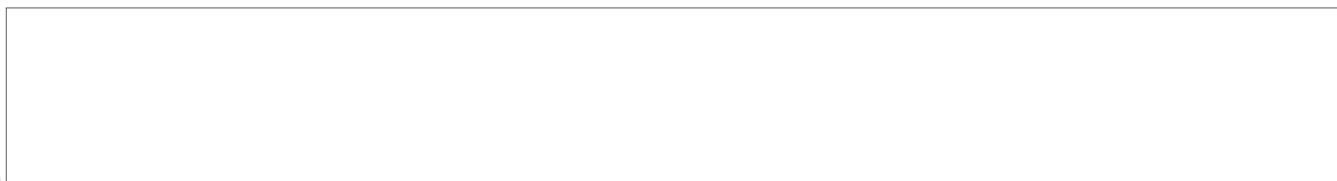


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This, in brief, is not a program of the necessary investigations of the future forces, means and methods for performing tasks that are before the Armed Forces on the oceans and seas, but the prerequisites to formulation of such a program, and then only some prerequisites, because a number of other important questions have hardly been touched upon—for example, the cooperation of forces and their support,—for such an important question as the most feasible standardization of the organization and control equipment in all branches of the Armed Forces, etc..



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Incidentally, it may be said that, while already long before the Second World War the constant and "general" threat of enemy aviation forced the creation of a unified system of anti-air defense, now we are even more in need of having, if possible, standard organization and equipment of the control of all the Armed Forces (including observation, communications, secure communications and computer equipment). 50X1-HUM

As was already stated, the above, as well as other important questions, must be investigated not only directly from the military, but also from the military-economic standpoint. This has almost been ignored until the present time, which explains the completely inadequate development of the methodology of military-economic calculations. For the calculations must be carried out not only for each separate task but also for "algebraic sums" of particular variants of these tasks. Therefore, it is clear that this methodology must be common for all branches of the Armed Forces, but, of course, taking into consideration the specific characteristics of each of the branches of forces in their particular sectors.

"Freedom is the basic necessity." Under the existing situation, complete freedom in selecting the particular forces and weapons which are really better is lacking in a number of cases. It is lacking not only within one or another branch of the Armed Forces, but on the scale of the Armed Forces as a whole. It is already unnecessary to say that such a situation inevitably leads to the need for "impulsive" decisions, opens a broad field for all kinds of irresponsible statements, unnecessary friction, etc.

Naturally the correct solution to this entire, particularly important problem consists of the organization of timely, close, joint, creative scientific work of military theoreticians and engineers. The

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question is only how to organize this work correctly, including the correct control and planning of it.

Also, overall considerations and security requirements have forced and are forcing the differentiation of this entire activity above all by the degrees of its concentration and significance. But it is important that in each of its "stages", the abovementioned creative operational-tactical collaboration should be retained. How is it best to organize it?

From the above it is clear that as the paramount scientific organ, it also works directly, plans the work of the "scientific periphery", may only exist at the level of the Ministry of Defense, most likely in the composition of the General Staff or of its Chief Operations Directorate. Only in this way is it possible to ensure complex purposefulness (perspective) and coordination of the development of the individual branches of the Armed Forces and thus, of the Armed Forces as a whole, along with the requisite competence of this organ, and the necessary security of its work.

Occupying itself only with future problems, i.e., being completely separated from current operational planning, this organ, incorporating several tens of the most qualified scientific workers and engineer-specialists on basic types of weapons and equipment\*, must work on three basic problems:

— on scientific research into the most promising ways (variants) for performing the main strategic tasks that stand before the Armed Forces;

\* Since such a technical organ already exists in the composition of the General Staff in the form of the Scientific-Technical Committee (NTK), maybe it would be best to simply reconstruct this NTK appropriately. Another variant could be the appropriate organization of military-scientific work of the General Staff Academy.

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— on the promising all-around system of armament that ensues therefrom, and equally on the optimal sequence of its creation;

— on the operational-tactical principles for the subsequent development of assignments for the main models of weapons and military equipment that ensue from this system of armaments.

Of course, the small staff of this central scientific organ will be able to handle the huge volume of tasks listed only under the following conditions:

— if its foundation is the work of the "scientific periphery" i.e., other scientific organs such as of the ministry as a whole, as well as of the branches of the Armed Forces;


— if at the same time it carefully follows the achievements of the general non-military sciences capable of having some military significance, and for this its representatives will enter into the top scientific organs of the country that have military interest, in the capacity of observers of their own arm;

— if it does not start to disperse the attention given to insignificant things, both in its own theoretical-research work and in its methodological management of the work of the other scientific organs of the ministry.

In order to observe these conditions it is necessary to deal only with the scientific organs (institutes) of the ministry, that work directly with it, and with the appropriate scientific management organs of the branches of forces. In turn, the latter organs must manage all the scientific establishments of their own branch of forces.

As regards the peripheral network of scientific organs of the Ministry as a whole, and of the branches of forces,

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i.e., academies and scientific-research institutes, in each case their scientific work should be directed toward the accomplishment of an immediate primary task of a particular faculty or institute — operational-tactical or technical. The cooperation of military theory with research in the field of weapons and equipment should fundamentally be ensured just as is done now. In the academies it may be founded on the joint work of related faculties; in institutes — on the existence in each one of them of an overall tactical department parallel with the specialized departments, etc.. The appropriate staffing of the scientific-technical councils of institutes and academic councils of academies must play a definite role.

This reveals the double subordination of scientific organs, that actually exists even now anyway: in all respects — to its immediate command (institutes — to chiefs of the appropriate directorates; faculties — to chiefs of academies, etc.); and in a special respect, more precisely in a scientific-methodological respect — to the scientific organ of the senior command. In the final analysis the faculties of academies and institutes in this special respect must be directed by the scientific management organs of the main staffs of the branches of forces, and these organs — to the management of the General Staff scientific organ. The central scientific establishments of the Ministry that do not enter into the composition of any central directorates must also be directly subordinate to the latter.

As at present, the actual plans of their work — long-range and annual — must be made up by each scientific organ, being guided by the directions of its command and senior scientific organ. In order to decrease inconveniences connected with double subordination, the senior scientific organs must give basic directions to the junior ones only through the chain of command, for example, to 50X1-HUM scientific organs of the main staffs — in the name of

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the General Staff. In order to avoid delay in the planning of these instructions from the General Staff to the main staffs, they must obviously arrive not later than 1 September, and from the main staffs to the directorates, not later than 1 October of each year.

In all plans not less than a 20 percent reserve must remain for performing "specialized" ("fakultativnyy") tasks that were not envisaged earlier. With the goal of improving planning, to insure first of all the essential subjects and to eliminate the search for the most important questions, when "time limits are already being felt", each planning stage must have and must constantly maintain at a current level, thought out, systematic lists of the most important subjects for research work in the basic sectors under their jurisdiction.

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Science constantly enters into our life and into military affairs more and more. The purposeful "maneuvering" of scientific forces and capabilities to point them toward the performance of the main tasks that facilitate progress has vast significance that has already been recognized. In this respect, the newly formed State Committee of the Council of Ministers USSR for the Coordination of Scientific Research Work is the main aid to the leadership of the country.

There is no doubt that the management of the entire system of military scientific-research work must be organized in a centralized way something like this, with differences arising from the specific characteristics of the Armed Forces. But successful overall treatment of the paramount military-scientific problems can be ensured only by the presence in the system of this work of a corresponding competent top military-scientific organ.

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