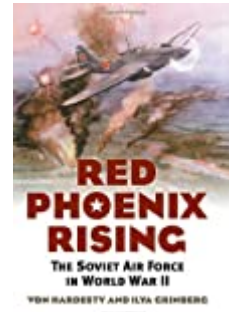




Von Hardesty, Ilya Grinberg. *Red Phoenix Rising: The Soviet Air Force in World War II.* Lawrence: University Press of Kansas, 2012. xiv + 428 pp. \$34.95 (cloth), ISBN 978-0-7006-1828-6.



Reviewed by Adam Givens (Ohio University)

Published on H-War (October, 2014)

Commissioned by Margaret Sankey (Air War College)

In 1982, Von Hardesty, curator of the Smithsonian's Division of Aeronautics currently, produced one of the few English-language studies of the Soviet air force (in Russian, *Voyenno-vozdushnyye sily*, or VVS) during World War II. Three decades later, Hardesty has revised the original work with the help of coauthor Ilya Grinberg, a professor of technology at Buffalo State. The updated book, *Red Phoenix Rising: The Soviet Air Force in World War II*, offers an authoritative examination of the air war in the East by utilizing archival sources unattainable at the time of the first book's publication.

Red Phoenix Rising moves chronologically. The first of seven chapters examines the Soviet Union's prewar organization and then details Germany's devastating invasion of the USSR in June 1941. Like the rest of the Soviet military, the VVS was taken by surprise in the early hours of Operation Barbarossa, what the authors rightly term a "vast military catastrophe" (p. 29). Many of the Soviet pilots stood little chance of slowing the Luftwaffe's advance, and a litany of Soviet errors and misjudgments allowed the Germans to destroy large numbers of aircraft on the ground.

Hardesty and Grinberg posit that the VVS's ineffectual response was not simply due to a materially and or-

ganizationally superior Luftwaffe. Instead, Soviet decisions made in 1940 contributed to failures. Planners believed that the country's national security was dependent on air superiority and technological parity with the West, and the modernization program that followed was both dysfunctional and too ambitious. In the months leading up to the summer of 1941, Moscow authorized reforms to replace obsolete aircraft, construct adequate airfields closer to the western border, update pilot and crew training, and formulate coherent doctrine. Though hindsight makes these reforms seem laggard, they do reveal a regime cognizant of the necessity to reform, not an antiquated force unaware of its infirmed nature.

Crash-course modernization programs debilitated the VVS in a litany of ways. First, the institution became a hollow force, since 25 percent of a planned 104 new regiments existed only on paper due to production complications and training delays. Though Soviet industry could find ways to produce aircraft, the VVS still suffered from a severe dearth of skilled and experienced commanders at squadron and regimental levels. Second, even with the arrival of modern aircraft, such as the Il-2 Shturmovik, the air force now operated a mixture of new and old, creating maintenance and repair difficulties. The expansion of administrative and logistics networks meant that vet-

eran pilots moved to new regiments while existing commands became filled with inexperienced personnel, causing them to become weakened and demoralized units. Due to a lack of time, new bases and storage facilities were not properly linked with communications, nor were defenses adequate. Additionally, poor interwar planning meant that the VVS failed to understand the extent of the German threat or the Luftwaffe's own organization, tactics, and technology. Finally, the Soviets failed to develop an effective command and control system, adding to the eventual chaos during the first crucial year of fighting.

Hardesty and Grinberg refute the common idea that Joseph Stalin's purges were a central cause of the military catastrophe. They accept that the purges did affect the VVS leadership and reached into the lower levels, but other problems were more impactful. The authors contend that inadequate and uneven funding for the rapidly expanding air force, a lack of upward mobility for talented junior officers, numerous reorganizations, confusion over air doctrine, and too-rapid expansion of leadership cadres more negatively affected the VVS (p. 51).

Although the authors make clear the reasons why the VVS did not fare well during Operation Barbarossa, they are less effective at explaining why it did not collapse totally in the catastrophe of 1941. Hardesty and Grinberg continually rely on the same vague point: although bloodied, the Soviet air force managed to endure. So chaotic was this period that counterattacks were often uncoordinated, more displays of heroics than competent military maneuvers. Yet they become for the authors illustrative of something larger. The ramming of German aircraft by Soviet pilots were spirited attacks, not acts of desperation, and they stand as evidence of the residual strength of the VVS and its determination to mount credible opposition to the Luftwaffe (p. 31). Determination is not necessarily in question here, but the mechanics of survival are. One still puzzles over how heroism in the latter half of 1941 repaired the cracks caused by deficient leadership, inexperienced personnel, insufficient logistics, and vicious enemy attacks.

If what kept the VVS from total destruction is ambiguous, the authors are more overt about how the Soviet air force managed eventually to become formidable. Combat experience not only made veterans of new pilots but also solidified the Soviet approach to combined arms warfare. Hardesty and Grinberg analyze operations throughout the war to illustrate the VVS's growing efficacy. The remaining chapters of the book are thus centered around campaigns: Moscow, Stalingrad, Kuban,

Kursk, and Berlin.

While the Soviets bent, they did not break. Air power became the decisive factor in the defense of Moscow, as the VVS commanders steadily gained combat knowledge. Throughout 1942, the VVS further refined their tactics, specifically during the Stalingrad campaign. With aircraft production hitting its stride that year and Lend-Lease aid beginning to arrive, the Soviet war effort experienced a turning point. Alexander Novikov, head of the VVS, ordered changes that further solved early problems. Blending Luftwaffe techniques with homegrown innovations, the Novikov reforms created a more centralized command structure and refined tactics. Rather than dispersing their assets as the Soviets had done at the start of the war, aviation units began working closely with ground forces to form a combined arms juggernaut. The authors highlight the Kuban campaign from April to May 1943 as another key moment in the air war. Often overshadowed by the battles of Stalingrad and Kursk between which it occurred, air operations against German forces in the North Caucasus became a decisive moment in the quest to gain parity with the Luftwaffe (p. 165). As on the ground, the counteroffensive at Kursk from July to August 1943 allowed the Soviets to go on the offensive and won air supremacy for the VVS.

In the final phase of the war from January 1944 to May 1945, the VVS continued building on the successes of 1943. By January 1, 1945, the Germans could muster only 1,680 aircraft stretching from the Baltic to Czechoslovakia to face the substantial 13,936 VVS aircraft (p. 320). For the authors, no previous campaign illustrated the Soviets' organizational skill and operational art as well as the operation to take Berlin beginning in January 1945. The air force's multiple goals included achieving and maintaining air superiority; supporting infantry and mechanized forces; conducting reconnaissance; providing air cover for units crossing the Oder, Neisse, and Spree rivers; and harassing German reserves. Their ability to achieve all these was not merely the result of superior numbers, however. Rather, after surviving the calamity of 1941 and overcoming self-inflicted errors, the Soviet Union had finally gained technical parity with the formidable Luftwaffe.

Along with the discussions of the Soviet air force's victories, one questions the impact that Lend-Lease had on the impressive VVS transformation. Readers find familiar information here: Allied powers sent the USSR mostly obsolescent and inadequate fighters and bombers. Still, the Soviets persevered and became masters of Al-

lied castoffs, such as the dangerous Bell P-39 Airacobra. Hardesty and Grinberg unfortunately elect not to analyze deeper how Lend-Lease might have helped the VVS recover from 1941 and relieve pressure on the strained Soviet industry. It is a rare missed opportunity for the authors and an unfortunate omission given that thousands of Allied-produced aircraft wore Soviet markings, as shown by Lend-Lease figures provided in the appendices.

Hardesty and Grinberg end their work with an examination of the postwar VVS. The final chapter reads like a tacked-on survey of the early Cold War. Only one-third the length of the preceding chapters, it exists mainly to bring the story full circle, revealing the cyclical nature of the Soviet air force's reorganization and innovation—from vulnerability to triumph and back again. Despite the impressive victory against Germany, the Soviet air force was an antiquated force after the advent of the nuclear age in 1945. Moscow found it difficult to match the technological innovations of the Americans and British. According to Novikov, only embracing the newest technologies would guarantee national security, not through sheer quantity of aircraft. He was, however, not immune to the realities of communist Russia. In 1946, Novikov, his subordinates, and the aviation industry fell victim to a new round of Stalinist purges. Still, the USSR managed some degree of technological parity with the

West. Cloning the Boeing B-29 Superfortress and copying German and British jet engines allowed the Soviets to keep pace with the Americans. Perhaps this illustrates better the capricious nature of technological revolutions within the Soviet Union rather than how adept the VVS was at innovating, but by the mid-1950s the USSR certainly did enjoy global reach.

Overall, Hardesty and Grinberg's work is an important addition to World War II historiography. *Red Phoenix Rising* helps scholars and laymen better understand the nature of the war in the East, the Soviet order of battle, and the progression of the campaigns. Beyond the general audience, however, the work is also beneficial to scholars analyzing other facets of military history. Readers can gain an understanding of how institutions utilize lessons and innovate during war—traditionally a difficult time to make profound changes. Aviation historians will find the book important due to its examination of various aircraft and their capabilities. Others will appreciate the contribution Hardesty and Grinberg make to the study of how technology affects operations and strategy. The authors end the book on such an issue, positing that the phoenix was reborn again with the adoption of new fighter and bomber technology in the early 1950s (p. 358). For how long that bird soared until the next self-inflicted, rebirth-generating crisis is left to the reader to contemplate.

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Citation: Adam Givens. Review of Hardesty, Von; Grinberg, Ilya, *Red Phoenix Rising: The Soviet Air Force in World War II*. H-War, H-Net Reviews. October, 2014.

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