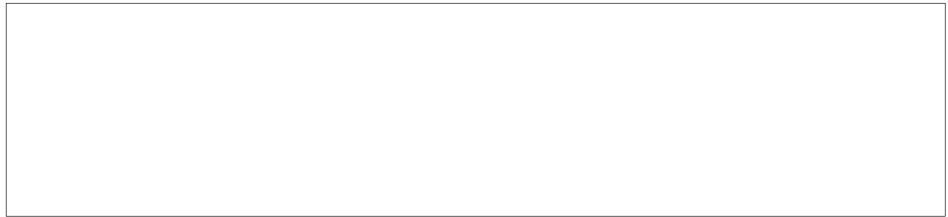


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Ways of Increasing the Effectiveness of the Information
Service in Operational and Tactical Reconnaissance

by
Colonel Z. Moseyev

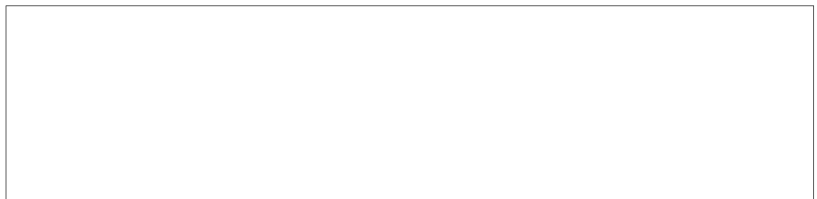
The highly mobile nature of troop combat actions in modern operations and the rapid and abrupt changes in situations require the well-coordinated performance of the information service within the military reconnaissance system. The organization of timely collection, processing, recording, analysis, evaluation, and delivery of reconnaissance data (especially on the missile, nuclear, chemical, and bacteriological weapons of the enemy) to the command elements and interested staffs occupies an important place in the practical activities of reconnaissance at all levels.

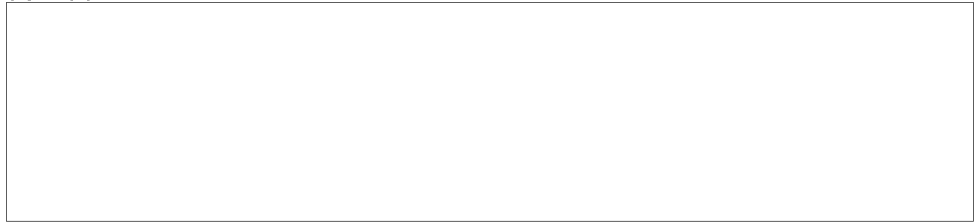
The development and utilization of computers and computer systems is considered the principal approach to shortening the time required to process reconnaissance data. This approach, however, is not the only one. In our opinion, much can be done to increase the effectiveness of the information service even at the present time within the framework of the existing tables of organization and capabilities of the reconnaissance organs.

The work of the information service is the concluding phase of all reconnaissance organization measures and it is the most important function of every staff. Experience shows that the quality of the work of the entire operational and tactical reconnaissance system is reflected in the work of the information service. Without well-coordinated information, the purposeful organization and conduct of reconnaissance is inconceivable. Its planning is possible only on the basis of data obtained earlier.

In comparison with the World War II period, the volume of work of the information service and the demands made upon it within the operational reconnaissance system have changed significantly. The experience of the staffs of the border military districts and groups of forces, command-staff exercises and games, and tactical-special exercises of reconnaissance units indicate that the rhythm and volume of this work increases sharply, especially with the introduction of a threatening situation and during the course of an operation. In the latter instance, the intelligence directorate of a front staff will receive daily an average of 200 to 250 different information and reconnaissance reports which contain more

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precise or new data on important enemy targets and actions.*

Each report on the average contains two or three sentences of text, and some contain more. No less than 65 to 70 man-hours are spent on processing all the informational materials. About 70 to 80 percent of all the reconnaissance reports require immediate processing (study, collation, analysis, etc.) and 20 to 30 percent need rapid clarification and reverification.


Research on the results of command-staff exercises, troop exercises, and tactical-special exercises of reconnaissance units conducted in the Odessa Military District from 1963 to 1966 confirms that the passage and processing time of reconnaissance data could be significantly reduced by good organization and more accurate information work at all levels. For example, during the course of operations, data could go from a division to the front staff, omitting the army level**, in 0.3 to 0.5 hours; aerial photography data transmitted by direct secure communications channels and high-frequency channels took 0.5 to one hour (using wet negatives, 25 to 30 minutes). If the crews and radio operators are trained, division and army (corps) staffs can receive data with the use of simplified tables within two to three minutes from onboard a reconnaissance aircraft which is conducting reconnaissance by visual observation; from front radio and radiotechnical reconnaissance utilizing coding equipment and secure communications equipment, it took 30 to 40 minutes; information transmitted by radio from special-purpose reconnaissance groups (detachments) and from front agent collection directly to the control post of the chief of intelligence took 1.5 to two hours (from the moment the order was issued).

*It has been established that of this number there are approximately 25 to 30 reports from air reconnaissance; 20 to 30 from radio and radiotechnical reconnaissance of the front; 35 to 40 from special-purpose reconnaissance groups (detachments) of the front; 25 to 30 from agents; 10 to 15 reports from the study and processing done directly in the intelligence directorate of various materials and captured enemy documents; 10 or 11 from prisoner interrogation reports and the interrogations of deserters and local inhabitants; 40 to 50 reconnaissance reports from army (corps) and individual division staffs; 10 to 12 from the staffs of branch arms and services; 10 to 12 from adjacent fronts (fleets); three or four from an airborne division and amphibious landing forces from the enemy rear; and 10 to 12 reports from other sources (rear services organs, staffs of formations of the Air Defense Forces of the Country).

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**With the simultaneous delivery of the reports to the army and front staffs.





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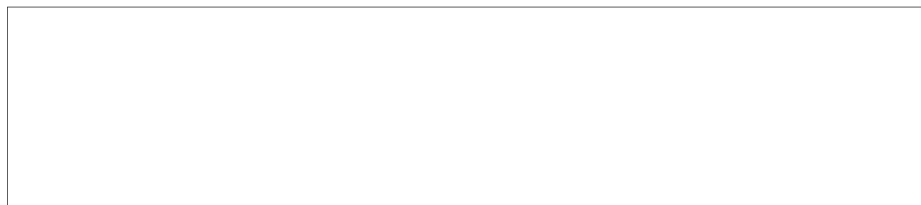
Practice shows that in peacetime, in order to reduce the time required for the initial and subsequent detailed processing of reports, it can be carried out rapidly and accurately in the intelligence collection organs themselves, in the staffs and command posts of reconnaissance units, in the intelligence sections of staffs of large units, and in the departments of staffs of operational formations. This method of operation is expedient in wartime as well. As a result, on important information, the intelligence directorate of a front staff receives at first short and then, depending on the rate of processing and the need, complete and expanded reports with the documents obtained appended. In a case where the data are of great importance, the front staff can demand that it be reported immediately or that all the material on the target be sent for direct processing by the intelligence directorate. Such a work scheme guarantees effectiveness and quality processing, and it also helps avoid unnecessary correspondence and questions, and unproductive expenditure of time. As a result, the refined and verified data in the coded message comprise only a few groups and the senior staff personnel are freed from superfluous work.

All incoming information reports are entered into the targets file, in logbooks, and on information maps, and recorded on magnetic or punched tape. If the data are extremely important, formal reports for the command, reports for the General Staff, and information reports for cooperating staffs and adjacent units are prepared. Such painstaking, persistent, and creative work of the information service in peacetime, which often goes unnoticed by others, subsequently, as a rule, pays off handsomely, especially in introducing corrections into operations plans, in preparing operations in short periods of time, and in the selection of targets for the initial nuclear strike.

With the initiation of combat actions, however, the rhythm of this work increases approximately eight to ten times. It seems to us, moreover, that it can be sustained during the first few days of an operation only if the information service has been efficiently organized during peacetime, if there has been a delineation of the functional responsibilities among the officers (including those temporarily allocated from other departments of the intelligence directorate to reinforce the information work), and if the chief of intelligence of the front has a technically equipped control post.

At the tactical level, particularly in a division, the volume of information work is very high. Thus, based on the results of division exercises and tactical-special exercises of reconnaissance battalions conducted in the district in recent years, it has been established that the staff of a division conducting combat actions, on the average, may receive





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125 to 165 reconnaissance reports and diverse information reports (comprising 370 to 450 phrases or 1,100 to 1,500 groups of characters)* per day.

In addition, during one day of combat, a division staff allocates 10 to 15 supplemental reconnaissance tasks, makes 10 to 15 reports to the higher staff, and sends five or six information reports to adjacent, cooperating, and subordinate staffs.

All this indicates that such a volume of work cannot be accomplished by an intelligence section of a division staff consisting of three or four men. An analogous situation exists in an army corps staff. Here, obviously, just as in the case of operational reconnaissance, it is necessary to allocate officers of other staff departments and sections, and part of the work devolves upon the staffs of reconnaissance units. One is forced to conclude that the information service, like the entire reconnaissance system, should be maintained in peacetime fully manned and in a high state of combat readiness.

Moreover, in order to increase the effectiveness of the work of the information service in operational and tactical reconnaissance, it would be expedient, in our view, without further postponement, to adopt the following basic measures.

Having scientifically determined the appropriate criteria based on the time, importance, and volume of information, and on the nature of the activities of the work force, to allocate the sequence and content of the work among the departments and sections of corresponding staffs of formations and large units, and also among the staffs of reconnaissance units.

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*This includes: from three or four deep reconnaissance groups, 12 to 15 reports; from four or five division reconnaissance groups, 20 to 30; from division units, 20 to 25; from the reconnaissance by the branch arms and services, 10 to 15; from radio and radiotechnical reconnaissance 16 to 20; from captured documents and prisoner of war interrogation reports, six to eight; from coded reports from reconnaissance aircraft, 25 to 30; from adjacent, cooperating, and higher staffs, 10 to 15; and from other sources, six or seven.





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To separate, for example, information on important targets from the general mass of information and to transmit short reports (three or four groups on the name, coordinates, and time of observation of a target) initially only to interested echelons (to army and front staffs); to strictly delimit the submission time for information on important and secondary targets; to "cut off" at a lower level data which are not of practical significance to higher echelons. Where it is expedient, for example, in radio and radiotechnical reconnaissance, to do the initial processing of information rapidly and with a high degree of quality in the organs that obtain it. To regulate the "flow of information" and, having allocated its primary and secondary channels, to combine the reconnaissance control and data receiving channels. It is necessary to equip the information service with tape recorders, projectors, and video-recording and other technical equipment.

The following could be proposed as one of the variants in the allocation of basic fields (functional responsibilities) in information work. In a front -- enemy weapons of mass destruction; ground forces, air forces, air defense, and navy; and engineer preparation of theaters of military operations. In an army -- enemy weapons of mass destruction; ground forces, tactical aviation, ship groupings in a coastal zone (during operations of the army on a coastal axis); and combat lines, communications centers, and basic elements of the road network in the depth of the army operation. In a division -- enemy missile/nuclear weapons, his opposing ground units, defensive lines, and natural obstacles.

A large role in improving the quality of information work may be played by the control post of the chief of intelligence, if the data obtained are collected and processed in it. This post must be improved with regard to table of organization and equipment. It seems to us that it must be subordinated to the information department of the front staff intelligence directorate charged with supervising the information work, analyzing reconnaissance data, and preparing basic reports and documents.

Practice has demonstrated that there must be a strict centralization of command of all reconnaissance activities in a single organ, i.e., in the intelligence directorate of a front staff and correspondingly in the intelligence department of an army staff. The real center for the assembling of information and the processing of data should be, first of all, the intelligence sections, departments, and directorates of the combined-arms staffs which are capable of consolidating the efforts of all reconnaissance forces and means and of providing the command and the staffs with all the information necessary for making decisions, particularly

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concerning the employment of weapons of mass destruction.

This is also confirmed by the fact that during exercises reconnaissance information, in the majority of cases, and particularly in the detection of a surprise enemy attack, comes in even to the front in the form of direct and indirect reconnaissance indicators, which in themselves, without analysis and comparison with other data, cannot sufficiently define a specific event or target. The skilful processing of information and the analysis of various correlations between phenomena may be successfully accomplished, specifically, in the control posts of chiefs of intelligence.

In addition to the centralization of command of reconnaissance, we should also eliminate a certain discrepancy between the numerical strength of the information service (especially at the division-army level) and the structure of the intelligence collection organs, i.e., one information officer is usually assigned to three or four fields.

Staffs of large units and formations should have, in our view, a sufficient amount of standard equipment: ultra-shortwave band reconnaissance receivers for receiving data from onboard reconnaissance aircraft, and receivers which can be switched into the network of combined-arms staffs for the purpose of mutual information about the enemy.

Within the system of receiving data from reconnaissance aircraft, it is necessary to simplify the signal tables, the coding of maps, the allocation of data transmission bands and methods (especially at long distances). "Air-to-ground" type television equipment should be improved so that it can provide the exact coordinates of targets and so that the interpretation of the latter might be facilitated, especially in the case of those which are concealed or well camouflaged.

In our view, it is necessary to improve further the status of radio communications with reconnaissance units and, likewise, the procedure and precedence of radio traffic. Subordinate staffs should not delay the transmission of important information.

Successful information work will be greatly facilitated by the timely allocation of concise and specific tasks to the executors, realistic time limits for their accomplishment, and the sequence and periodicity of data reports. To do this will require that the system of working out tasks be regulated, that there be created integrated forms of documents (reconnaissance instructions, reports) in which there is strict specification of a standardized procedure for the presentation of tasks and





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the distribution of the text, which will, in turn, ensure their rapid encoding and transmission by communications means. In addition to this, information documents should not be too bulky or overloaded with general formulations, or with information which has no practical significance or does not pertain to the evolving situation. The use in the staffs of various standard forms of short information documents, index cards, and blank maps, and the extensive utilization of the system of textual abbreviations which has been devised, will make it possible to speed up the work process.

The training of information personnel also plays an important role. The creation and integration of an information service within the reconnaissance of a military district (front) staff requires, as experience shows, five to six months. The officer complement of the staffs of reconnaissance units and the commanders of reconnaissance organs must be skilled in the initial processing and concise formulation of reports on the information obtained. The absence of such skills results in needless inquiries and refinements and sometimes even in the inaccurate preparation of information documents (the time, the source of information, etc., are missing).

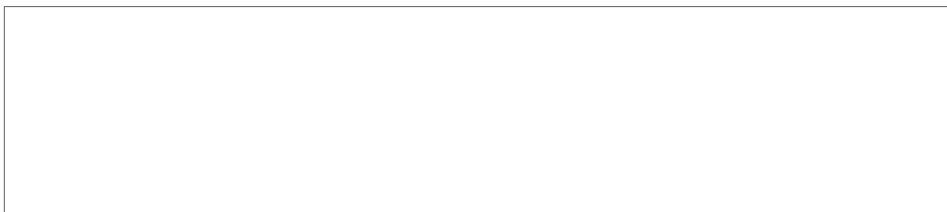
The level of special training of information officers is of especially great importance in processing and analyzing reconnaissance information. In this process, in addition to experience and theoretical knowledge, a role is played by intuition, professional perception, a creative approach, and self-discipline in work. In order to have this, it seems to us, the service of the officers must alternate between the information and the collection organs (experience shows that the training of an officer for information work requires significantly more time).

Personnel of reconnaissance units and subunits of large units should have sufficient skill to determine the coordinates of targets with high precision, particularly at a considerable distance from the targets (1,500 to 2,500 meters), and to know the reconnaissance indicators of enemy armament, equipment, and combat activity, especially those which reveal the preparation for the use of weapons of mass destruction. Reconnaissance groups and deep reconnaissance groups must be equipped with improved instruments for determining the distance and coordinates of targets with an adequate degree of accuracy.

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The implementation of all the above-mentioned measures, which do not require great materiel expenditure or long periods of time, it seems to us, will improve the quality of the information service and increase its





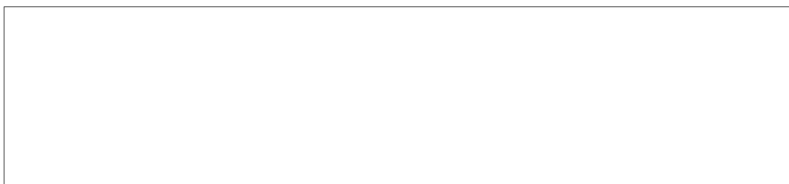
effectiveness even during peacetime.

However, it goes without saying that the existing system of collecting, processing, analyzing, and delivering reconnaissance data to interested echelons at the division-front level without the use of electronic information systems cannot meet the ever-increasing requirements for conducting modern operations. In our opinion, it is first necessary to create and introduce into reconnaissance, at least on an experimental basis, semi-automated and completely automated information-reconnaissance systems and subsystems. In addition to this, it is extremely desirable to continue the development and introduction of other technical means and equipment, particularly for the automatic encoding and transmission of reconnaissance information from maps, the printed page, voice, magnetic tape recordings, automatic secure communications devices, reproduction machines, communications receiving and transmitting equipment (radio, telegraph, facsimile, television) -- all of these will ensure speed, precision, security, and reliability in the transmission and receipt of reconnaissance information.

In our opinion, at the division-army-front level, a combined automated information-reconnaissance system (ground-air) for collecting, transmitting processing, recording, and distributing reconnaissance data would be most acceptable in the immediate future. The structure and basic technical means of such a system, and of the subsystems entering into it, will take the following general form.

Subsystems are intended for supplying information within the types of reconnaissance and the reconnaissance units. Stations of subsystems can be included in the basic automated system. The stations of the system, which are mounted on either an amphibious tank base or on a motor vehicle base with cross-country capability, should be located at the intelligence sections, departments, and directorates of staffs; and the central (main) station, at the command post of the chief of intelligence of the front. They should have equipment for receiving all types of reconnaissance information (television, television photography, infrared, radar, ground and aerial photography, diagrams, maps, etc.), radio reconnaissance and radiotechnical reconnaissance data (from OSNAZ units and from aircraft equipped with radiotechnical reconnaissance equipment), aerial reconnaissance data, and data from adjacent, higher, and cooperating staffs.

The system and subsystems must have at their disposal telecode and facsimile communications means and must ensure the automation of the





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receiving, processing, registration, partial analysis, recording, and distribution of reconnaissance information with the aid of special plotting boards, maps (the land, air, and sea situations; and the location of missile/nuclear weapons), and special illuminated screens for the overall situation.

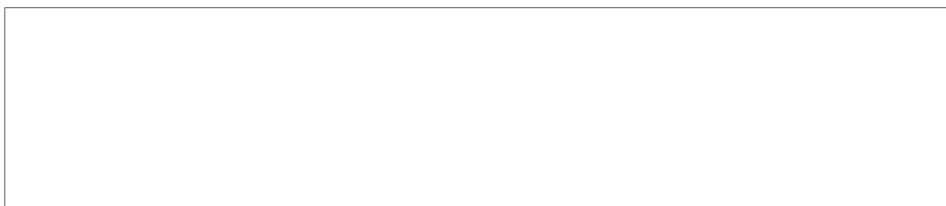
This system, in our opinion, must include the aerial photoreconnaissance processing and interpretation center located in the vicinity of the airfield where an operational reconnaissance air regiment and its staff are based. The center will carry out rapid photo processing, interpretation, determination of the coordinates of the elements of targets, and the preparation and reproduction of reconnaissance photo documents. All data should be transmitted by facsimile and secure communications, and with the aid of aircraft, helicopters, and motor vehicles to the air army staff and to the intelligence directorate of the front staff and, on instruction from the latter, to the army staffs.

Every station of the system and subsystem should permit the input of reconnaissance data from various sources (special-purpose reconnaissance groups, deep reconnaissance groups, reconnaissance aircraft, radio and radiotechnical reconnaissance, etc.).

This system as a whole, it appears to us, will be capable of ensuring the automated collection, processing, registration, and distribution of reconnaissance information on the enemy situation; the production of necessary estimates connected with reconnaissance planning, the evaluation of the combat strength and capabilities of the enemy, and the compilation of information documents; the delivery of queries and answers to them to the appropriate echelons; and the monitoring of the execution of reconnaissance tasks. The introduction of the system would permit the resolution of basically technical problems; and it would facilitate the appraisal of the enemy situation and the analysis of it by the information departments of the intelligence directorate of the front staff and of the army staffs.

In posing the question of the importance and timeliness of developing and introducing such a system, we do not exclude the fact that in the initial phases certain shortcomings are possible. For example, it is not capable of eliminating errors introduced into the system through the fault of the collecting organs (sources), which in combat reconnaissance practice comprise eight to ten percent. The full processing cycle will be protracted, especially when data accumulation is slow (depending upon the intensity of the work of the sources); the equipment of the system is bulky

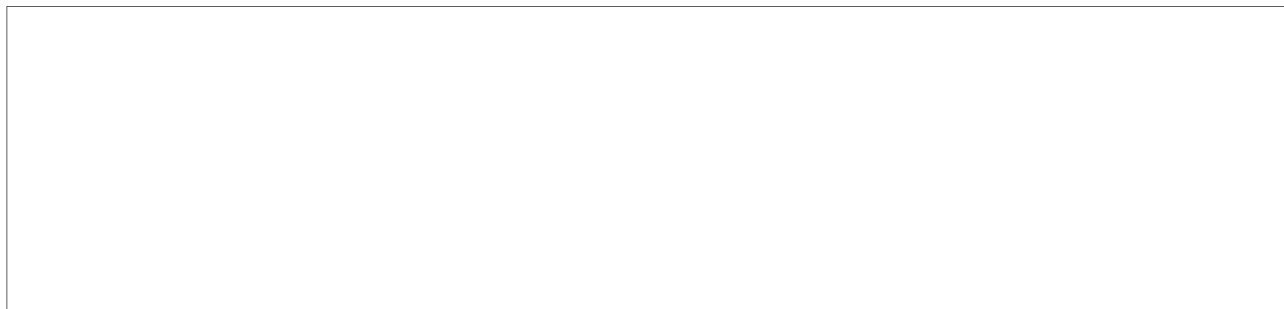




and vulnerable; and a certain deviation from the anticipated results is possible due to the input of an insufficient quantity of data into the information system. In many cases there may not be a critical approach to the initial data on the basis of which the enemy is assessed. Nevertheless, the use of such a system will have indisputable advantages.

In conclusion, let us note that all of the reconnaissance activity is focused in the information service. At times, the basis of success and the cause of failure of reconnaissance as a whole resides in the very organization of its work. The precise organization of the information service within the operational and tactical reconnaissance system requires constant attention and monitoring by the chiefs of staffs and the chiefs of intelligence of the military district (front) and the armies; this will permit the effective utilization of all existing reconnaissance forces and means.

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