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CENTRAL INTELLIGENCE AGENCY
WASHINGTON 25, D. C.

IRONBARK

21 JUN 1962

MEMORANDUM FOR: The Director of Central Intelligence

SUBJECT : MILITARY THOUGHT (SECRET): "The Use of the Forces and Means of Aerial Reconnaissance", by Col. G. Yeletskikh

1. Enclosed is a verbatim translation of an article from the SECRET Collection of the Journal "Military Thought" published by the Ministry of Defense, USSR, and distributed down to the level of division commander.

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[redacted]

Richard Helms
Deputy Director (Plans)

APPROVED FOR RELEAS
DATE: DEC 2004

Enclosure

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cc: The Director of Intelligence and Research,
Department of State

The Director, Defense Intelligence Agency

The Director for Intelligence,
The Joint Staff

The Assistant Chief of Staff for Intelligence,
Department of the Army

The Director of Naval Intelligence
Department of the Navy

The Assistant Chief of Staff, Intelligence
U. S. Air Force

The Director, National Security Agency

Director, Division of Intelligence
Atomic Energy Commission

National Indications Center

Chairman, Guided Missiles and Astronautics
Intelligence Committee

Deputy Director for Research

Deputy Director for Intelligence

Assistant Director for National Estimates

Assistant Director for Current Intelligence

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18 June 1962

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COUNTRY : USSR

SUBJECT : MILITARY THOUGHT (SECRET): "The Use of the Forces and Means of Aerial Reconnaissance", by Colonel G. Yeletskikh

DATE OF INFO: December 1961

APPRAISAL OF CONTENT : Documentary

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Following is a verbatim translation of an article entitled "The Use of the Forces and Means of Aerial Reconnaissance", by Colonel G. Yeletskikh. This article appeared in Issue 6(61) of 1961 of a special version of the Soviet journal Military Thought which is classified SECRET by the Soviets and is published irregularly.

Issue 6(61) was sent to press on 7 December 1961.

Comment: Military Thought is published by the USSR Ministry of Defense in three versions, classified RESTRICTED, SECRET, and TOP SECRET. The RESTRICTED version is issued monthly and has existed since 1937. The SECRET version is issued irregularly. By the end of 1961, 61 issues had been published, 6 of them during 1961. The TOP SECRET version was initiated in early 1960 and is also issued irregularly.

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COMMENTS ON A PREVIOUS ARTICLE

"The Use of the Forces and Means of Aerial Reconnaissance"

by

Colonel G. Yeletskikh

In modern highly mobile nuclear/missile warfare, aerial reconnaissance will have considerable importance. This, apparently, explains the attention which is given to the investigation of the state of aerial reconnaissance by our military press. In particular, Colonel F. Yeremenko, in his article, "The Reconnaissance of Objectives for Strikes by Nuclear/Missile Weapons in an Offensive Operation by a Combined-Arms Army"* dwelt in detail on an analysis of the forces and means of aerial reconnaissance and expressed his viewpoint on its role in supporting an offensive operation by a combined-arms army. We cannot agree with some of the author's conclusions. For example, he considers that the reconnaissance of objectives in a large area within a short time should be carried out by the reconnaissance aviation of an army, consisting of piloted and pilotless means, and suggests that within a combined-arms army there should be an independent (otdelnyy) army reconnaissance aviation regiment, made up of two squadrons of tactical reconnaissance aircraft and one squadron of artillery fire-directing aircraft, an independent reconnaissance squadron of pilotless aircraft or missiles, and an independent reconnaissance squadron of helicopters. The author thus proposes to include the forces of aerial reconnaissance in the composition of combined-arms armies and, consequently, to use them in a front in a decentralized manner.

However, the dispersal of aerial reconnaissance forces among combined-arms armies will hinder their concentration along the main axis of combat operations and will require considerably larger forces than if they were used in a centralized manner, while the problems of their basing and supply, of the combat support of reconnaissance aviation

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* Collection of Articles of the Journal "Military Thought", 2 (57), 1961.

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units (subunits), and of the processing of reconnaissance data, will become considerably more complex. It is enough to say that the supply of a reconnaissance aviation unit (subunit) requires about 10 thousand items (nomenklatura) of aviation-technical materiel, the storage and transportation of which will burden the rear area of a combined-arms army considerably.

In our opinion, the entire reconnaissance and artillery fire-directing aviation of a front, equipped with piloted aircraft and winged missiles (krylatuya rakety), should be included in the composition of the air army of the front. It is advisable to subordinate the artillery fire-directing aviation regiment (or independent artillery fire-directing squadrons) operationally to the commander of missile troops and artillery of the front. A part of the resources of the tactical reconnaissance forces (up to 50 percent), in our view, may be assigned in the course of combat operations to the tank and combined-arms armies, especially to those which are operating along the main axis, separated from the main forces of the front. The centralized use of aerial reconnaissance forces, with the assignment of part of the resources of tactical reconnaissance to combined-arms and tank armies, eliminates the shortcomings mentioned above, which are inherent in decentralized control, and conforms to the highest degree to the character of modern combat and operations.

Experience gained in the two-sided, two-stage command-staff exercise conducted in July 1960 gave precise confirmation of the advisability of centralized use of all the aerial reconnaissance forces. During the exercise, the direction of aerial reconnaissance was carried out by the intelligence directorate of the front through the reconnaissance section of the headquarters of the air army. Reconnaissance aviation regiments of tactical aviation were used to conduct reconnaissance on behalf of the command of the ground troops. The activities of the operational reconnaissance aviation regiment and of the combat aviation reconnaissance squadrons were directed by the headquarters of the air army. Included in the air army on each side in the exercise were one reconnaissance aviation regiment of tactical reconnaissance and one regiment of operational reconnaissance.

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The assignment of a part of the resources of reconnaissance aviation to combined-arms and tank armies increases the role and the responsibility of their staffs in the organization of aerial reconnaissance. They must determine and assign missions for aerial reconnaissance correctly. For this purpose it is necessary to have suitable means of communications at combined-arms headquarters, as well as coded maps and radio-signal tables coordinated with the headquarters of the air army.

The missile troops of a front and of the combined-arms armies have become the main consumers of reconnaissance data in a front operation. Thus, during the exercise mentioned above, the total of flights made for aerial reconnaissance purposes was made up as follows: On behalf of the missile troops - 65 to 70 percent; of the ground troops - 20 to 22 percent; of aviation - 8 to 10 percent.

As we know, the missile troops need the coordinates of targets, and special photogrammetric centers may be established to determine these. In a number of exercises, these centers were organized and attached to operational reconnaissance regiments. In a center were included representatives of the commander of missile troops and artillery of the front, and representatives of the topographic department. The former had direct communications with their headquarters.

In our view, the arrangement for organizing the collection and processing of reconnaissance data with only one photogrammetric center is far from perfect. It provides only for the establishment of coordinates and for the processing of reconnaissance information obtained by the crews of the operational reconnaissance regiment. However, the tactical reconnaissance regiments and the artillery fire-directing regiment obtain considerably more reconnaissance information. We therefore consider that it is advisable to establish photogrammetric centers with these regiments, to include representatives of the combined-arms armies in whose zones a particular regiment is conducting reconnaissance.

With the aim of reducing, in every way possible, the time it takes to deliver reconnaissance data to the echelons concerned, the following measures may be recommended:-

-- the reception of aerial reconnaissance data (and firstly of tactical data) directly from the reconnaissance aircraft by all the

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headquarters of the ground troops concerned;

-- the organization of direct lines of communications between reconnaissance units and the intelligence directorate of the front, the reconnaissance section of the air army's headquarters, and the combined-arms armies, using security devices (apparatura zashchishchennyy) and facsimile telegraph;

-- the extensive use of helicopters and of liaison aircraft for the immediate delivery of photographic documents to the headquarters concerned.

The highly dynamic nature of combat operations requires the use of high-speed, high-performance processing equipment which is easily transportable, for the initial processing of reconnaissance information. The system for collecting and processing reconnaissance data must be automated to the maximum degree. This can be achieved by the employment of electronic computers (elektronnaya vychislitelneyn mashina).

Colonel F. Yeremenko's proposal on the conduct of tactical aerial reconnaissance by single aircraft, instead of by pairs of aircraft, also needs some elaboration.

Aerial reconnaissance may be carried out by using single-seat fighter aircraft singly, in pairs, or in small groups. It is advisable to conduct reconnaissance with a single aircraft in daytime in difficult meteorological conditions, i.e., when a supporting (vedomyy) aircraft is unable to follow the leading aircraft.

For the present, our basic tactical reconnaissance aircraft is still the MIG-15R bis, whose maximum speed is less than half the speed of the best fighter aircraft of our probable enemies. A very important factor of successful reconnaissance for the crews of these aircraft is observation of the situation in the air. In a flight by two aircraft, this task is mainly performed by the supporting aircraft, because the pilot of a single-seat aircraft is unable to observe the situation in the air and at the same time to pilot his aircraft, keep his bearings, carry out reconnaissance, and maintain radio communications. Single-engined aircraft therefore usually carry out reconnaissance in pairs, although in daytime, under normal meteorological conditions, and with strong opposition from enemy fighter

planes, it may be performed by flights (zveno), or even, sometimes, by large groups.

In conclusion, there are two further points in the article of Colonel F. Yeremenko which, in our opinion, need elaboration.

It is stated on page 73 that the accuracy with which the coordinates of objectives (targets) reconnoitered by air observation can be determined, may vary between .5 and 1 km, while for the destruction of an objective by missiles at a distance of 80 [?] to 100 km, its coordinates must be determined with an accuracy of 50 to 60 meters. We consider that the capabilities of air observation in obtaining coordinates of objectives have been diminished approximately three times, while the accuracy required (50 to 60m) has been increased by as much. Experience of the work of a number of aviation units proves that, after a certain amount of training, crews are able to determine the coordinates of targets visually with an accuracy of 100 to 300 meters. As for the accuracy necessary in the determination of coordinates for operational-tactical missiles, this is between 150 and 200 meters rather than between 50 and 60.