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CENTRAL INTELLIGENCE AGENCY
WASHINGTON, D.C. 20505

20 April 1978

MEMORANDUM FOR: The Director of Central Intelligence
FROM : John N. McMahon
Deputy Director for Operations
SUBJECT : MILITARY THOUGHT (USSR): The Organization and
Methods of Conducting Reconnaissance Against
Enemy Means of Nuclear Attack in Front
Operations

1. The enclosed Intelligence Information Special Report is part of a series now in preparation based on the SECRET USSR Ministry of Defense publication Collection of Articles of the Journal "Military Thought". This article is a critique of a publication put out by the Soviet Military Academy of the General Staff in 1961 on reconnaissance against enemy means of nuclear attack in front operations. While stating that the latter publication is a useful work on the subject, the author of the article also points out that it contains errors, inaccurate assessments, and superfluous material in some parts, whereas other sections contain generalities rather than specifics. Some of those errors are described and analyzed in considerable detail by the author. This article appeared in Issue No. 4 (65) for 1962.

2. Because the source of this report is extremely sensitive, this document should be handled on a strict need-to-know basis within recipient agencies. For ease of reference, reports from this publication have been assigned

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John N. McMahon

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Intelligence Information Special Report

Page 3 of 14 Pages

COUNTRY USSR

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DATE OF INFO. Mid-1962

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SUBJECT

MILITARY THOUGHT (USSR): The Organization and Methods of Conducting Reconnaissance Against Enemy Means of Nuclear Attack in Front Operations

SOURCE Documentary

Summary:

The following report is a translation from Russian of an article which appeared in Issue No. 4 (65) for 1962 of the SECRET USSR Ministry of Defense publication Collection of Articles of the Journal 'Military Thought'. The author of this article is Colonel E. Inashvili. This article is a critique of a publication put out by the Soviet Military Academy of the General Staff in 1961 on reconnaissance against enemy means of nuclear attack in front operations. While stating that the latter publication is a useful work on the subject, the author of the article also points out that it contains errors, inaccurate assessments, and superfluous material in some parts, whereas other sections contain generalities rather than specifics. Some of those errors are described and analyzed in considerable detail by the author. End of Summary

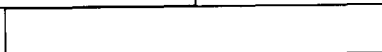
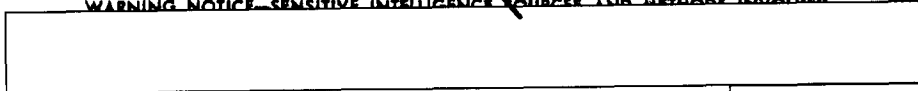
[Redacted] Comment:

After 1962 the SECRET version of Military Thought was published three times annually and was distributed down to the level of division commander. It reportedly ceased publication at the end of 1970. [Redacted]

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The Organization and Methods of Conducting Reconnaissance
Against Enemy Means of Nuclear Attack in Front Operations*

by

Colonel E. INASHVILI

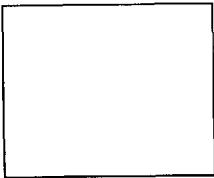
Under modern conditions the capability of employing nuclear weapons effectively in a battle or operation depends directly on the results of reconnaissance. This determines its role and significance, its tasks and requirements, and naturally makes it extremely urgent to carefully work out matters involving the organization and conduct of reconnaissance against enemy means of nuclear attack and other important targets.

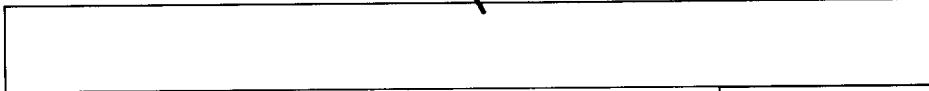
In recent years considerable attention has been devoted to reconnaissance in general, and particularly to reconnaissance in support of the use of nuclear weapons, in command-staff exercises and exercises with troops, in war games, conferences, and in the pages of military journals. A considerable amount of theoretical material and practical experience has been built up. But problems of organizing reconnaissance against favorable targets for destruction by nuclear weapons have still not been thoroughly explored.

For this reason [several words illegible] deserves special attention. The authors have carried out extensive and [one word illegible] work in studying and synthesizing the conduct of reconnaissance against nuclear weapons and other important enemy targets at the most complex level -- namely, a front. An initial attempt has been made to systematize the material on hand on the most pertinent reconnaissance problems. This the authors have accomplished without question. But we must also point out certain serious shortcomings.

The book discusses a broad range of subjects concerning means of nuclear attack and other targets favorable for destruction by nuclear weapons, the reconnaissance forces and means of a front and navy and their

* The Organization and Methods of Conducting Reconnaissance Against Enemy Means of Nuclear Attack and Other Targets Favorable for Destruction by Nuclear Weapons in Front Operations. Publication of the Military Academy of the General Staff, 1961



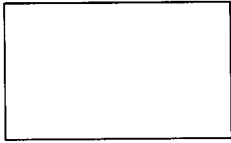


capabilities, the organization and methods of reconnaissance against enemy means of nuclear attack and other important targets in various types of operations. It deals also with the particular features of organizing and conducting reconnaissance against these means and targets during operations in the initial period of a war.

When speaking of means of nuclear attack and about other targets favorable for destruction by nuclear weapons, the authors dwell primarily on the criteria for determining the suitability of an installation as a target for destruction by nuclear weapons in general, subject to the possible presence of these weapons in a front. A great deal of attention is devoted to recommendations [one word illegible] the formation commander (commander) when [2 words illegible] for several targets. [2 lines illegible] to examining these propositions in detail, but it is devoted to reconnaissance against targets, and not to problems of the combat use of nuclear weapons. An intelligence officer must be able to determine correctly the operational-tactical significance of one target or another under the specific conditions of the situation, and send in reconnaissance forces and means accordingly for the timely acquisition of the most complete data possible, as well as report to the command his estimates of the importance of the targets. This section, in our view, should be set forth precisely in such an interpretation.

The authors note that the most important targets for the nuclear weapons of ground forces are first of all enemy nuclear weapons, but no less important will be troops, especially the main grouping, since its destruction will prevent the enemy from exploiting the results of his own nuclear strikes. Precisely this assessment was borne out in the war games and exercises of 1961-1962. But the authors are inclined to consider this applicable only under conditions where the enemy is employing a mobile defense. They clearly state: "Since the targets of primary importance are means of nuclear attack, such targets as troops and others are included in the number of other targets favorable for destruction by nuclear weapons" (page 63). This interpretation of the significance of troops as targets for destruction is not entirely correct.

Calculations of the anticipated number of important enemy targets in the zone of operations of a front should be dwelt upon in detail, since it is on the basis of this data that conclusions are drawn on the capabilities of the reconnaissance forces and means of a front, and suggestions are made concerning their requirements and organizational structure.



The authors specify 15 to 16 targets (pages 9-10) in an infantry or armored division of the US Army, which is completely incorrect. Stressing the limited number of nuclear warheads released by [several lines illegible] no instance where nuclear weapons were used against these targets, and it hardly seems worthwhile to try to prove the advisability of that. We might mention incidentally that the list of targets favorable for destruction by nuclear weapons (Table 1, pages 16-19 and Table 4, page 65) does not contain these means of the enemy. Why then are they taken into account when determining the possible number of enemy targets in the zone of a front? In an infantry division, targets of nuclear strikes may be combat groups, a tank or reconnaissance battalion, a free-flight rocket battery, a 203.2-mm howitzer battery, or a division command post, but there are only 10 such targets, not 15, and in a tank division there might be 12, but not 16. This incorrect determination of the number of targets in a division has led in turn to a considerable overstatement of their total number (by approximately 100 targets).

We cannot fail to note the carelessness shown by the authors in computing the total number of all targets. For example, on page 10 it states that in the zone of operations of a front there may be as many as 600 to 700 targets, but they do not include in this number large road and rail junctions, hydro-engineering works, bases, ports, ships, and others. However, on page 63 all of these targets, which may number as many as 100 to 150, are included in the above-mentioned 600 to 700 figure. The number of targets definitely does not remain constant and, as the authors correctly emphasize, may become greater or smaller depending on the composition of the enemy's forces and means. But in calculating them we cannot allow such [one word illegible].

Furthermore, the method itself of counting the possible number of targets (in a division 15, in a corps 70 to 80, in an army 150 to 200, in an army group 400 to 500) cannot be considered satisfactory. It is not revealing and can lead to major errors. For a graphic and cogent illustration of many parts of the book, a general table [several lines illegible] the number of targets for the assumed make-up of an enemy army group. On the basis of this data the authors could have made all the subsequent calculations, including those in Tables 1, 4, and 5, instead of using different variations of the list and possible number of targets as the basis for each of them. This encumbers the book and needlessly complicates the use of the material. It would also have been of great benefit to have a diagram of the disposition of these targets in the zone

of operations of a front.

We should note the good exposition of the characteristics of targets favorable for destruction by nuclear weapons (pages 14-21). Worthy of note also is the section dealing with the means of nuclear attack of probable enemies (pages 22-62). The authors have managed to assemble a considerable amount of material on this subject. The one thing lacking, in our view, is a description of surface-to-air guided missiles. But the characteristics of other targets, placed in a separate section for no apparent reason, to a great extent repeat what was said at the beginning of the book.

The characteristics of basic reconnaissance indicators are not presented with sufficient clarity (page 66). It would have been better to briefly elucidate their role and significance in the conduct of reconnaissance and then treat the indicators themselves individually and in detail.

In examining the forces and means of front and naval reconnaissance and their capabilities, the authors present a generally correct assessment of their role and significance. When stating their capabilities, however, they take a mechanical approach, and serious miscalculations occur which misrepresent the true situation.

We cannot, for example, agree with the quantitative assessment of the capabilities of front aerial reconnaissance (page 74). In the first place, bringing in all aircraft of non-T/O reconnaissance squadrons of aviation regiments of an air army to conduct reconnaissance of targets against which nuclear weapons might be employed, is for all practical purposes impossible. The experience of exercises shows that not more than one-third of the aircraft from these squadrons can be brought in for this purpose. In the second place, fighter aircraft of non-T/O squadrons, which form the great majority, can conduct reconnaissance only by visual observation. In the third place, the sortie rate of reconnaissance aircraft is too low: for aircraft of operational reconnaissance only one to 1.5 sorties, while for aircraft of tactical reconnaissance two to three sorties a day (page 74). The sortie rate should be two and three sorties a day, respectively (see the draft of Combat Regulations of Reconnaissance Aviation, page 16).

These omissions and errors in calculations have led the authors into making an incorrect determination of the number of aircraft sorties, and consequently, to an inaccurate assessment of the capabilities of aerial reconnaissance of a front. In actuality these capabilities are not 180 to

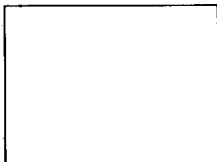


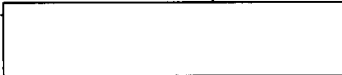
360 sorties as stated in the book, but 225 to 240. But if we accept the authors' point of view of a 100 percent utilization of aircraft from non-T/O squadrons for reconnaissance against nuclear weapons, then with the correct rate the number of sorties per day would increase to 295 to 390.

The estimate of the capabilities of existing reconnaissance equipment, which in the authors' opinion "makes it possible to accomplish most reconnaissance tasks successfully" (page 76), is unfortunately overstated. Aerial reconnaissance by visual observation, mainly with the naked eye or using a simple infrared SIM (aircraft infrared monocle) device, the low resolving power of panoramic bombsights, the extremely rough determination of the coordinates of operating enemy radar, and the absence of combat television reconnaissance equipment, do not begin to measure up to the estimate given by the authors. For aside from aerial photography equipment, we simply do not have at the present time modern technical means of reconnaissance for equipping aircraft of reconnaissance aviation.

The authors properly devote considerable attention to problems of determining the number of aircraft sorties required to conduct aerial reconnaissance, since this is one of the most effective types of reconnaissance. In this review we are unable to examine in detail the various methods proposed and therefore we must confine ourselves merely to assessing them. The first method of calculation (page 78), based on determining the necessary number of sorties by the size of the area where important enemy targets may be deployed, is not revealing and does not begin to reflect the actual requirement of forces and means of aerial reconnaissance. It suffices to say that the minimum difference compared to the second method is as much as 100 to 125 sorties. In the second method (pages 80-81) the calculation is based on the number of enemy targets whose detection can only be accomplished by aerial reconnaissance. Such an approach to determining the required number of sorties should, in our view, be regarded as the best. We question overly frequent checks of troops on the battlefield (five to ten times a day in divisional areas).

One can hardly agree with the conclusion that "the given composition of reconnaissance aviation of a front and of armies is the minimum necessary to perform the tasks assigned to aerial reconnaissance" (page 79). Calculations shown in Table 5 (pages 80-81) provide no basis for this conclusion. It is clear from the table that to conduct tactical reconnaissance 280 to 300 pairs of aircraft sorties are necessary, while the capabilities of a front are only 172 to 208.



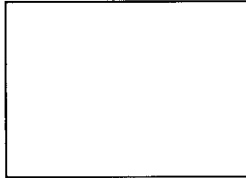


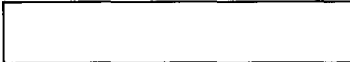
We therefore believe that to conduct aerial reconnaissance there must be: in a front -- two operational reconnaissance aviation regiments, a tactical reconnaissance aviation regiment (to conduct reconnaissance in support of armies), and a spotter reconnaissance aviation regiment; in an army -- a squadron (regiment) of unmanned reconnaissance aircraft and a squadron of reconnaissance helicopters; in a division -- a squadron of reconnaissance helicopters (in an army and division, including helicopters for airlifting troops of long-range reconnaissance into the enemy rear).

The capabilities of forces and means of radio and radiotechnical reconnaissance are being analyzed, unfortunately, on the basis of an outmoded organizational structure and do not correspond to reality (pages 82-85). But if front means of radio and radiotechnical reconnaissance had undergone no changes, then a combined-arms army at present would have a radio reconnaissance battalion (32 posts) and a radiotechnical reconnaissance battalion (20 posts), while a tank army would have a radio reconnaissance battalion. Furthermore, in divisions a tactical radio reconnaissance company (five posts) is called for. Nor must we forget the radiotechnical reconnaissance means of rocket troops and artillery of a front (a minimum of 24 posts). Given the presence in a front of two combined-arms armies and one tank army (ten divisions in the first echelon), these units and subunits of radio and radiotechnical reconnaissance ensure the deployment in a front zone of up to 470 reconnaissance posts, including 136 radio intercept posts in the shortwave band, 86 in the ultra-shortwave band, 21 for reconnaissance against radio-relay lines, up to 125 for reconnaissance against radar sets and systems, nine posts for reconnaissance against radio navigation systems, and at least 89 radio direction finding posts. But the authors have given too high a figure for the total number of reconnaissance posts that may be deployed in a front zone, particularly for the number of radio intercept posts in the ultra-shortwave band (more than 100 posts).

In determining the possible number of enemy radio and radiotechnical means, the authors also work from obsolete data. An army group of our probable enemies may have up to 15,000 or more shortwave and ultra-shortwave radio nets and over 6,000 radar and radio navigation sets and systems. Thus, modern means of radio and radiotechnical reconnaissance of a front are capable of conducting simultaneous observation of approximately 1,000 radio nets and 1,200 radar sets and systems.

In examining the capabilities of a front for reconnaissance in the enemy's rear, the authors give the requisite number of reconnaissance groups and tasks, which must be accomplished by agent reconnaissance and





long-range reconnaissance, as well as recommendations on how to strengthen this type of reconnaissance. It is our belief that some of their statements are in need of further refinement.

At the present time a combined-arms (tank) army is supposed to have one long-range reconnaissance company (nine reconnaissance groups), while divisions will also have one company (five reconnaissance groups). The long-range reconnaissance capabilities of a front therefore increase considerably and, given the composition of the front cited above, they may amount to up to 113 reconnaissance groups.

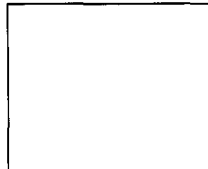
The depth of operations of long-range reconnaissance groups should, in our opinion, be determined primarily on the basis of the probable disposition of top priority enemy targets. Calculations show that the enemy's main forces and means (450 to 500 targets out of 600 to 700) will be located at a distance of up to 150 kilometers, while means of nuclear attack are mainly at a distance of up to 100 kilometers. The main efforts of front means of long-range reconnaissance must therefore be concentrated at a depth of up to 150 to 200 kilometers, those of armies -- up to 100 kilometers, and those of divisions -- up to 50 kilometers.

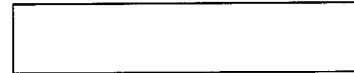
The degree of effectiveness of long-range reconnaissance in detecting means of nuclear attack should have been emphasized, at least from the experience of special exercises in a number of military districts. As to accuracy in determining the coordinates of reconnoitered targets, this will be influenced by the specific situational conditions, the size of the target, and the nature of the terrain in the area in which it is located.

The forces and means of naval reconnaissance and their ability to detect targets in support of a front operating on a coastal axis are covered in some detail.

In the general conclusions on the capabilities of the forces and means of front reconnaissance, in our opinion it should have been stressed that of the total number of targets anticipated in the zone of operations of a front, some 300 will be of particular importance. These are means of nuclear attack, control and guidance posts, and the main grouping of forces. Their detection is the most urgent task of front reconnaissance.

An analysis of the capabilities of the forces and means of front reconnaissance shows that it is possible in the space of a 24-hour period to reconnoiter: by aerial reconnaissance -- about 130 to 150 targets with an expenditure of 220 to 240 sorties; by agent reconnaissance and

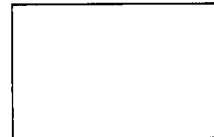


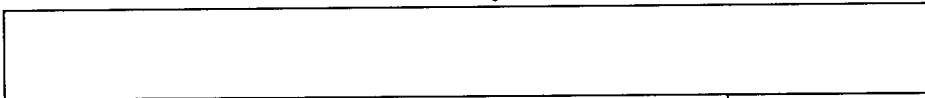


long-range reconnaissance groups, bearing in mind that not all of them are able to operate at the same time -- 105 to 120 targets. Forces and means of radio and radiotechnical reconnaissance are not taken into account, since for the most part they are not capable of determining the exact coordinates of targets. Consequently, a front, in the space of a 24-hour period, can conduct reconnaissance against no more than 235 to 270 top priority targets out of 300 possible ones. But after taking into account losses to reconnaissance forces and means (about 10 to 16 percent), these capabilities are reduced to 205 to 235 targets. Should several types of reconnaissance means be called upon to detect certain targets at the same time, these figures will drop by approximately another third, i.e., to 140 to 160 targets. Moreover, because of enemy opposition, not all the operating reconnaissance forces and means will be able to perform the assigned task. As a result, the number of top priority enemy targets detected may be considerably lower. From all these calculations it becomes clear that a front does not have sufficient reconnaissance forces and means to ensure simultaneously the discovery of all the top priority enemy targets against which nuclear weapons will be employed. Reconnaissance against these targets will therefore have to be carried out successively and purposefully, which will permit more efficient use of available forces and means.

In the book considerable space is devoted to problems of organizing methods of reconnaissance against means of nuclear attack and other enemy targets (pages 90-135). The authors set forth successively and in detail the fundamentals of organizing and conducting reconnaissance, and discuss in detail the basic methods of detecting important enemy targets by all types of reconnaissance. They also examine the particular features of organizing reconnaissance against these targets in different operations. On the whole, their treatment of these subjects deserves high marks. But we cannot fail to note certain serious omissions.

First of all, on organizing the collection and processing of reconnaissance data. This important and complex subject is discussed in such general terms that it is of no theoretical or practical value. We regard this as the most serious defect of the book. It is difficult to reconnoiter, but it is not easy to collect in a timely manner, quickly analyze, or report the results of reconnaissance. Organizing the collection and processing of reconnaissance data is very complex and touches upon a broad range of matters, including the organizational structure of the reconnaissance organs of staffs. And the authors should have stated their recommendations. The authors' task was made easier by virtue of the fact that in certain scientific research institutes and in





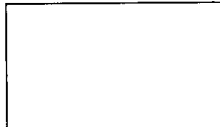
military districts considerable work has been done on the development of methods of organizing the collection and processing of reconnaissance data using existing means of automation and mechanization. A number of interesting proposals on this subject have also been published in the Collections of the Journal "Military Thought" No. 11 (45), 1959 and No. 3 (58), 1961.

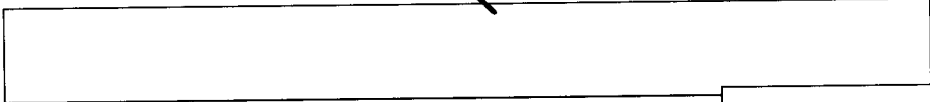
Also deserving fuller coverage, in our view, are the problems involved in coordinating reconnaissance means. Essentially, they were disposed of in the book in just one sentence (page 97).

Furthermore, not once do the authors clearly state the tasks of reconnaissance. They might have said that in support of the combat employment of nuclear weapons the basic tasks of reconnaissance are the detection and determination of the location of enemy means of nuclear attack, the disposition of his troops (especially armored troops), of base airfields for nuclear weapons delivery aircraft, of command posts, centers, and control and guidance posts for missile weapons and aviation, of antimissile and air defense means, rear and military-industrial installations, naval bases and ports, as well as final reconnaissance and the establishment of observation of targets prior to the delivery of nuclear strikes against them, and monitoring the results of these strikes.

The point is stressed in the book that "the most important requirement of reconnaissance under modern conditions is the discovery of the enemy's nuclear weapons before they are employed" (page 98). But also no less important is the detection of other enemy targets in time for them to be destroyed before they are able to shift their location. Furthermore, it was essential to emphasize the degree of accuracy in determining the coordinates of targets. Research conducted in the Military Artillery Academy shows that errors in determining by reconnaissance means the coordinates of small-size targets in support of the combat employment of missile/nuclear weapons must not exceed 150 meters when they are 100 kilometers from the front line, and 200 meters when the targets are at a depth of 100 to 500 kilometers or more.

The recommendations on organizing final reconnaissance against targets and monitoring the results of their destruction should have been stated more clearly. In our opinion, the solution of this task would best be entrusted to the staffs of the rocket troops and artillery and of the air army which have the necessary forces and means. In addition, in accordance with the situational conditions, forces and means of a front staff may be brought in for this purpose. This proposal stems from the fact that since





the development of technical means of reconnaissance is proceeding along the lines of developing devices and equipment which ensure accurate determination of coordinates, the task of final reconnaissance against targets will consist not only of continuously observing them, but also of delivering a strike against a target.

The authors believe that a reconnaissance plan can be written up in textual form only when there is enough time (page 92). But, as the experience of exercises of the last two years has shown, a textual plan was compiled in front staffs, which made it possible to describe the organization of reconnaissance much more fully. In fact, setting out the plan on a chart hardly takes less time than that required for a textual plan.

In discussing methods of reconnaissance (pages 102-121) the authors have managed to concentrate the accumulated experience in conducting reconnaissance against means of nuclear attack and other important enemy targets -- experience which has found expression in numerous practical recommendations. This is a major achievement on the part of the authors of the book. It seems to us that if the section had been entitled "Fundamentals of the Combat Employment of Reconnaissance Forces and Means", it would have reflected its contents more accurately.

The particular features of organizing reconnaissance in various types of operations are dealt with in the book in a somewhat one-sided manner (pages 123-134). It is mainly a detailed description of the various conditions under which reconnaissance will be carried out. This will hardly satisfy the reconnaissance personnel of a front. It was essential here to stress also the particular features of organizing reconnaissance in meeting engagements that will take place in offensive and defensive operations of a front.

The authors have examined separately the fundamentals of organizing and conducting reconnaissance in the initial period of a war. This, in our view, is correct. A thorough discussion of the main reconnaissance tasks when preparing for, and during, operations of the initial period of a war, and the setting forth of general fundamentals of organizing and conducting reconnaissance during this period and the fundamentals of the combat employment of the types and means of reconnaissance, gives us a picture of what front reconnaissance must do, and how it must do it, in order to discover in advance preparations by the enemy for a surprise attack, and obtain exhaustive data which will ensure the disruption of such an attack and the effective employment of nuclear weapons during an initial operation



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in the initial period of a war.

With regard to the structure of the book, it should be pointed out that the first chapter is not written concisely; it contains superfluous material and has many repetitions. There are also serious contradictions in determining the possible number of important enemy targets. For example, the number of enemy means of nuclear attack -- 150 to 200 targets, given twice on page 63 -- is subsequently changed to 171 to 193 (page 65). And these are targets of primary importance whose number must be ascertained with great care. It seems to us that it would have been preferable to present the material of this chapter in the following sequence: enemy targets favorable for destruction by nuclear weapons; the possible number of targets in the zone of operations of a front (the type of calculation, suggested tables and charts); the disposition of enemy targets (throughout the depth); description of targets and means of nuclear attack; reconnaissance indicators of targets.

In conclusion it should be emphasized that the authors have performed a major and useful service. The book is a good basis for conducting valuable research -- something that the troops and military educational institutions are in great need of.

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