

~~TOP SECRET~~

4921


CENTRAL INTELLIGENCE AGENCY  
WASHINGTON, D.C. 20505

12 February 1974

MEMORANDUM FOR: The Director of Central Intelligence  
SUBJECT : MILITARY THOUGHT (USSR): The Management of  
Military Technical Information

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 discusses the necessity for a highly efficient scientific-technical information system to deal with the increasing volume and complexity of information. The authors consider such a system indispensable to ensure military-technical superiority over the enemy and they describe the system in use in the USSR Ministry of Defense. Their projections indicate that in thirty years science will cost twice as much as the entire world's income, and that the number of scientists is increasing five times as fast as the information they produce. This article appeared in Issue No. 1 (89) for 1970.

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.

  
WILLIAM E. NELSON  
Deputy Director for Operations

~~TOP SECRET~~

~~TOP SECRET~~

Distribution:

The Director of Central Intelligence  
The Director of Intelligence and Research  
Department of State  
The Joint Chiefs of Staff  
The Director, Defense Intelligence Agency  
The Assistant to the Chief of Staff for Intelligence  
Department of the Army  
The Assistant Chief of Naval Operations (Intelligence)  
Department of the Navy  
The Assistant Chief of Staff, Intelligence  
U. S. Air Force  
Director, National Security Agency  
Deputy Director of Central Intelligence  
Deputy to the Director of Central Intelligence  
for National Intelligence Officers  
Deputy Director for Intelligence  
Deputy Director for Science and Technology  
Director of Strategic Research  
Director of Scientific Intelligence  
Director of Economic Research

Page 2 of 18 Pages

~~TOP SECRET~~

~~TOP SECRET~~



## Intelligence Information Special Report

COUNTRY USSR

DATE OF Early 1970  
INFO.

DATE 12 Feb 1974

SUBJECT

MILITARY THOUGHT (USSR): Military Technical Information  
and Its Role in the Development of Armament  
and Military Equipment

SOURCE Documentary

Summary:

The following report is a translation from Russian of an article which appeared in Issue No. 1 (89) for 1970 of the SECRET USSR Ministry of Defense publication Collection of Articles of the Journal "Military Thought". The authors of this article are Gen.-Leytenant of Engineer-Technical Service K. Trusov and Gen.-Mayor of Engineer-Technical Service A. Yershov. This article discusses the necessity for a highly efficient scientific-technical information system to deal with the increasing volume and complexity of information. The authors consider such a system indispensable to ensure military-technical superiority over the enemy and they describe the system in use in the USSR Ministry of Defense. Their projections indicate that in thirty years science will cost twice as much ~~for~~ the entire world's income, and that the number of scientists is increasing five times as fast as the information they produce.

End of Summary

Comment:

Gen.-Leytenant Konstantin Aleksandrovich Trusov participated in the SALT conferences as a representative of the USSR Ministry of Defense. Apparently he serves on the General Staff with responsibilities for advanced weapons research and development. Military Thought has been published by the USSR Ministry of Defense in three versions in the past--TOP SECRET, SECRET, and RESTRICTED. There is no information as to whether or not the TOP SECRET version continues to be published. The SECRET version is published three times annually and is distributed down to the level of division commander.

Page 3 of 18 Pages

~~TOP SECRET~~

~~TOP SECRET~~

[REDACTED]

[REDACTED]

Military-Technical Information and Its Role in the  
Development of Armament and Military Equipment

by

General-Leytenant of Engineer-Technical Service K. Trusov  
and General-Major of Engineer-Technical Service A. Yershov

The basic task in the development of domestic armament and military equipment is to ensure military-technical superiority over the probable enemy. To accomplish this task, well-organized military-technical information is indispensable, together with the allocation of appropriate efforts and means and the high-level implementation of technological policy.

The purpose of a military-technical information system is to ensure timely and full utilization of the achievements of domestic and foreign science and technology in developing armaments and military equipment; to facilitate the solution of pressing questions concerning the organization of control over the development of armaments and over the conduct of pertinent scientific research; to organize studies of the status and prospects of development of the armaments of the probable enemy for the purpose of taking them into account in the development of new means of armed conflict.

The development of armaments and military equipment is based on results achieved in mathematics, physics, chemistry, radio engineering, electronics, bionics, mechanical engineering, metals technology, etc. That is why the study of achievements in the various fields of science and technology, even in those which at first glance do not seem to have any relation to military affairs, is one of the tasks of military-technical information.

Military-technical information should be looked upon as an important integral part of the overall staff system of scientific-technical information, which has as one of its most important functions the preparation of materials containing in processed, concise, and systematic form the sum total of the scientific knowledge of preceding generations.

Page 4 of 18 Pages

~~TOP SECRET~~

[REDACTED]

~~TOP SECRET~~

[REDACTED]

[REDACTED]

The development of modern sciences is characterized by an increase in their differentiation and specialization. Together with this, there is taking place continuously widening cooperation and deepening interpenetration of separate sciences, as a result of which it is impossible to obtain exhaustive information on any branch by studying the literature pertaining only to that single branch. To ensure completeness of information on a given problem it is necessary to look through practically all scientific-technical publications printed.

The solution of complicated scientific problems has required the participation of an ever larger number of people and the combining of the efforts of groups of researchers composed of workers of various specialities and orientations. With the growth in the number of scientific workers, the volume of scientific-technical publications has increased considerably. World-wide statistics show that there is an exponential increase of the latter and that every ten to twelve years the amount of this literature doubles.

Thus, the accelerating development of science and technology is expressing itself through appearance of a new problem tied to the fact that man is already ceasing to cope with the information obtained. The creation of external memory organs--libraries and archives--ensured progress only in a particular phase of development of society; new methods of exchanging information, whose importance will be no less than that of the appearance of the first books, are needed.

Analyzing the subject of the effect of scientific-technical information on raising labor productivity, many American researchers have observed that the shortage of skilled engineers and scientists is largely explainable by the fact that the skills and working time of these specialists are expended inefficiently. This occurs because any research effort, and every one of its component phases, must be preceded by preparatory study of what has been already accomplished in the particular field. With an inefficient information system, an unreasonable amount of time is spent searching for necessary data, obtaining it, examining it in order to extract selections, and then studying the selections. Thus, it has been established that a chemical scientist will use up to thirty or thirty-five

~~TOP SECRET~~

[REDACTED]

~~TOP SECRET~~

[REDACTED]

[REDACTED]

percent of his budgeted working time in the search for information and then utilize in his work not more than five percent of the material examined in this time period.

Consequently, the task of raising, by all possible means, the productivity of scientists and engineers is to be put in the forefront. The most important condition for successfully solving this task is to create a highly efficient scientific-technical information system, because the latter has become, at the present time, one of the decisive factors in the development of modern science. The translation into reality of research that has been conducted, the speed with which scientific discoveries are put to practical use, is also greatly dependent on timely information.

In this connection, the statement of Academician M.D. Millionshchikov is not without interest: "There are still cases where highly significant discoveries, made by Soviet scientists, are first put into technical use abroad. As a result, at times we are forced to catch up with foreign equipment in those fields where we have made fundamental discoveries and have good research institutions and scientists."\*

Since the creation of armament and military equipment is based on the achievements of modern science and technology, all that applies to the role and importance of scientific-technical information naturally pertains also to military-technical information; thus, the latter must be so flexible and continuous that not a single discovery or scientific achievement, either inside our country or abroad, gets past interested institutions and officials of the Ministry of Defense.

-----

\* "Partiya i Nauka", Pravda, 1966, 29 March.

~~TOP SECRET~~

[REDACTED]

~~TOP SECRET~~

[REDACTED]

[REDACTED]

In addition, there are a number of specific features which increase the importance of military-technical information, and at the same time create additional difficulties. While scientific-technical information is branch-oriented in every civilian department, military-technical information has to be multi-branch in scope, inasmuch as most of the natural and technical sciences are used in the interest of defense. The exceptionally wide range of possible requirements for information makes it obligatory to accomplish a practically total processing of all primary reports applicable to the requirements of the Ministry of Defense.

To determine to what degree our domestic technology, or particular branches of it, are behind or ahead of modern world achievements, scientific-technical information exploits, as a rule, available overt material, which is often published in a summarized and systematized manner on the pages of the foreign press. In contrast with this, military-technical information has to bring to light and show the trends of development of the armaments and military equipment of the probable enemy, at times from isolated and odd bits of indirect information, using analyzing and synthesizing methods of processing. In connection with this and together with the widespread organization of information and reference work in the military-technical information system, much importance has been assigned to the conduct of special research efforts directed towards analyzing information contained in foreign informational material (scientific articles, magazine and newspaper reports, business firms' materials, official documents, etc.). Long ago, this type of research became, for armies of the principal capitalist countries (USA, England, etc.), the most important method of obtaining missing information about the armaments of the probable enemy and was given the name of "scientific intelligence."

Examining the importance of military-technical information for questions of the control of the development of armaments, it is necessary to proceed from the very essence of cybernetics as the science of control and information processes. The basic condition for the existence of an efficient control system is the unity of the control and information processes, which may be characterized briefly as follows: information is knowledge which influences the probability of a choice and the nature of a decision;

Page 7 of 18 Pages

~~TOP SECRET~~

[REDACTED]

~~TOP SECRET~~

[REDACTED]

[REDACTED]

without the receipt and use of information, control cannot be implemented, and without control there is no point in talking about information; the process of control is realized only through the manifestation of information as the stimulating origin of control; a quantitative measurement of information used is a change of probability in the choice of a decision, and a qualitative feature of information used is optimization of the decision adopted. Thus, an information system is created simultaneously with the inception of a control system and exists as long as the latter is functioning; and therefore, the only question is about further improvement of the information system.

The utilization of information is a necessary condition for scientifically based control, for any decision. The degree of objectivity of a decision adopted is directly dependent on the timeliness, completeness, and reliability of information.

In order to adopt a particular decision it is not enough for the appropriate supervisor to receive even the very latest facts; to be guided only by them is to follow on the tail of events. An information system should ensure the necessary systematic comprehensive analysis which will permit uncovering deep trends in the development of armaments or in those scientific achievements which in the future will lead to the appearance of new types of weapons. One must agree with statements of General-Mayor of Engineer-Technical Service A. Parkhomenko in the article, "Questions of Control in the Area of Development of Armaments and Military Equipment", concerning the importance of information: "The organization of information may be looked upon as one of the indices of the degree to which leadership rests on a scientific basis. If subjectivity dominates the system, then requisite attention is often not devoted in it to the question of the organization of information. In actuality, a supervisor who does not wish to study and use the experience accumulated by others and who supposes that the world and events are as they present themselves to his consciousness has no need at all for information.\*

-----

\* Military Thought, 1966, No. 9.

Page 8 of 18 Pages

~~TOP SECRET~~

[REDACTED]



~~TOP SECRET~~



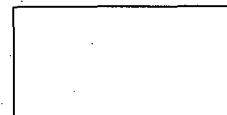
Our probable enemies not only understand the great importance of information for control but also do not spare means to develop it. As is known, one of the US Government documents devoted to questions concerning improvement of the information system stated the following: "The very best information system does not exclude the possibility of poor leadership; however, one must consider that poorly organized information will almost always lead to poor leadership."\* One cannot disagree with this assertion because, if persons who by their official positions are obliged to make decisions don't have the necessary and complete informational data, they will be forced to make them based only on available experience and intuition, and this is far from what is needed.

As is known, the study of the probable enemy is dictated by the following fundamental reasons.

First of all, the conduct of a comparative assessment of domestic armaments with corresponding foreign armaments permits discovery of the weak and strong aspects of our armaments and allows us to adopt the necessary measures to correctly determine technological policy in this field. As is known, the introduction of new weapons ahead of other powers confers distinct advantages. In this connection, timely information about the status and prospects of development of armaments of the probable enemy is acquiring paramount importance.

Secondly, it is of great interest to clarify an enemy's attitude toward matters of utilizing modern scientific and technical achievements and discoveries in the development of future armaments. This permits timely determination of when new armaments are to appear and use of the indicated branches of science and technology in the interest of development of one's own weapons.

-----  
\* Science, Government and Information, Washington, 1968.



~~TOP SECRET~~

~~TOP SECRET~~

[REDACTED]

[REDACTED]

Thirdly, it is of great importance to study: the views of foreign military theorists concerning the nature and methods of conducting modern war, the trends of development of military thought in the armies of the capitalist countries, and the approach to the operational-tactical basis underlying requirements for armaments systems and complexes. Such studies are necessary not only to refute reactionary Western military theorists in a timely manner but also to know how theorists of the probable enemy have resolved military theoretical questions.

Fourthly, knowledge of the military-economic potential of the principal capitalist states will reveal their capabilities for expansion of military production.

And finally, nowadays it is necessary at any moment to be able to reliably depict the relationship of the military-technical equipping of our own armed forces and that of probable enemies, to produce an overall assessment, to reveal their weaknesses, and, on the basis of all this, to correctly formulate operational plans.

Thus, to ensure superiority in armaments it is necessary, in the first place, to know what the probable enemy is doing. In this matter, a correctly organized system of military-technical information plays an essential role.

The creation of a well-organized system of military-technical information in the Ministry of Defense was initiated in 1962 by a directive of the Chief of the General Staff which defined the tasks of an information service and created the Central Institute of Military-Technical Information, departments of military-technical information in leading scientific-research institutions, and sections in the scientific-technical committees of the branches of armed forces and their arms. The appearance of the above-mentioned organs facilitated putting in order the military-technical information system, working out scientific-methodological fundamentals, introducing the most acceptable methods of information work, and organizing the exchange of information materials with defense industry ministries and other institutions.

~~TOP SECRET~~

[REDACTED]

~~TOP SECRET~~

[REDACTED]

[REDACTED]

The fundamental tasks of the Central Institute of Military-Technical Information are: to conduct research on the current status and prospects of development of foreign armaments and military equipment, to maintain an information and reference service for Ministry of Defense institutions, to provide scientific-methodological guidance to military-technical information organs, to conduct research into the mechanization and automation of information work, and to put into practice suitable methods and means.

The Institute publishes reports on the results of its research on foreign armaments and issues mass-circulation surveys which, depending on the contents, are circulated to various institutions of the Ministry of Defense and the defense industry. Recently, the attention of the Institute's collective has been focused on an analysis of foreign armaments from the point of view of tasks being solved by the enemy (research of armaments programs), and forecasting the development of the armaments of foreign armies in accordance with these programs. The production of yearly surveys of basic changes in the armaments and military equipment of the principal capitalist countries has also been initiated.

The information and reference service is contemplating a preliminary survey of all foreign magazines and materials received (approximately 400 titles in five languages) and conveying information about this to interested Ministry of Defense organizations. On the basis of requirements received, copies of articles, or the originals themselves, are to be circulated. The Institute has at its disposal a unique collection of domestic materials (scientific works, bulletins, surveys, author abstracts of dissertations, and other overt and classified publications).

The Institute also accomplishes translation coordination, conveys domestic patent information to interested organizations, organizes topical exhibits of foreign and domestic literature at the locations of the organizations upon their request, and implements centralized subscription and circulation of publications from other ministries and departments, etc.

Military-technical information departments in scientific-research institutions have been called upon to

~~TOP SECRET~~

[REDACTED]

~~TOP SECRET~~

[REDACTED]

[REDACTED]

organize information and reference services for the purposes of supporting fulfilment of the production plans of the scientific-research institutions, to participate in research on the status and prospects of development of foreign armaments, to carry out an exchange of advanced scientific-technical experience, and to publicize new equipment, inventions, efficiency-promoting suggestions, etc.

Military-technical information sections of scientific-technical committees of the branches of the armed forces (arms of the branches) select domestic and foreign publications which are needed to support activities of the scientific-technical committees, organize the preparation of required informational materials in the scientific-research institutes and in the higher military schools of their branch of the armed forces (arm of the branch), and control the publication of works resulting from conferences and seminars held.

One of the fundamental problems of information work is how to select, on a timely basis and in an adequate volume, from the huge mass of scientific-technical material, that information needed by the leader, the scientist, and the engineer. At present, as was noted above, the situation has arisen where an individual worker, or even an entire collective, is unable to accomplish this alone. In addition, a contradiction has developed between the available volume of information and the capability of assimilating it.

The only way out of this impasse is to mechanize and automate information processing. Thanks to this, it is possible to assure the collection and processing of large masses of material, and to carry out an automated search for necessary data in a short time period. Accordingly, qualitatively new results are achieved, results unattainable when employing traditional methods to carry out information work.

Written documents (books, magazines, etc.), formerly considered to be excellent means of storing data, are completely useless for purposes of mechanizing and automating information processing. Therefore the use of different information carriers has been initiated: microfilm, microfiche, punch cards, magnetic tape, etc.).

~~TOP SECRET~~

[REDACTED]

~~TOP SECRET~~

[REDACTED]

[REDACTED]

Thanks to their high-density data storage capacity, the physical storage volume has been sharply reduced. Thus, one microfiche measuring two and six-tenths by six and eight-tenths centimeters (international standard) usually contains seventy to eighty pages of normal printed text. Recently, experimental results of storing up to 500 pages on this type of microfiche have been achieved.

By now, a great number of varied automated information search systems employing computers are in use throughout the world. Their development is proceeding basically by way of a further enlargement of the memory, with the aim of accumulating enormous masses of data (up to millions of documents). Thus, for example, in the US, CIA's "Valput" [sic, "Walnut"] automated search system, document search is accomplished with phenomenal speed: storage with a capacity of 990 thousand documents can be searched in four seconds; the time required to produce copies of the information on paper or on a punch card is four seconds (two pages of text) and ten seconds for photocopies. This system is adapted to transmit data by television and telegraph channels.

At present, the Central Institute of Military-Technical Information has created an experimental information search system based on the "Minsk-22" computer. This system provides for a multi-aspect search in a multi-field mass of information.

In evaluating the current status of military-technical information in the Ministry of Defense, it should be noted that not enough attention has as yet been devoted to this important matter.

In a number of institutions of the Ministry of Defense, the study of the armaments of the probable enemy is conducted at a low level, obsolete material is used, analysis of assembled facts is absent, and personnel enlisted to carry out this work are not specialists in the given field. As a result, instances occur where incomplete, and at times even biased, summaries of foreign materials lead to a misrepresentation of the true picture and even to outright misinformation. Frequently, matters of study of the enemy are assigned in entirety to information departments with a small number of personnel. This, of course, is incorrect. Appropriate specialists in scientific-research institutions

~~TOP SECRET~~

[REDACTED]

~~TOP SECRET~~

[REDACTED]

[REDACTED]

and higher military schools should study the enemy, while workers of the information organs are obligated to organize and coordinate this work, to provide for the specialists the necessary informational materials and foreign literature, and also to convey to interested institutions and officials the surveys, bulletins, reports, etc., obtained as a result of this study.

For the purpose of demarcating tasks in the study of the armaments and military equipment of the probable enemy between the Central Institute of Military-Technical Information and other Ministry of Defense institutions, and excluding duplication of effort, in 1967 the Scientific-Technical Coordinating Committee attached to the Central Institute of Military-Technical Information adopted a special resolution. In accordance with it, the Central Institute of Military-Technical Information studies the prospects for development of foreign armaments in conformity with the objectives the enemy established for himself, and scientific-research institutions and higher military schools of the Ministry of Defense study the status and prospects for development of specific types of armaments and military equipment peculiar to a particular branch of armed forces and arm of a branch.

The planned measures for further development of military-technical information organs are being put into effect with extreme slowness. As a result of this, requirements for information from Ministry of Defense institutions are not always satisfied. The lack of necessary information which would satisfy present-day requirements (timeliness, completeness, and objectivity), leads to the fact that when scientific-research institutions and higher military schools prepare their annual scientific-research plans, and also when they conduct the research itself, available materials from previously completed works on a particular subject, or individual scientific-research solutions already attained, are still not taken fully into account. This situation is attested to, in part, by the fact that the State Committee on Inventions and Discoveries of the USSR Council of Ministers, has in recent years refused to issue originator certificates to more than half of the claims submitted from Ministry of Defense institutions because there was nothing new contained in

~~TOP SECRET~~

[REDACTED]

~~TOP SECRET~~

[REDACTED]

[REDACTED]

these claims. And among the refused claims there were also some which were submitted in fulfilment of planned work.

In preparing and studying informational materials, consideration is still not being given to information requirements in accordance with the categories of the consumers. Scientific-research institutions and higher military schools, conducting research to develop their own types of armaments and formulate tactical-technical specification projects for the new armament, need one kind of information, and customer organizations, executing orders for specific types of armament and military equipment, need another. However, in actual practice, informational materials are passed in equal measure to all institutions and officials, and some of them experience an excess of information and others, an insufficiency of information.

In information work it is very important to enlist scientists and engineers, from scientific-research institutions and higher military schools, who know foreign languages, in the study of foreign theoretical, scientific-technical, and military literature for the purpose of preparing surveys, essays, and annotations. However, this type of work is as yet poorly used in the military-technical information system.

In their daily work, information organs should strive to achieve a situation where their information is active, not passive. The vigor of an information system means its capability for providing a consumer with needed information, even in those circumstances when the latter is not yet aware of the need for it, that is, to arouse interest in this information, to stimulate its utilization.

The information and reference service requires genuine improvement, as it should facilitate a substantial rise in the work productivity of scientists and engineers in scientific-research institutions and higher military schools and also a rise in the level of guidance for orders of armaments and military equipment. The requirement for appropriate information arises, naturally, during all phases in the conduct of research and in all activities of the central apparatus. Therefore it is obvious that a unified system of information and reference collections should be established in the Ministry of Defense. This system would

~~TOP SECRET~~

[REDACTED]

~~TOP SECRET~~

[REDACTED]

[REDACTED]

embody the whole complex of collections of the Central Institute of Military-Technical Information, scientific-research institutions, and higher military schools, and would employ, wherever it is advantageous, mechanized and automated processes for information and search. Such a system in the future might also lead to dropping individual subscriptions to scientific-technical periodic publications, (since each individual would receive copies of materials of interest), in which each specialist finds that no more than ten to fifteen percent of the articles are ones that he needs.

One of the basic difficulties in questions of mutual exchange of information under our conditions are the limitations associated with systematization but it is necessary to use them correctly and judiciously. Some, taking refuge in security concern, simply do not want to reveal the status of the matter being researched and try, using any pretext, to avoid mutual exchange of information. This interferes greatly with the creation of a harmonious military-technical information system.

It was noted above that in some fields more than thirty percent of the creative time was spent in the search for and processing of the necessary information. Taking into account security-concern and systematization, and also some subjectivism in this activity, much more time is spent in the Ministry of Defense on obtaining the necessary information.

It is necessary to dwell on still another important matter. Recently, a number of rather important indications have been observed which denote that the US has initiated a rapid process of changes in the conduct of scientific research for the purpose of accelerating scientific-technical progress.

The objective necessity for these changes was foretold as far back as 1963 by D. Price, an American scientist, and is now widely discussed in professional literature. Price showed that such characteristic features in the development of science as the size of appropriations for scientific research, the number of scientific workers, and the number of scientific publications, have grown by geometric progression (constantly doubled over successive equal time

~~TOP SECRET~~

[REDACTED]



~~TOP SECRET~~

[REDACTED]

[REDACTED]

periods) from Newton's time until recently. Thus, for example, the number of scientists and specialists engaged in research doubles every seven to ten years, the number of scientific publications doubles every forty to fifty years.

On analyzing the stated rates of growth, scientists note that if the previous course of scientific development continues, these rates will come in conflict with the realistically possible rates of economic development and population growth, because within twenty to thirty years the expenditures required for science will more than twice exceed the value of the world's annual output and the number of scientific workers will exceed Earth's population. This contradiction has arisen as a result of the incompatibility of the currently obsolete methods of directing research and existing low work productivity of scientists with requirements for further acceleration of science and technology (the sum of scientific knowledge grows five times more slowly than the number of specialists and scientists).

Since the rate of development of science must not be cut back, but on the contrary, speeded up, the way out of the situation that has developed must be a transition to a sharp rise in the efficiency of scientific research. In American scientific literature this is called the transition from today's "small science to "large science"--the science of the future.

The transition to "large science" is supported by the further differentiation and integration of sciences, by cutting down sharply on the time periods required to complete research through the use of high-speed computers, by raising the efficiency of the scientific-technical information system, and by introducing new forms in the organization of scientific collectives ("hidden collectives" or "invisible collectives") which are temporary associations of outstanding specialists and scientists in groups whose composition is determined by the requirements for efficient solution of the specific problems which have arisen. Personal contacts and oral communications will become the basic method of exchanging information inside "hidden collectives". In this connection, in the US the generally accepted rules for confirming priority have been virtually revised: reports at symposiums of "hidden collectives" have already begun to confer the right of priority. Another type

Page 17 of 18 Pages

~~TOP SECRET~~

[REDACTED]

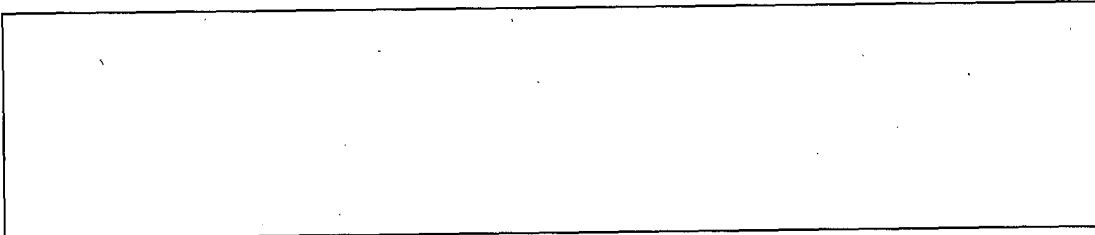
~~TOP SECRET~~



of information, which circulates inside these collectives, is handwritten reports, usually containing the results of individual incomplete research, intermediate results, or partial scientific (technical) solutions.

The transition to "large science" will permit Americans to solve problems of the development of new types of armaments at an accelerated pace, which obliges us to follow these processes with great attention and take appropriate measures.

In this article, we have only considered the basic problem matters which confront the military-technical information system. Solving them as quickly as possible will facilitate further development of domestic armaments and military equipment.



~~TOP SECRET~~

