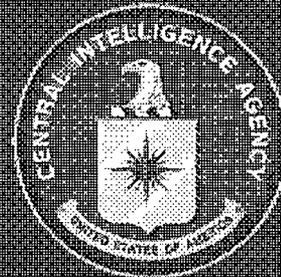


# STUDIES IN INTELLIGENCE



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*The latest strategic information  
is not in all cases the most useful  
checkpoint.*

## PENKOVSKIY'S LEGACY AND STRATEGIC RESEARCH

Len Parkinson\*

Why do we in the Directorate of Intelligence continue to research the documentary material Colonel Penkovskiy photographed in the early Sixties with his Minox cameras?

For one thing, we have concluded that most Soviet military practices and strategic theories are slow to change. We have, therefore, found it useful to identify as many of these practices and concepts as possible, because this helps us in analyzing genuinely new Soviet strategic doctrines, and in evaluating how the Soviets are reacting or might react to particular political and military events.

Secondly, the development of some key weapons systems requires long lead-times. For many weapons in the Soviet Navy, as an example, the average is about ten years. Furthermore, additional time is required to work out the operational concepts for the use of some new weaponry. As a result, the discussions of some new systems in IRONBARK—the code name for the bulk of Colonel Penkovskiy's photographs—retained usefulness for strategic researchers through the late Sixties and early Seventies. A large number of hardware developments observed in the last several years of the last decade can be traced to discussions in the IRONBARK documents.

A third reason for repeated immersion in the thousands of pages of IRONBARK, even though much of it is now ten years old, is realistic training for intelligence analysts. A survey conducted by the Office of National Estimates in 1970 concluded that several offices in the Central Intelligence Agency continue to value the collection, particularly as an aid in the training of new researchers. The ONE poll concluded that there is no better source from which to gain a basic insight into the way the Soviets think about military philosophy and doctrine.

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\*Adapted by the author from his presentation before the February 1971 Midcareer Executive Development Course (Number 27).

So, for all these reasons, it is rather evident *why* we still value the Penkovskiy material as a solid reference aid.

*How* we use it is a more complex question to answer. I will address that question by examining five general research areas in which the IRONBARK proved to be a coup of the first magnitude. These five main areas, in which it is still quite useful as a checkpoint, are: first and foremost, *military doctrine*—in particular, the IRONBARK is critical background for our current research on Soviet perceptions of the nature of an East-West war in Europe; second, *military organization*—a research area which particularly involves the subjects of combat readiness, reinforcement, and mobilization in the Soviet Ground Forces; third, *hardware*—our research on this currently centers on the characteristics of anti-ballistic missiles (ABMs) and surface-to-air missiles (SAMs), and anti-submarine and anti-carrier weapons, the need for which were outlined or hinted at in the IRONBARK; fourth, the Penkovskiy material is useful for research on *bureaucratic behavior*, an analytical field which involves a combination of our research on doctrine, organization, and hardware; fifth, and last, the IRONBARK remains useful in researching the rather exotic field of Soviet procedures for maintaining control of their nuclear weapons. In the popular literature this is called "fail-safe," but it really ought to be called "*positive control*," and toward the end of the article I will examine the question of who pushes the button.

*One: Doctrine*

Several months ago, a document on Soviet offensive operations in the European theater came across my desk. I was, at that time, responding to a request from the Pentagon to prepare a memorandum on the significance of one of the earliest IRONBARK documents, which also examined Soviet offensive operations in the European theater.<sup>1</sup> The two documents on my desk were not only dated a decade apart, but they advocated sharply different approaches on the proper manner to wage a European war. Thus, my analytical task became an effort to assess which one more closely reflected current accepted Soviet military thinking on this important matter.

And here is a good example, I think, of the current value of understanding the totality of the Penkovskiy reports. By studying *all* the documents in the IRONBARK series, we and our counterparts

<sup>1</sup> An article by Lieutenant-General V. Baskakov, Special Collection of Articles of the Journal *Military Thought*, 1960, First Issue.

in British Intelligence were able in the early and mid-Sixties to identify a number of *patterns* and signs of evolution in the doctrinal discussions. The identified patterns, in turn, have helped us to evaluate the reports that we have received *singly* from other sources since Penkovskiy was apprehended in 1962.

Some of the IRONBARK material which Penkovskiy passed to us in 1961 and 1962 revealed a sharp military debate concerning Soviet military concepts and organization needed for nuclear warfare. There was general agreement in the writings that the existing doctrine and organization were obsolete and inadequate for the era of modern nuclear weapons. But there was wide disagreement on what changes were necessary and how best to accomplish them. The central issue in the IRONBARK debate in the early Sixties was the force structure question of whether nuclear weapons should support massive conventional combat operations in Europe—or replace them.

The IRONBARK document that the Pentagon wanted our comments on called for forces which could practically vaporize NATO countries—their national command centers, economic and strategic targets, and armed forces—by nuclear strikes carried out by the Strategic Rocket Forces. This strategy gave the Soviet Ground Forces the subordinate task of marching through the rubble. No “battle” was to take place, and there was little indication that a systematic conquest of NATO Europe was conceived, not any attempt to exploit its resources in the interests of the Soviet Union. (The cold calculation, presumably, was that ashes were not really worth occupying.) This theory, which we dubbed the “more rubble for the ruble” strategy of former party leader Khrushchev, was endorsed by only two other military writers in the IRONBARK collection.<sup>2</sup>

The Khrushchevian conclusion that nuclear weapons would replace massive conventional combat operations in Europe promptly provoked a sharp reaction from a wide variety of senior professional Soviet officers. These officers proceeded to lay out the main themes of their more orthodox, traditionalist line in subsequent issues of the IRONBARK material. The more orthodox writers argued that the indiscriminate use of nuclear weapons in the European Theater was wrong (one general rebutted that such saturation strikes do not “conform with Marxist dialectics”<sup>3</sup>), that nuclear-missile weapons should

<sup>2</sup> Colonel-General A. I. Gastilovich and Lieutenant-General I. A. Tolkonyuk, Special Collection of Articles of the Journal *Military Thought*, 1960, First Issue.

<sup>3</sup> General of the Army P. A. Kurochkin, Special Collection of Articles of the Journal *Military Thought*, 1960, Second Issue.

be used only within the limits of expediency, and that the selection of enemy objectives to be destroyed in the tactical and operational zones is the prerogative of the troops of the Front, *not* the Strategic Rocket Forces.<sup>4</sup>

In the view of the orthodox camp,<sup>5</sup> sufficient reason remained to draw up conventional plans to blitz to the Rhine and beyond. These plans were based firmly on the traditional judgment that a land battle would be fought in Europe which would require adequate ground and air forces. One traditionalist writer argued that "the *dominant* role in an operational-tactical plan will quite often belong to the Ground Forces. . . ." <sup>6</sup>

The weight of this orthodox counter-barrage was so heavy that the very radical, Khrushchev-like views practically disappeared from the IRONBARK debate. As a result, Khrushchev initially failed to sustain an imaginative airing of military arguments in favor of his defensive policy in the published material supplied by Penkovskiy.

At this point, the singular nature of some of the IRONBARK, particularly the *Special Collection of Articles of the Journal Military Thought*, merits some explanation. The Soviets classified the documents top secret, but, most significantly, they were in fact unofficial. The unusual nature of the *Special Collection* arose from the fact that it was established, in early 1960, as an *ad hoc* forum for the airing of frank, controversial and far-ranging views of senior military officers. According to an editorial note, the articles expressed only the opinions of the authors.

The articles selected for publication in the *Special Collection* were evidently regarded as too sensitive for publication in the secret *Collections of Military Thought* articles, or in the more widely circulated monthly *Military Thought*.<sup>7</sup> The circulation of the *Special Collection* was limited to army commanders and higher. The contributing writers, for the most part, were drawn from the same small circle of military elites. Numbered among the contributors were the Minister of Defense, the deputy ministers of defense, military district com-

<sup>4</sup> General of the Army V. V. Kurasov, *Special Collection of Articles of the Journal Military Thought*, 1960, Third Issue.

<sup>5</sup> In addition to Kurasov and Kurochkin, it included Marshal of Armored Troops P. A. Rotmistrov, Colonel-General N. O. Pavolvskiy, General of the Army A. V. Gorbатов, Colonel-General A. Kh. Babadzhanyan, Colonel-General I. I. Gusakovskiy, and Colonel-General G. I. Khetagurov.

<sup>6</sup> Kurochkin, *op. cit.* Emphasis supplied.

<sup>7</sup> This version was restricted to "Generals, Admirals, and all officers of the Soviet armed forces."

manders, senior staff officers, chiefs and officials of military directorates, and military academy heads and theorists.

Since the *Special Collection* constituted a forum principally for the exchange of unofficial or individually held viewpoints, the materials contained numerous recommendations for the planning and conduct of strategic and front operations in a future general war. And the articles varied in quality. Some were distinguished for the care and thoroughness exercised in their preparation. Other articles were disjointed, naive, incomplete, extreme.

The very extreme nature of the views put forward in the IRONBARK document on my desk (the one the Defense Department had requested more information on) was probably part of the reason for the failure of Khrushchev's attempt to gain many adherents for the foundations underlying the logic in his military philosophy. His premises were that, first, any direct confrontation in Europe over vital interests would quickly escalate into an all-out nuclear exchange that, second, would leave little room for a land battle and, therefore (to repeat), little need for a massive, multimillion man conventional force.

The fireball philosophy of Khrushchev—and this appears to be the salient point—involved much more than military strategy. It was closely tied to his long term program for domestic economic development. His program required increased resources for domestic investment and consumer goods, which he hoped to obtain in large measure through economies in the military. At the expense of conventional capabilities, he advocated a military policy based on a minimal nuclear deterrent. His strategic policy was in part dependent on deceptive statements and Soviet secrecy, in the sense that it rested at that time largely on the US intelligence community's inflated assessment of the numbers of Soviet intercontinental ballistic missiles (ICBMs).

In brief, Khrushchev's considerations on the nature of a future war were simple and cheap. The bulk of the professional Soviet military's arguments in the *Special Collection*, by comparison, was costly and complex.

The outcome of the debate exposed in the IRONBARK was greatly influenced by two developments: the introduction of US satellite photography, which subsequently exposed Khrushchev's missile gap deception; and the failure of Khrushchev's last "cheap" attempt to employ the strategic threat for policy gain by trying to position medium range missiles in Cuba in 1962. The post-Khrushchev leaders apparently concluded that past deficiencies in strategic power were in part responsible for foreign policy fumbles, and that a policy

of minimal deterrence was too risky for the Soviet Union. In other words, the new leadership decided to purchase the security—in both the strategic and conventional forces—that Khrushchev tried to finesse.

In this sober vein, the theoretical pitch of that new document (the one which I was contrasting with the ten-year-old IRONBARK article) reflected the orthodox consideration that in order to strengthen and make the Soviet deterrent more effective, the Soviet Union must make serious and costly efforts to prepare for all kinds of threats. This view was central to other post-Khrushchev classified articles which discussed offensive operations in the general vein of the more traditional advocates in the 1960-62 IRONBARK *Special Collection* series.<sup>8</sup>

*Two: Organization*

The knowledge of the doctrinal debate in the IRONBARK turned out to be doubly important, because the various articles on the subject also provided considerable new insight into the key subjects of combat readiness and mobilization.

The IRONBARK evidence on combat readiness<sup>9</sup> indicated that in peacetime Soviet authorities viewed most of their divisions as gen-

<sup>8</sup> This lengthy footnote is composed for those readers who wonder what happened to the "orthodox" and "radical" strategists of the early Sixties. The quick answer is that their subsequent careers appear to have been largely unaffected by the points of view expressed in the debate. The longer answer, starting with the last known positions of the conservative writers, is as follows: P. A. Rotmistrov, a general inspector of the Group of General Inspectors of the Ministry of Defense; N. O. Pavlovskiy, deceased, last held the post of Deputy Chief of the General Staff; V. V. Kurasov, inactive, last held the post of Member of the Joint Supreme Command for Warsaw Pact Forces in East Germany; A. V. Gorbatov, probably inactive, last held the post of Deputy Chief of the General Staff; A. Kh. Babadzhanyan, presently Deputy Commander in Chief of Ground Forces and Chief of the Armored Troops; I. I. Gusakovskiy, probably inactive, last held the post of Chief of the Main Personnel Directorate of the Ministry of Defense; G. I. Khetagurov, probably inactive, last held the post of Commander of the Baltic Military District; P. A. Kurochkin, may be inactive, his last post (terminated by 1970) was as Member of the Joint Supreme Command for Warsaw Pact Forces in East Germany. The last known positions of the "radicals" are as follows: A. I. Gastilovich, inactive, last held the post of Senior Professor at the Academy of The General Staff; I. A. Tolkonyuk, last identified in 1969 (but since replaced) as the First Deputy Commander of the Siberian Military District; V. Baskakov, presently a Colonel-General and the Deputy Chief of the Main Directorate for Military Training Institutions. N. Khrushchev, the last of the important radicals, "retired" in mid-October 1964 and died on 11 September 1971.

<sup>9</sup> In particular see Major-General Ya. Shchepennikov, *Military Thought*, 1961, Third Issue. Also see Major-General A. Klyukanov, *Special Collection of Articles of the Journal Military Thought*, 1961, First Issue.

erally falling into three classes, based on level of strength and availability for use. The first class consisted of units "in a full state of combat readiness" and available for immediate use. The second class of units were frequently termed "of increased combat readiness" requiring a "short mobilization period" and capable of being moved to the theater of operations "within hours" or up to "several days." The strength and availability of the third class were the least clearly defined in the documents. The third class units were described as either "at reduced strength" or "in cadre status," and their availability was expressed in days or (sometimes) weeks.

Evidence over the last ten years supports this three-way breakdown. The only refinement some of us would make would be the addition of a fourth class of division, one in skeleton form.

Most of the IRONBARK writers who wrote on combat readiness were in agreement that at least three classes of divisions were expected to participate in the hypothetical campaign to seize Western Europe. And most Soviet authorities in the early Sixties considered that the campaign would be finished in about two to three weeks. In the schemes of the General Staffers, the campaign was to end with the arrival of Soviet forces at the English Channel within 10 to 20 days. On the timetable issue, we have evidence that the Soviets' current planning for the blitzkrieg campaign against Western Europe is essentially as ambitious as it was at the time the IRONBARK documents were published, including both timing and composition of the Warsaw Pact forces to be involved.

The capability to accomplish such a dazzling deployment depends in large part on the effectiveness of the mobilization system. In this connection, information on the Soviet system and its capabilities generally echoes assertions in a 1961 IRONBARK article which maintained that large units from the western part of the Soviet Union could complete their mobilization and reinforcement in about 10 to 12 days.<sup>10</sup> For example, in the case of their performance during the 1968 Czechoslovak crisis, when the Soviets could set the pace themselves, a partial mobilization and reinforcement was accomplished in about two and a half weeks.

### *Three: Hardware*

A third research area where the IRONBARK remained valuable for many years was in the identification and analysis of some of the characteristics of several new weapon systems.

<sup>10</sup> Major-General P. Stepshin, Collection of the Journal *Military Thought*, 1961, Sixth Issue.

At the outset, however, it may be helpful to highlight the critical information provided by Penkovskiy on the fairly old medium-range and short-range ballistic missiles. This information helped us to evaluate readiness conditions. For example, it enabled us to inform the intelligence community that at least part of the medium range (MRBM) force was in an increased state of readiness during the Soviet invasion of Czechoslovakia in August 1968, when other sources indicated that crews working on the SS-4 were performing certain critical work revealed in the Penkovskiy material.

Significantly, other intelligence sources helped us determine at an early stage of the Soviet buildup of forces along Czech borders that this deployment of forces was *not* directed against NATO. In other words, the increased state of readiness of some of the Soviet MRBM force was a precautionary move—part of a contingency plan against the rather remote contingency that the invasion of Czechoslovakia would spark a general European war.

How has the IRONBARK helped us in our research on new strategic defensive weapon systems—ABMs and SAMs?

Two articles published in the IRONBARK series in early 1962 reflected Soviet consideration of low altitude intercept of ballistic missile reentry vehicles.<sup>11</sup> Both articles rejected the concept of using atmospheric sorting as a means of identifying the reentry vehicle prior to its engagement and destruction. The engagement phase of the Soviet ABM system should take place in outer space, not in the atmosphere.

The two articles in the IRONBARK recognized the need for sorting, but one discarded the atmospheric approach on the basis of the limited reaction time available after target identification (and in fact it is literally counted in seconds). The other IRONBARK article warned of the risks to ground targets if ICBMs and intermediate range ballistic missiles (IRBMs) were allowed to penetrate to altitudes below 40 to 50 kilometers before attempting intercepts. When the first generation Soviet ABM system was deployed around Moscow, technical analysis of the system by CIA's Science and Technology Directorate was consistent with the IRONBARK exoatmospheric conclusion. Subsequent U.S. progress with endoatmospheric interception (with the Sprint missile) alerted us to look for any possible evidence that the Soviets were reconsidering their earlier rejection of atmospheric intercepts.

<sup>11</sup> Colonel-General I. Podgorny and Colonels V. Savko and N. Maksimov, Special Collection of Articles of the Journal *Military Thought*, 1962, First Issue.

Another 1962 IRONBARK article<sup>12</sup> cited the chief of Soviet strategic air defense (*PVO Strany*) on the need for a long-range surface-to-air missile system. Such a system would permit a change in the Soviet organization of air (*not* missile) defense from defense of *points* to defense of *zones*. This, of course, alerted us to look for the development of a long-range SAM. When one appeared with characteristics which seemed to fulfill the zonal requirement, the IRONBARK statement formed part of the evidence used in assessing the role of this new SAM system.

Several articles discussed the problems of air defense for the ground forces.<sup>13</sup> These stressed a need for highly maneuverable weapons which existing Soviet strategic SAM systems (SA-1, SA-2, SA-3) could not provide. This alerted us to watch for development of mobile SAMs, which we first saw in 1964. The IRONBARK articles also indicated that the Soviets probably would not deploy large numbers of their SA-2 and SA-3 systems with tactical forces, and they have not.

Another important field of weapons development discussed in the IRONBARK dealt with the Soviet Navy. However, IRONBARK was not clear regarding the role of Soviet ballistic missile submarines. Apparently the small force then in existence was targeted against naval bases and ports and not on cities or military targets farther inland. The best deduction is that the role and future of the ballistic missile submarine were under debate in 1960-62, but at the highest level and was too sensitive a topic to be within IRONBARK material.

With the exception of this gap in the IRONBARK, the material helped us to understand at least two important missions of the Soviet Navy—the anti-carrier mission and the anti-Polaris mission.

The IRONBARK admirals saw the US attack carrier as the greatest strategic threat at that time. New anti-carrier equipment was entering the Soviet fleets but major problems of its strategic and tactical employment remained to be solved. And the cruise missile, delivered by aircraft and submarines, clearly emerged in the Penkovskiy papers as the primary anti-carrier weapon. This knowledge helped US intelligence discern the purpose of the SS-N-3 and other missiles, a navy bomber, and two classes of cruise missile sub-

<sup>12</sup> Lieutenant-Colonel Ye. Ryukin, *Military Thought*, 1961, Sixth Issue.

<sup>13</sup> In particular, see Colonel-General S. Mironov, Special Collection of Articles of the Journal *Military Thought*, 1962, First Issue.

marines.<sup>14</sup> All of these weapons were exercised in the annual Norwegian Sea exercises during the Sixties. These exercises have continued into this decade and have followed the strategic and tactical lines set out in one of the *Military Thought* articles.<sup>15</sup>

This article and other IRONBARK papers were our principal guide for interpreting these important exercises and establishing the estimate of the SS-N-3 missile as, primarily, an anti-ship weapon—not a weapon intended for strategic attacks on bases and other targets ashore.

The IRONBARK admirals, exhorted to look ahead, foresaw that the Polaris submarine would replace US attack carriers well before 1971 as the primary strategic threat from the sea. One admiral<sup>16</sup> revealed that the Soviet Navy was assigned its anti-Polaris mission in 1957, and another<sup>17</sup> outlined a rather comprehensive anti-Polaris program. In retrospect it is clear that many essentials of the plans in the IRONBARK were accepted. Due to the long lead-time required for development of many anti-submarine warfare (ASW) systems, some of these just recently showed up in operational versions. This is a case in which the hardware value of IRONBARK is particularly relevant to today's strategic researchers.

The IRONBARK admirals, however, were divided on the proper direction for the submarine mission. One admiral<sup>18</sup> advocated multipurpose submarines for anti-ship as well as anti-Polaris mission, while another<sup>19</sup> argued for several classes of specialized submarines with designs optimized for specific tasks. Consequently IRONBARK, while suggestive, is not a definitive aid in sorting out several new classes of attack submarines now under construction. There was general agreement, however, in the Penkovskiy papers on the value of nuclear propulsion for submarines and for the priority development of better sonar and torpedoes.

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<sup>14</sup> For example, the Kennel and Kipper missiles, the naval TU-16 bomber, and the E-class and J-class cruise missile submarines.

<sup>15</sup> Captain First Rank Ye. Mamayev, Collection of Articles of *Military Thought* (the SECRET version), 1962, Third Issue.

<sup>16</sup> Admiral N. Kharlamov, Special Collection of Articles of the Journal *Military Thought*, 1962, First Issue.

<sup>17</sup> Rear Admiral O. Zhukovskiy, Special Collection of Articles of the Journal *Military Thought*, 1961, Fourth Issue.

<sup>18</sup> Admiral V. Platonov, Special Collection of Articles of the Journal *Military Thought*, 1961, Second Issue.

<sup>19</sup> Admiral Yu. Panteleyev, Special Collection of Articles of the Journal *Military Thought*, 1961, Third Issue.

The total impression given by IRONBARK was that, while anti-Polaris killer submarines held the greatest promise, aircraft and surface ships had crucial stalking roles to play. For example, one paragraph in a *Special Collection* essay<sup>20</sup> assisted in our early (1967) assessment of the Moskva helicopter cruiser as an anti-submarine warfare ship. Other admirals advocated ASW cruisers and destroyers with strong air defense armament to protect them while hunting Polaris far at sea. We believe this concept is behind the appearance of surface-to-air missiles on the Moskva and on five other classes of ships whose NATO designations all begin with "K": the Kresta, Kashin, Kanin, Kotlin, and Krivak classes. The joint SAM-ASW concept may also be behind additional new classes of major combatants under construction.

In the main, the ASW aircraft force, with its improved detection and weapons systems, developed along the lines laid out in IRONBARK. In fact, the increasing emphasis to the ASW mission in naval aviation, like the use of the helicopters on the deck of the Moskva helicopter cruiser, was foreshadowed in the *Military Thought* articles.

#### *Four: Bureaucratic Behavior*

Another current research area in which we still use the IRONBARK involves a combination of the three subjects just discussed—doctrine, organization, and hardware.

We call this research on bureaucratic behavior, and the Penkovskiy material is extra rich because several critical features relating to doctrine, organization, and hardware were all in sharp focus by 1960. In addition, a number of important decisions were begging for resolution, such as the proper role of armor in a nuclear war.

Thirteen articles appearing in the IRONBARK's *Special Collection* constituted the main vehicle for an intramilitary assessment of the armor question.<sup>21</sup> The authors of these articles ranged from technical

<sup>20</sup> Rear Admiral N. Zvyagin, *Special Collection of Articles of the Journal Military Thought*, 1961, Second Issue.

<sup>21</sup> See articles by Colonel-General A. Kh. Babadzhanian, Colonel-General A. I. Gastilovich, Marshal of the Soviet Union R. Malinovskiy, Colonel-General P. Poluboyarov, Marshal of Armored Troops P. Rotmistrov, Major-General L. Sergeev, Lieutenant-General A. Shevchenko, Lieutenant-General M. Shaposhnikov, Major-General G. Zavizion, Colonel V. Zemskov, General of the Army A. Zhadov, and Major-General C. Zimelev. For a good analysis of these articles, see the Rand study *The Role of Armor: Case Study of a Soviet Bureaucratic Decision Pattern* (Secret, April 1969, RM-5814-PR/ISA).

specialists who detailed fine points of tank design and troop organization, through senior branch-level officers who dealt with more comprehensive concepts, up to the Minister of Defense, who summarized the course and content of the professional military's discussions. The Minister of Defense (Marshal Malinovskiy at that time) also indicated the main directions he thought worth pursuing in the armor field.

For a strategic intelligence researcher, these articles—which span practically the whole period embraced by the Penkovskiy material—are engrossing, because their contents testify to a vigorous exchange of views and an examination of alternative choices.

One choice that the Soviets made resulted in the machine which they call the Infantry Combat Vehicle or ICV. The guidelines for the ICV were set out in considerable detail in one of the articles on the tank debate.<sup>22</sup> This advanced weapon was first seen in the Moscow parade in November 1967, and when analysts in the Intelligence Directorate began to study its characteristics, they were already on first base, thanks to the 1961 guidelines in this one IRONBARK article. The guidelines called for an amphibious, lightweight, low silhouette vehicle mounting a turreted cannon and an antitank guided missile. The guidelines added that the vehicle was to carry a squad of men and provide hatches at the rear of the vehicle for safe entry and exit under fire. The Infantry Combat Vehicle meets all these requirements.

Interestingly, from a bureaucratic point of view, one choice that the Soviets apparently did *not* make was a super-sophisticated tank described in the IRONBARK by the top man in the Soviet military, Defense Minister Malinovskiy.

The *Special Collection* materials on the role of armor, supplemented by Soviet open press writings and by our own esoteric communication analysis, enable the researcher to reconstruct, practically blow-by-blow, the institutional, bureaucratic realities in which some major Soviet decisions were actually made.

Another subject in which research on bureaucratic behavior is currently making use of the Penkovskiy papers concerns the organization of the Strategic Rocket Forces. The SRF was established only a few months before Colonel Penkovskiy made his first contact with us. And the key fact about the SRF in the 1960 to 1961 period was that it was still in the process of formation: jurisdictional responsibilities were being defined and redefined, relationships with the General

<sup>22</sup> Colonel General Poluboyarov, *ibid.*

Staff were being determined, personnel acquired, and major directorates being transferred to the SRF.

On the subject of the SRF's organization, the researcher can set aside the IRONBARK volumes and make use of the colorful CHICKADEE series. CHICKADEE is the codename for the tape recordings Penkovskiy made and the reports he himself wrote.

One of the particularly interesting series of CHICKADEE reports concerned a dispute between two important rocketry officials in the Soviet military, Marshals Varentsov and Moskalenko. Penkovskiy reported that beginning in early 1961 there were rumors at responsible levels of the Soviet General Staff that the strategic missile command under Moskalenko (then Commander-in-Chief of the Strategic Rocket Forces) would be combined under a new command headed by Varentsov, a close associate of Penkovskiy. Varentsov, then responsible for tactical missiles, had openly referred to his rival, Moskalenko, as a "stupid old sheep." Agitation for the incorporation of Moskalenko's strategic missiles under Varentsov's command apparently existed throughout 1961, but by January 1962 Penkovskiy reported that the final decision on this matter had been taken in Moskalenko's favor.<sup>23</sup> But in the Intelligence Directorate, the reasons behind Moskalenko's success and Varentsov's disappointment in early 1962 remain another mystery of Moscow's byzantine-style politics.<sup>24</sup>

Politburo-level politics and policies, and particularly those dealing with research on the highest level military decision-making bodies in the Soviet Union, constitute another research target in which the Penkovskiy material retains value. Here the CHICKADEE series provides useful background on the rough-and-tumble way Khrushchev ran his Higher Military Council—the rough equivalent of our National Security Council. These reports also provide a useful contrast with the comparatively phlegmatic management style of the current party

<sup>23</sup> Marshal Varentsov was reduced in rank following the discovery of Colonel Penkovskiy's activities. (Penkovskiy was a frequent visitor in the Varentsov home, and had full access to the Marshal's missile and artillery headquarters.) Varentsov never regained his former lofty rank of Marshal of Artillery. A final indication of his disgrace was the terse, unsigned notice of his death in *Red Star* on 4 March 1971. This is the sort of obituary usually given to relatively obscure veterans.

<sup>24</sup> The mystery is "solved," if you are willing to accept the authenticity of Khrushchev's story in his "memoirs." Khrushchev, by CPSU (and Mafia) standards, would have owed a debt to Moskalenko. According to the "memoirs," Moskalenko (like a sheep) followed Khrushchev's extra-legal orders soon after Stalin's death by arresting a Kremlin goon of the period (Lavrenty Beria) in the Politburo inner sanctum. "I could see that Comrade Moskalenko would do what was necessary for the Party cause." *Khrushchev Remembers* (1970, Little, Brown and Co., Inc.), page 338.

boss, Brezhnev. Penkovskiy's tape recording sessions also provided another chapter on the energetic style of the present Defense Minister, Grechko.<sup>25</sup>

In short, the IRONBARK and CHICKADEE material have been invaluable in our research on bureaucratic behavior. This material, in part, helped us modify the simplistic Cold War notion of the Soviet Union as a monolithic system directed by a unified central power.

*Five: Positive Control*

A fifth current research area concerns the sensitive subject of Soviet procedures for maintaining control over their strategic nuclear weaponry.

Here it is important to emphasize that the IRONBARK and CHICKADEE provided a wealth of essential information, previously unknown and unavailable to us through other collection efforts, concerning Soviet strategic missiles. Through another IRONBARK series—the Top Secret *Information Bulletin of the Missile Troops*<sup>26</sup>—we saw for the first time how the Soviet strategic missile units were organized and structured, what the functions of the various staffs in each unit were, how these units were linked through the chain of command to the military high command in Moscow, and what the activities of missile units were at the different levels of combat readiness. Through the CHICKADEE series, we received for the first time detailed technical data on the missiles themselves, on the yields of their warheads, on the method by which the missiles were oriented toward their targets, and on the types of priority targets to be attacked by strategic missiles, that is, military targets, industrial and administrative centers, and the like.

But regarding all this data, there are analysts in the intelligence Directorate who now maintain that the Penkovskiy material and ancient history are beginning to have much in common. Indeed, the IRONBARK is aging, particularly in light of the stunning changes in the makeup of the Soviet strategic missile force since the last of the Penkovskiy papers were acquired in 1962. For example, the force of Penkovskiy's time was composed almost entirely of medium and intermediate range ballistic missiles. The Soviets in the past few years have begun to deactivate these missiles. Only a handful of intercontinental

<sup>25</sup> An earlier chapter on Grechko's management style was derived from our telephone tap in the Fifties, when he was Commander-in-Chief of the Soviet Forces in East Germany.

<sup>26</sup> In contrast to the *Special Collection*, the *Bulletin* was a technical journal which did not carry controversial or unofficial articles.

missiles were available when the IRONBARK documents were written, and these were located at vulnerable soft sites (i.e., above ground level). Since then, well over one thousand ICBMs have been deployed, principally in single, dispersed, hardened silos. Advanced systems for command and control of the force have, according to Soviet sources, been put into use in the same period to centralize control of all strategic weapons. In addition, multiple warheads are now being introduced into the force, and production of Polaris-type submarines has been underway for more than five years.

Nevertheless, some of the information in the Penkovskiy material continues to be pertinent to intelligence research being undertaken today in the Office of Strategic Research. And a prime example is in the area of research on Soviet measures for control of strategic offensive weapons.

This research examines measures the Soviets have taken to achieve what is called "positive control"—preventing accidental or unauthorized use of nuclear weapons while maintaining a capability for quick, measured nuclear strikes. It also examines questions about Soviet awareness of the need for such control and the evolution and present status of the Soviet national command mechanism; who in the Soviet hierarchy gives the order to launch a nuclear attack? How is an order communicated to the launch sites? This research draws upon open Soviet sources. A wide variety of technical collection systems are also used. But the contribution from the Penkovskiy material remains conspicuous and significant.

Unexpectedly, it is not always what the Penkovskiy documents *say* that is important for our detective work in this research area, but what they *do not* say.

Until quite recently, there was evidently a prohibition against discussing in the Soviet open press the dangers of unauthorized or accidental use of *Soviet* nuclear weapons. Significantly, the Penkovskiy papers did not discuss this issue, which indicated that the blackout extended even to classified military publications. The chief reasons for the blackout might have been Soviet super-sensitivity toward the subject—that is, security concerns may have outweighed other important considerations, including that of keeping foreign governments informed about the adequacy of Soviet precautions. The IRONBARK editors may also have believed that the more one can learn about Soviet safety precautions, the more one can infer about Soviet preparedness and capabilities—and in the early Sixties, unlike the early Seventies, the Soviets had little of either preparedness or capabilities in the strategic-missile field.

It is also possible to reinterpret and gain new clues from the Penkovskiy material on the basis of what we have subsequently learned about the Soviet command network from other sources. In this connection, some of the IRONBARK documents addressed the need to make greater use of computers and automation in the command and control process as well as in the actual firing of missiles. Although these particular documents did not describe the computer and automation systems needed to do the job, they did reveal the types of command and control problems the Soviets were experiencing in 1960, 1961, and 1962, and the types of proposals they were considering to correct these problems.

The documents indicated that the Soviets would seek, through improvements in communications technology, automation, and data processing, to reduce the reaction time of their strategic forces and increase the versatility and reliability of their strategic command and controls systems.<sup>27</sup> Knowing these were the Soviet goals, we are placed in a better position to evaluate the present state of the Soviet strategic command and control network.

*The Utility of the Penkovskiy Reports In the Seventies*

Several intelligence researchers maintain that the evolution of Soviet strategic forces, combined with the inflow of technical and documentary evidence during the last few years, has converted the Penkovskiy papers into "just historical" documents, with no lasting relevance to the situation in the mid or late Seventies. Regarding documentary material, and aware of the "apples and oranges" situation, some believe that the Soviet statements at the Strategic Arms Limitations Talks (even though they are skewed by the multi-lateral arena in which they are voiced) have developed into a collection of evidence on Soviet strategic thinking more valuable than major parts of the Penkovskiy collection (prepared for a far different audience and not reflecting in all cases the agreed upon, prevailing doctrine). Other contributors to *Studies* have highlighted the kinds of detailed information we have received over the last ten years and can expect from technical collection systems in the Seventies. So, with the premise and prognosis of my colleagues that the IRONBARK will continue to be buried by a flood of high quality technical and documentary strategic information, I will conclude with a few words on the tremendous analytical mileage which has accrued from the Penkovskiy contribution.

<sup>27</sup> A "single centralized system of communication with wide-scale use of multichannel radio relay and wire links" was referred to in General Kurochkin's article, *op. cit.*

The ten-year-old IRONBARK information stands as one of the most valuable collections in the history of strategic intelligence.

The IRONBARK documents covered a period when the Soviets were preparing for a major revision in the three key areas touched on in this *Studies* article—Soviet military doctrine, organization, and weaponry. The documents were composed at a time when the last major revolution was taking place regarding Soviet perceptions on the nature of a future war, and on the type of weapons and command and control procedures needed to wage that hypothetical conflict.

This period represented a major watershed in the transformation of Soviet military thinking away from the Stalinist preference for massive conventional forces, to new patterns of thinking, calling for brand new forces equipped with highly sophisticated, modern weaponry.

Much of the revolutionary IRONBARK material grappled with concepts which the Soviets did not begin to implement until the mid or late Sixties. A lot of what has taken place in Soviet military doctrine in recent years has only been a footnote to the intense debates in the information provided by Colonel Penkovskiy. Thus, while the ten year old material has less value than it did when it was ten months old, its continuing utility as a checkpoint for our current research is clear.

In sum, it is probably going to require another revolution in Soviet military thinking to reverse the present situation, reduce the IRONBARK itself to footnotes, and relegate the Colonel's legacy to "just historical" documents.