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When the March/April 2002 issue was published, the Doomsday Clock remained at 7 minutes to midnight, where it had been since February 27, 2002 when the United States rejects a series of arms control treaties and announces it will withdraw from the Anti-Ballistic Missile Treaty. Terrorists seek to acquire and use nuclear and biological weapons.

# REVIEWS

## The rest of the story

### ***Russian Strategic Nuclear Forces***

Edited by Pavel Podvig

MIT, 2001

692 pages; \$45.00

**Robert S. Norris**

THE STORY BEHIND THE WRITING OF *Russian Strategic Nuclear Forces* is almost as interesting as the material that it covers. When there was still a Soviet Union some students at the Moscow Institute of Physics and Technology took the brave step of trying to learn more about their country's nuclear forces and to educate their countrymen. Their first effort was to translate *Soviet Nuclear Weapons*, part of the Natural Resources Defense Council's (NRDC) Nuclear Weapons Databook series.

The purpose of the NRDC series was to pierce the secrecy shrouding the world's nuclear arsenals and provide comprehensive and accurate information to the press and the public. But *Soviet Nuclear Weapons*, which I co-authored, suffered from the fact that almost all of its information came from official Western sources, primarily departments and agencies of the U.S. government. We mined congressional testimony, reports from the Congressional Budget Office and the General Accounting Office, and defense contractor documents. We also made thousands of Freedom of Information Act requests to the Defense and Energy Departments, the CIA, and any other government source that could provide useful information. Further, while many analysts cavalierly dismissed the Pentagon's *Soviet Military Power* volumes as mere propaganda, the NRDC sucked them dry in search of accurate information, of which there was plenty. As we went about our research we often wondered what comparable Soviet documents would say

about their nuclear forces—their history, operations, and technical details. We now have the beginnings of an answer to that question.

A team of seven Russian researchers, led by Pavel Podvig of Moscow's Center for Arms Control Studies, wrote *Russian Strategic Nuclear Forces*. The book was first published in Russian in 1998; the English translation is a revised and updated edition. Although Podvig and colleagues used primary sources wherever possible, they also made use of numerous Russian press accounts, which were made available by the opening of Russian society that occurred in the mid- and late 1990s. Appropriately, the researchers made minimal use of Western sources. Russian scholars and analysts still have far fewer resources than their American counterparts. But the book's 70 pages of footnotes attest to its authors' resourcefulness in tracking down interesting sources upon which to base their story.

And quite a story it is. The central chapters cover in great detail the nuclear weapon production complex located in Russia's "secret cities," the Strategic Rocket Forces, naval forces, strategic aviation, strategic defense, and the nuclear test program. For each chapter, historical material is provided that explains the growth and evolution of Russia's strategic forces. Also covered are explanations of how military units are organized as well as the structure and the role of design bureaus and defense industries.

Adopting the research approach of the Nuclear Weapon Databooks—that no detail is too small to be of

some significance and importance at some time—the authors provide extensive technical characteristics of dozens of missiles, bombers, and submarines. They also introduce the names of many weapon designers, officials, and military officers unfamiliar to Western scholars, along with precise dates and milestones and geographic locations. The book has excellent tables, figures, maps, and attractive line drawings of weapons, though there are no photographs. There is even a handy appendix that compares the Russian designations for Soviet weapon systems with the numerous Western ones, providing guidance through the confusing nomenclature. For instance, the United States called



the Soviet's biggest ICBM the SS-18; its NATO designation was Satan; the START Treaty referred to it as the RS-20; and its was known as the R-36M in Russia.

The Russian scholars share another characteristic with their American counterparts—an appreciation for and understanding of how military and government institutions are actually organized, how they go about their work and carry out their missions and responsibilities. This research style and approach contrasts sharply with the methodologies used in university political science and international relations departments. Academics tend to show little appreciation for the history and culture of these institutions or the personalities that run them. Militaries are complex social institutions with their own unique cultures and world views. Large militaries, like those of the Soviet Union/Russia and the

United States, are made up of hundreds of different parts, broken down into services and commands, with cliques and power centers, personalities and individuals who shape and influence them.

Despite Russia's ongoing transition to a modern democratic society, the country continues to be plagued by some Soviet-era practices, including the intelligence service's obsession with internal security. Authorities forced the authors to excise portions of the book and part of the final print run was confiscated by the Federal Security Service (the former KGB). Also troubling is that one of the book's co-authors, Igor Sutyagin, was arrested two years ago on charges of espionage and accused of publishing classified information as part of a related research project. He remains in jail.

*Russian Strategic Nuclear Forces* is essential reading for anyone following negotiations on arms control agreements, whether the START Treaty or the more informal Bush-Putin talks initiated last November.

In the book's afterword, the authors discuss the possible future make-up of Russia's arsenal and describe the various factors that will, in the next decade or so, force the country to reduce its arsenal to—in their estimation—about 1,000 warheads. Many things could influence that projection, from the U.S. deployment of a national missile defense system or the sudden availability of more resources for the Russian military, to the development of a serious bilateral arms control agreement. No matter the future direction of these issues, *Russian Strategic Nuclear Forces* will provide insights and hard data to help make sense of it all. ✱

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## Understanding Central Intelligence

### ***The Wizards of Langley: Inside the CIA's Directorate of Science and Technology***

By Jeffrey T. Richelson  
Westview Press, 2001  
386 pages; \$26.00

### ***The Secret History of the CIA***

By Joseph J. Trento  
Prima, 2001  
542 pages; \$30.00

John Prados

WITH INTELLIGENCE MORE IN DEMAND than ever in the wake of the September 11 terrorist attacks, we have a brace of books to help us understand the history and operations of the main U.S. espionage service, the Central Intelligence Agency (CIA). The war in Afghanistan and the ongoing investigations into Al Qaeda terrorist plots have showcased both the negative and positive aspects of modern intelligence, and an intense media focus has given the public fresh opportunity to be impressed and dismayed, depending on which appendage of the dinosaur it happens to view.

One of the more impressive features of modern intelligence gathering is the ability of remote sensing devices to survey everything from geographical formations and clandestine human activities to signals communications and computer data banks. In *The Wizards of Langley*, Jeffrey T. Richelson tracks the evolution of these technological capabilities while providing a comprehensive history of the CIA's Directorate of Science and Technology (DS&T), the service responsible for creating

many of the exotic espionage gadgets used by the country's intelligence services. Richelson, a senior fellow at the National Security Archive, is a long-time observer of scientific intelligence. His previous works include *America's Secret Eyes in Space*, a history of U.S. reconnaissance satellite programs, and *America's Space Sentinels*, an examination of early-warning technology. (I should disclose that the author and I are both fellows at the archive.)

*Wizards* follows up on many of the subjects Richelson first reported on in *Secret Eyes*. The earlier work focused primarily on the activities of the National Reconnaissance Office (NRO), which operates the nation's intelligence satellites and aids in their research and development. The book's central topic was the NRO's role in developing satellites in the Keyhole and Corona series. In *Wizards*, Richelson makes ample use of declassified CIA records (including a multi-volume history of the DS&T) to report on the CIA's involvement in the same satellite programs and extend his earlier analysis (which was published in 1990) into the last decade.

But *Wizards* is not just about satellites. The CIA's technological advancements have had an impact on the agency's field operations, its joint work with the National Security Agency (NSA), and its relationships with civilian scientists. In *Wizards*, we read about the technical aspects of secret government debates over the characteristics of Russian weapons systems, the role of U.S. intercept stations in Iran during that country's revolution, the horror felt by officials when intelligence

