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CENTRAL INTELLIGENCE AGENCY
WASHINGTON, D.C. 20505

9 April 1974

MEMORANDUM FOR: The Director of Central Intelligence

SUBJECT : MILITARY THOUGHT (USSR): The Training of Scientific Personnel in the Soviet Armed Forces

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 present state of advanced training of scientific personnel in the Soviet armed forces in a critical manner. The authors also express concern about the types of assignments and functions which such personnel are given to perform. Because of new military service laws, many advanced degree holders are retired before they can be effectively used to improve Soviet combat readiness. The authors also criticize the topics chosen for degree dissertations and the system employed for conducting their defense. This article appeared in Issue No. 2 (90) 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.

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William E. Nelson
Deputy Director for Operations

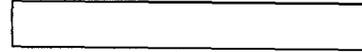
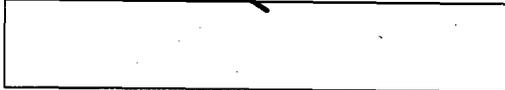
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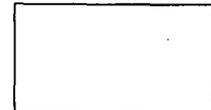
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Intelligence Information Special Report

COUNTRY USSR

DATE OF INFO. Early 1970

DATE 9 April 1974

SUBJECT

MILITARY THOUGHT (USSR): The Training of Scientific and Scientific-Pedagogic Personnel in the Ministry of Defense of the USSR

Documentary
SOURCE

Summary:

The following report is a translation from Russian of an article which appeared in Issue No. 2 (90) for 1970 of the SECRET USSR Ministry of Defense publication Collection of Articles of the Journal "Military Thought". The authors of this article are General-Leytenant A. Sinitsa and General-Major P. Yegorov. This article discusses the present state of advanced training of scientific personnel in the Soviet armed forces in a critical manner. The authors also express concern about the types of assignments and functions which such personnel are given to perform. Because of new military service laws, many advanced degree holders are retired before they can be effectively used to improve Soviet combat readiness. The authors also criticize the topics chosen for degree dissertations and the system employed for conducting their defense.

End of Summary

Comment:

Gen.-Leyt. A. Sinitsa has written several articles on doctoral dissertations in military higher educational institutions, the most recent appearing in Military Thought, Issue No. 8 for 1966; Red Star, 14 September 1962 and 15 June 1960. 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.

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The Training of Scientific and Scientific-Pedagogic
Personnel in the Ministry of Defense of the USSR

by

General-Leytenant A. Sinitsa and
General-Major P. Yegorov

The training of scientific and scientific-pedagogic personnel is the most important function of the higher military educational institutions (VVUZ) and the scientific-research institutions (NIU) of the Ministry of Defense. The quantity and quality of scientific personnel, and the work of the VVUZ and NIU in training them, determine both the present and the future of Soviet military science, the structure of higher military education, the improvement of the training process, and the education of the highly qualified officer personnel needed by the army and navy. It also determines the combat readiness of our armed forces.

* * *

Absolute figures on the number of skilled scientific workers in our VVUZ and NIU show that in the training of scientific and scientific-pedagogic personnel significant progress has been made. In only the last five years* the number of scientific workers with doctor of sciences and candidate of sciences degrees has nearly doubled and has reached several thousand, including 776 doctors of sciences. If these figures are examined from the point of view of the rate of increase in the number of people with advanced degrees, they turn out to be above the average achieved in the country as a whole.

* Figures here and hereafter are as of 1 January 1970.

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Great influence on the development of training of scientific and scientific-pedagogic personnel was exerted by the decrees of the Central Committee of the Communist Party of the Soviet Union and of the Council of Ministers of the USSR No. 536 (1961), No. 441 (1962), No. 1064 (1967), and others, and also the corresponding decisions of the Minister of Defense of the USSR set forth in his orders Nos. 280, 111, 151, 324, and 020, published in various years beginning in 1961. They made possible a significant improvement in the system of training scientific personnel in the armed forces, an expansion of opportunities for doing graduate work (adyunktura), and the creation of conditions in the VVUZ and NIU favorable to an increase of the level of scientific qualification of the professorial-teaching staff and of scientific workers.

The scientists are distributed in the following manner, according to the work for which they are earmarked. The great majority (about 62 percent) are concentrated in VVUZ, where they do a great deal of pedagogic and scientific work. Of the entire professorial-teaching staff and scientific workers in the laboratories of the VVUZ, 38 percent hold doctor of sciences and candidate of sciences degrees, while of the total number of positions that should be filled by people with advanced degrees and academic ranks, almost 80 percent hold such degrees.

About 20 percent of those with doctor of sciences and candidate of sciences degrees work in the NIU of the Ministry of Defense. They make up slightly more than 18 percent of all the scientific workers, and about 40 percent of the number of scientific workers who are supposed to have advanced degrees.

The rest of the people with advanced degrees (about 18 percent) work in the central apparatus of the Ministry of Defense, on staffs and in other organizations, or in military chairs (kafedra) of civilian higher educational institutions in the national economy.

The following figures attest to the high caliber of the scientific and scientific-pedagogic personnel: among them are eleven members or corresponding members of academies of

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sciences, 460 professors, and more than 4,000 assistant professors.

These are the absolute figures. They show that the average number of people with advanced degrees in the VVUZ and NIU is rather high and makes it possible to conduct successfully scientific-pedagogic and research activity, maintain military science at the level of modern requirements, and develop it along all lines. A comparative analysis enables us to conclude that in the matter of candidates of sciences we are not behind the leading higher educational institutions of the country, and in the matter of doctors of sciences, with the exception of the academies, we are only slightly behind. Whereas in the country as a whole more than one-third of all teachers at higher educational institutions have advanced degrees, in our VVUZ the figure is 42 percent, i.e., two out of every five teachers have advanced degrees.

This does not mean, however, that in the supply of scientific and scientific-pedagogic personnel everything is satisfactory. Unfortunately there are still shortcomings, of which the following should be mentioned first.

In the first place, and this has been observed for many years, the increase in the number of scientific and scientific-pedagogic personnel is taking place primarily at the expense of the training of middle-level advanced degree holders--candidates of sciences, who at present constitute 92.8 percent of all people with advanced degrees. The number of doctors of sciences is increasing at an extremely slow pace; they make up only 7.2 percent of the total. This quantity cannot satisfy even the most modest goal: to have doctors of sciences heading chairs of academies and higher military schools with a 5-year training program. At the present time, the VVUZ contain a total of 1,214 chairs, while doctors of sciences number only 606. Furthermore, not all the doctors of sciences are in the abovementioned posts. Thus, in the example just given, only 277 chairs are headed by doctors of sciences, while 725 chairs are headed by candidates of sciences or assistant professors, and 212 chair heads have no advanced degrees or academic ranks at all.

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Meanwhile, the absence in the chairs of leading specialists who are doctors of sciences lowers the quality of training of scientific and scientific-pedagogic personnel. Many years of practice show that doctors of sciences and candidates of sciences most often are developed when working together with outstanding scientists in qualified scientific collectives. Unfortunately, collectives are not born by themselves; they must be developed. And this requires outstanding specialists who, in turn, must be trained. A sort of closed circle develops, which many VVUZ cannot break out of for dozens of years. Success is achieved only by those VVUZ and NIU that use and combine organizational, scientific, methodological, and other capabilities in training scientific and scientific-pedagogic personnel.

Of great importance in overcoming the lag in training doctors of sciences is long-term planning based on realistic calculations and capabilities, and also the correct use of the positions of senior scientific workers of the scientific-research departments of the VVUZ to which teachers are assigned to complete work on their doctoral dissertations. Many examples bear this out eloquently. For example, in a Leningrad higher engineering school, in two positions of senior scientific workers, six doctors of sciences were trained in the last six years.

In the second place, the scientific-research personnel are distributed extremely unevenly among the VVUZ. The great majority of people with advanced degrees (up to 70 percent) are concentrated in the military academies. About 28 percent of the doctors of sciences and candidates of sciences are in the higher military schools with a 5-year training program and only two percent in the higher military schools with a 4-year training program.

A definite polarity in the provision of scientific-pedagogic personnel has been observed among the academies as well. For example, in the A. F. Mozhayskiy Military Engineering Academy, the N. Ye. Zhukovskiy Air Force Engineering Academy, the F. E. Dzerzhinskiy Military Engineering Academy, and certain others, almost all of the professorial-teaching staff have advanced degrees, including

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60-75 doctors of sciences. But in the Air Defense (PVO) Command Academy there are only 76 people who are candidates of sciences, and not a single doctor of sciences.

The unevenness in the distribution of doctors of sciences and candidates of sciences among the VVUZ has developed as a result of a number of factors--the role and purpose of the educational institution, the amount of time it has been in existence, its physical location, and also because the rapid growth of higher education that has occurred in recent years in the Ministry of Defense has not been matched by an equally rapid growth in the number of highly qualified teachers. To a certain extent, the geographical location of educational institutions also is a factor. Calculations show that up to 70 percent of our people with advanced degrees are concentrated in VVUZ (mainly in academies) of Moscow and Leningrad. The situation in the VVUZ of Kiev, Minsk, and Kharkov with regard to scientific personnel is relatively good. However, the remaining military educational institutions scattered throughout the country, often in small towns, have only slightly more than 2 percent of the people with advanced degrees.

It is quite obvious that this kind of inequality in the distribution of people with advanced degrees must not be allowed to continue for long. The problem of raising the scientific level and the pedagogic qualification of the professorial teaching staff of the VVUZ located in the more remote areas (especially the higher military educational institutions with a 4-year training program), and also in other VVUZ with a shortage of people with advanced degrees, takes on urgent importance. The resolution of this problem requires a centralized distribution of young people with advanced degrees and the training of graduate students (adyunkt) in accordance with their particular assignment.

In the third place, the distribution of people with advanced degrees by sciences and branches of sciences does not fully meet the requirements for them.

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In recent years there has been a noticeable increase in the training of doctors and candidates of technical sciences, who now constitute about 60 percent of the total number of people with advanced degrees. In other sciences, particularly military and social sciences, the training of people for advanced degrees has not been on as significant a scale. But meanwhile the need for these specialists is great, especially for doctors of sciences. This is obvious from the following calculation. For example, in order for chairs in operational-tactical disciplines to be headed by people with advanced degrees of the highest level of qualification (a requirement of a higher school), at least 120 doctors of military sciences are needed. However, we have only 61, and they are concentrated in three or four academies. In chairs of social disciplines the need for doctors of sciences is even more clear-cut. If we consider only the chairs of social sciences in military academies and higher military schools with a 5-year training program, about 80 doctors of philosophical, economic, and historical sciences would be needed. However, there are only 18, of whom ten are with the V. I. Lenin Military-Political Academy. A similar gap is to be seen in the military historical and pedagogical sciences.

The training of people with advanced degrees in the sciences indicated, especially doctors of sciences, has been lagging primarily because the matter is not receiving proper attention in the VVUZ and NIU, while in certain places it has been allowed to drift. And often the initiative in choosing the topic for the dissertation is left to the aspirants (soiskatel) themselves. In addition, the choice of research topics and the selection of doctoral candidates has become highly complex. As a result, candidates of military sciences are reluctant to do their doctoral dissertations on a military topic. The elimination of these defects, and also the implementation of sound planning, will help the VVUZ and the NIU improve the training of people for advanced degrees in military sciences, military historical sciences, philosophical sciences, and other sciences.

In the fourth place, the percentage of people with advanced degrees who have reached pension age is still high. As of 1 January of this year, 39.7 percent of all doctors of

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sciences and 15.6 percent of all candidates of sciences were over 50. With the implementation of the Law on Universal Military Service, we must assume that this percentage will decrease from year to year.

However, the age pattern among holders of advanced degrees will continue to affect the supply of scientific and scientific-pedagogic personnel of VVUZ and NIU in the future. Also, since, in contrast to civilian higher educational institutions and NIU, where degrees are earned at a younger age (because they receive their higher education earlier) and people work until they are well up in age, military-scientific personnel are governed by stricter age qualifications.

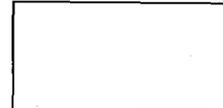
Average statistical data show that in the army people most often become candidates of sciences at about the age of 40--in military and social sciences between 42 and 45--and doctors of sciences between 45 and 53. But while a holder of an advanced degree of this age could work for a relatively long period in civilian life, in the armed forces his productivity is limited in time.

One way to lower the average age of scientific-pedagogic personnel would be to start officers in graduate work immediately upon graduation from the VVUZ, and also by planning the training of scientists by means of aspirant work (soiskatelstvo). The new statute dealing with the training of scientific and scientific-pedagogic personnel, contained in Order No. 110 of 1969 of the Minister of Defense, should facilitate this process.

* * *

The training of scientific-pedagogic personnel in the Ministry of Defense is conducted along two lines: graduate work (civilian graduate work), both on-campus and by correspondence, and aspirant work.

The most effective form of training to produce young holders of advanced degrees (candidates of sciences) is on-campus graduate work, which can produce up to 450 candidates of sciences a year. In 1970 assignment-oriented graduate



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work, a variety of on-campus graduate work, will be organizationally formalized. It is designed to train scientific and scientific-pedagogic personnel for more remote VVUZ and those that have been newly created, which are not training these personnel on their own.

The graduate work programs of the oldest military academies (F. E. Dzerzhinskiy, A. F. Mozhayskiy, N. Ye. Zhukovskiy, the Naval Academy, and certain others) have all the capabilities required to become assignment-oriented (by 50 percent) and to assume the training of candidates of sciences for related VVUZ.

A weak point in on-campus graduate work is its scattering among VVUZ unable to provide qualified direction. For example, eight higher naval schools have 6 to 10 graduate students each, but only two schools (M. V. Frunze and F. E. Dzerzhinskiy) are able to provide them with scientific directors. At the same time, the Naval Academy, with great capabilities in this area (50 doctors of sciences work there), trains graduate students only for its own use.

The splitting up of graduate work in the branches of the armed forces cannot be considered justified or rational either from the point of view of scientific direction or the organization of the graduate student training itself. It also contradicts the trends in the training of scientific personnel in the country, in accordance with which the leading higher educational institutions of the various ministries have large graduate work programs (400-600 people), and where special departments, in addition to the chairs, are involved in the training.

On the whole the qualified scientific-pedagogic personnel trained by higher educational institution on-campus graduate work are, in the opinions expressed by the chairs and the administration of the higher educational institutions, the best portion of the professorial-teaching staff. The leading role is unquestionably played by the academies, where more than 70 percent of all graduate students do their work. To accomplish this, they have adequately qualified direction (67 percent of all doctors of sciences are concentrated in the academies), and a good

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experimental and materiel base. It is precisely for this reason that the academies should become the basic centers of the assignment-oriented training of scientific-pedagogic personnel for all related higher schools. Here it is necessary, first of all, to put an end to the practice of scattering graduate work among VVUZs unable to provide qualified direction, and the commanding officers to whom the VVUZ and NIU are subordinated must take control over the distribution of young students who are finishing up their graduate work.

Graduate work by correspondence is not as effective as it should be, and is not fully justifying its purpose. In theory it is supposed to produce 150 candidates of sciences a year. However, in reality about 30 to 40 defend their dissertations. As a rule, 50 percent of the graduate students are from the troops and no increase in the number of teachers for the VVUZ normally results from it. Therefore, the VVUZ have no interest in it. For this reason, it continually operates below capacity (by 20 to 30 percent), holds no competitive examination for admission, and as a result the number of those who successfully complete it for various VVUZ varies between 20 and 30 percent and is sometimes lower. Thus in the Higher Engineering-Technical Red Banner School in Leningrad, the latest figures show the output efficiency in the graduate work correspondence program running at only 4 percent. The example of the F. E. Dzerzhinskiy Military Engineering Academy shows how irresponsibly certain VVUZ approach the problem of filling the graduate work correspondence program: of the 80 graduate students admitted in 1965-66, only 12 have so far successfully defended their dissertations and 49 were dismissed during the course of their studies.

Such a low output by the graduate work correspondence program is due first of all to the absence of interest in it on the part of the VVUZs, weak control over the selection of candidates, the assignment of inadequately qualified scientific directors, and difficulties in organizing the experiment. Also of great importance is the fact that in the VVUZ no real communications have been established with the troops and institutions where the graduate students work, and the activity of the graduate work correspondence



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program is not properly controlled. Eliminating the lack of interest in the graduate work correspondence program on the part of the VVUZ would undoubtedly raise the quality of the training of graduate work correspondence students. It would also be advisable to curtail some graduate work programs that chronically operate below capacity.

A completely different situation prevails in the graduate work correspondence program in scientific-research institutes. There it enjoys great popularity. As a rule, 50 to 60 percent of the graduate students complete the program on schedule (with the defense of the dissertations), with the rest somewhat later. The effectiveness of the graduate work correspondence program in the NIU is due to the fact that it is made up primarily of scientific workers in the NIU itself, and the dissertation topics are part of planned scientific-research work being done by these workers in the course of their main work. And the privileges which military graduate work correspondence students receive by law are an added stimulus.

Aspirant work is the most widespread form of training scientific-pedagogic personnel used by the VVUZ and NIU outside the graduate work program. Each year it produces about 60 percent of the candidates of sciences and almost 100 percent of the doctors of sciences. Aspirants are the most successful in defending their dissertations, more experienced compared to graduate students, most often come up with their topics on their own initiative, and achieve great results in research.

But this form of training scientific-pedagogic personnel has not received sufficient attention until recently. In many VVUZ the aspirants remained in the background, were listed for years in the training plans for scientific-pedagogic personnel, and shifted from one to the other. Scientific directors were not allocated to them (an exception was made only for outside aspirants), not all had the benefit of a study leave (tvorcheskiy otpusk), and quite a few aspirants among teachers and scientific workers were listed in the plans only in case a claim should be put in for them by the VVUZ or NIU command.

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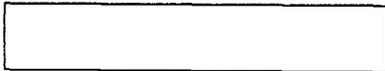
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Careful planning of aspirant work was not actually done anywhere before; long-term or annual plans were, as a rule, either understated or overstated. For example, the Military Academy of Rear Services and Transportation planned to turn out 57 doctors of sciences for the 5-year period between 1968 and 1972. However, seeing that they had greatly overreached themselves, they cut the figure to 25, and then it too proved to be unrealistic. Often the fields of the topics of the dissertations do not coincide with the specialization of scientific-pedagogic orientation of the VVUZ. For example, in the M. V. Frunze Higher Naval School, of 11 doctors of sciences listed in the plans only one was in naval sciences.

Aspirant work is essentially the only form of training the most highly qualified holders of advanced degrees--doctors of sciences. Each year an average of 70 to 80 people become doctors of sciences. This is not a small number, but certain difficulties exist in distributing them properly among the branches of sciences. (As has already been mentioned, not enough doctors of sciences are being produced in military and social specialties.) The planned training of doctors of sciences would be greatly enhanced by correct use of the positions of senior scientific workers introduced into the VVUZ by directive of the General Staff D-31, dated 30 June 1969. The awarding to the Ministry of Defense of 65 positions provides the opportunity, in accordance with the conditions of assigning doctoral candidates to them, to have 30 doctors of sciences annually in the branches of sciences we need.

In order to raise the role of aspirant work and improve the direction of this form of training people for advanced degrees in accordance with Order No. 110 (1969) of the Minister of Defense, the planned training of scientific and scientific-pedagogic personnel in the VVUZ and NIU through aspirant work is being introduced; for this, the commanders-in-chief and the appropriate commanding officers to which the VVUZ and NIU are subordinated, will determine the number of aspirants and attach them to the VVUZ and NIU for a period of five years, in order for them to pass their candidate examinations and work on their dissertations.

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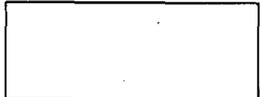
One of the most important factors in the training of people for advanced degrees is the quality of the dissertation. This is understandable. For the dissertation is the culmination of all the research done by the graduate student and the aspirant and the main indicator of the capacity of the young candidate for an advanced degree for scientific thought. This is why the requirements of the dissertation are so extremely rigorous: the content must be timely and useful, and the method of research and generalization of facts must be highly scientific work.

However, along with good, high-quality work containing profound theoretical generalizations and practical recommendations, we also come across poor research that does not measure up to scientific requirements for research. There are cases where in dissertations topics are elaborated on that present nothing of significant interest either for science or for practical use or, even worse, that "discover" something that was already discovered long ago. Nor have we completely eliminated from the practice of training scientific-pedagogic personnel such phenomena as: a dissertation is prepared for dissertation's sake--in order to obtain a candidate of sciences degree; secondary and useless problems are solved; and time and government resources are wasted.

Can we expect great scientific results, let alone practical significance, from such a dissertation as, for example, "The Military-Theoretical Views of Clausewitz" (a doctoral dissertation)?

Often we come across topics of doctoral dissertations devoted to isolated particular matters which by content and significance cannot be the basis for aspiring to a degree of doctor of sciences. For example, "Combat Operations of Troops in the Arctic", "Problems of Combat Against Tanks", "The Use of Training Equipment in the System of Combat Training of Pilots", and others.

Then, on the other hand, there are cases where the topics of candidate dissertations are too broad and can be worked out only by an experienced holder of an advanced



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degree or even a scientific collective (specifically, "Rear Support of Troops in Local Wars").

However, the primary evil causing a lowering of the quality of scientific works is the shallowness of the topics. This literally corrodes some lines of scientific work. Such dissertations don't need defending but extensive criticism.

It cannot be said that our VVUZ and NIU are not striving for relevant, high-quality topics for dissertations, as well as for useful, truly scientific, research. The effort is being made and is bringing positive results. A glance at the future dissertation topics (problems) at the M. V. Frunze Military Academy has left a good impression. There is no doubt as to their relevance. They are worked out in good time in the chairs and are periodically corrected and discussed in the council of the academy. Therefore, they reflect the very latest problems raised by military science and by the actual work of building the armed forces.

It is particularly important that future dissertation topics be worked out by the main staffs of the branches of the armed forces, by the staffs of commanders and chiefs of arms of the branches, and by the main and central directorates for all VVUZ and NIU under their jurisdiction. Thus, duplication is eliminated and scientific research proceeds on its proper course.

Unfortunately, future topics are not being worked out everywhere at such a level. Moreover there are cases where the topics and detailed plans for doctoral dissertations are not approved by the commanding officers who are supposed to do so. All this unquestionably sets the stage for the appearance of useless topics, not relevant to the problems of the modern development of science nor to the practical conduct of military affairs.

The final stage in the training of scientific and scientific-pedagogical personnel is, of course, the defense of the dissertation. Here it is recognized that the main role is played by the academic councils of the VVUZ and NIU.

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In accepting dissertations (published works, discoveries and inventions) for defense, they thereby make an appraisal of the results of scientific research and give young candidates for an advanced degree a permit to enter the field of science.

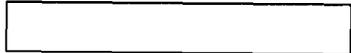
At the present time all military academies, as well as many higher schools with a 5-year training program and scientific-research institutes, have academic councils. As of today there are 109 councils in all, including 53 councils of VVUZ and NIU and 39 of departments and sections.

Last year, in accordance with Order No. 324 of 1968 of the Minister of Defense, the council compositions and the lists of the specializations for which the councils of the academies were authorized to hear defenses of dissertations were reexamined. Now the overwhelming majority of the councils are staffed in strict accordance with the requirements of the "Instructions on the Procedure for Awarding Advanced Degrees and Conferring Academic Ranks". For the examination of dissertations in individual disciplines (specializations) of sciences, 17 specialized councils were set up.

But not everything has been done as yet. The problem is to complete the work begun in reexamining the list of specializations of the councils, and also to proceed more boldly in shifting to specialized councils. Some councils continue to retain too broad a range of specializations, others (for example, the council of the R. Ya. Malinovskiy Military Academy for Armored Troops), accept, in addition, dissertations in various sciences: both military and technical. In councils of such composition difficulties in providing a quorum of specialists inevitably arise, which, in the final analysis, lead to a reduction in the rigorosity and the requirements for quality in the scientific research under examination.

In the work of many councils, various kinds of laxity have been tolerated, both in judging the dissertation topics and during the actual defense of the dissertations themselves. Often, in place of a determination of scientific and practical significance of a work, how well it lends

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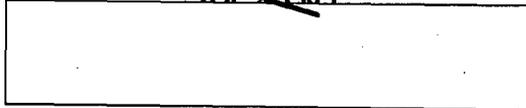
itself to a dissertation is made the basis, i.e., its potential for getting a sought-after advanced degree after one has worked out the particular topic. The nomination of the official opponents at the dissertation, and the addresses for the distribution of the synopsis of the dissertation are often suggested by the aspirants themselves. The defense of dissertations in most cases is not accompanied by any scientific discussion. Exchanges of opinions are uncommon. For example, in the Air Defense (PVO) Military Command Academy, during the two-year period 1967-68, at twelve dissertation defenses not a single aspirant challenged any erroneous judgments made by their opponents or other speakers. The practice of compromise between the aspirant and the opponents, which has established itself in the work of the academy council, indicates the lack of principle in the defense, and does not benefit the author of the dissertation, the council, or military science as a whole.

It should be pointed out that this kind of opposition to a dissertation is typical not only of the Air Defense Military Command Academy, but also is to be seen in the councils of other VVUZ. There are quite a number of "kindhearted" opponents who are always ready to give a favorable critique, and extol the work and the author of the dissertation at the same time.

In addition, many procedures are violated in the work of the councils. For example, at the meeting of the council of the M. V. Frunze Military Academy on 12 June 1969, chaired by General-Leytenant V. I. Tarasov, Doctor of Military Sciences, P. G. Myasoyedov and Doctor of Technical Sciences I. Ya. Ostratenko were absent. However, they were listed on the roster as having attended and having participated in the "voting". It turns out that both their signatures and the voting ballots had been collected by the secretary the evening before.

There continue to be cases where needed specialists among council members are absent, as well as outside members of the council, i. e., scientists and specialists from other organizations and institutions.





All these violations, naturally, lead to laxity on the part of the council toward the authors of the dissertations, and also to a lowering of the quality of scientific research.

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The situation that has developed in the training of scientific and scientific-pedagogic personnel in our VVUZ and NIU permits us to draw the following conclusions.

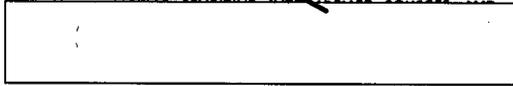
In the first place, higher military educational institutions (military academies and higher military schools with a 5-year training program), as well as scientific-research institutions, have on hand a sufficient number of people with advanced degrees to permit successful scientific-pedagogic and research work, and to maintain military science on a level compatible with modern requirements and to develop it along all lines. It is necessary to raise the role and responsibility of the councils in the approval of dissertation topics, in accepting a dissertation for defense, and in the course of the defense itself. The council must also exercise greater care in the approval of official opponents and an opponent organization.

Higher military schools with a 4-year training program have an inadequate number of people with advanced degrees. Most of these VVUZ are new and located in remote areas at a considerable distance from large scientific centers, and they will not be able in the near future to solve the problem of training scientific-pedagogic personnel on their own. They will need help in this.

In the second place according to presently established tradition, the capability for training 700 to 800 candidates of sciences and up to 70 doctors of sciences a year should be considered sufficient not only to replace the losses of people with advanced degrees but also to increase the overall number by 10 to 15 percent annually.



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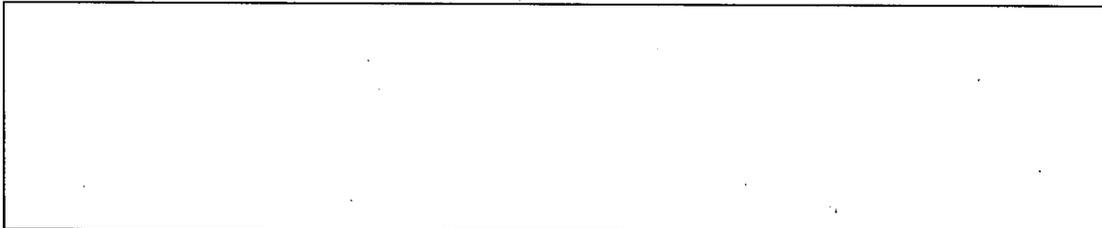


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The effect of the new Law on Universal Military Service is creating temporary difficulties for the VVUZ, since for the next two or three years they will have to release to the reserve, on the basis of age, a somewhat greater than usual number of experienced people with advanced degrees, especially doctors of sciences. However, with correct organization of the training of scientific and scientific-pedagogic personnel, and advantageous use of all capabilities in the VVUZ and NIU, this problem should not affect the quality of the training process or the development of military science.

In the third place, in order to further improve the training of scientific and scientific-pedagogic personnel, and to eliminate existing defects, Order No. 110 (1969) of the Minister of Defense puts into effect a new statute concerning the training of scientific-pedagogic personnel in the Ministry of Defense of the USSR. It takes into account all of the most important aspects of the training of scientific-pedagogic personnel and lays foundations for the elimination of many of the shortcomings and shady aspects mentioned above which still occur.

Unfortunately, this undertaking has not been properly understood in the branches of the armed forces and in the arms of the branches. The solution of this problem requires urgent and careful planning of measures for training scientific personnel in the branches of the armed forces and arms of the branches, a careful and well thought-out approach on the part of the VVUZ, NIU, and chairs, and skilful coordination on the part of the Chief Directorate of Military Educational Institutions.



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