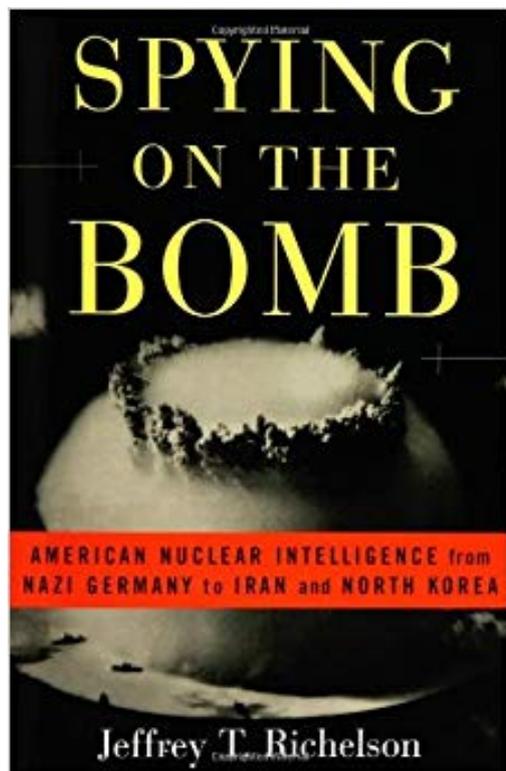


# **Spying on the Bomb: American Nuclear Intelligence from Nazi Germany to Iran and North Korea** by Jeffrey T. Richelson



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**ISBN:** 0393053830

**ISBN13:** 978-0393053838

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**Book title:** Spying on the Bomb: American Nuclear Intelligence from Nazi Germany to Iran and North Korea

**Pages:** 704

**Publisher:** W. W. Norton (March 13, 2006)

**Language:** English

**Category:** Asia

**Size PDF version:** 1964 kb

**Size ePUB version:** 1621 kb

**Size FB2 version:** 1442 kb

**Other formats:** lit azw rtf lrf

**A global history of U.S. nuclear espionage from its World War II origins to today's threats from rogue states.** For fifty years, the United States has monitored friends and foes who seek to develop the ultimate weapon. Since 1952 the nuclear club has grown to at least eight nations, while others are making serious attempts to join. Each chapter chronologically focuses on the nuclear activities of one or more countries, intermingling what the United States believed was happening with accounts of what actually occurred in each country's laboratories, test sites, and decision-making councils. Jeffrey T. Richelson weaves recently declassified documents into his interviews with the scientists and spies involved in the nuclear espionage. The book reveals new information about U.S. intelligence work on the Soviet/Russian, French, Chinese, Indian, Israeli, and South African nuclear programs; on the attempts to solve the mysterious Vela Incident; and on current efforts to uncover the nuclear secrets of Iran and North Korea. The book also includes spy satellite photographs never before extracted from the national archives. 46 photographs, 6 maps.



# Reviews of the **Spying on the Bomb: American Nuclear Intelligence from Nazi Germany to Iran and North Korea** by Jeffrey T. Richelson

## Mave

At first blush, the events of September 11th ushered in a fundamental paradigm shift in the core mission of the US intelligence community. The focus of national intelligence efforts quickly shifted from a sprawling conventional superpower to a relatively miniscule network of extremists operating independently in some of the most remote and culturally inaccessible parts of the planet. A half-century of hard-earned operational experience and countless billions of dollars in technology were quickly rendered irrelevant. Or so it seemed.

Over the past couple of years a mission as old as the modern intelligence community itself has re-emerged as a critical national priority - the monitoring and accurate assessment of foreign nuclear weapons capabilities and intentions. Indeed, Iranian president Ahmadinejad and North Korean dictator Kim Jong Il capture more headlines today than does Osama bin Laden and the intelligence community is more hard-pressed to explain the WMD debacle in Iraq than the failures that led to the attacks on the World Trade Center and the Pentagon.

As if on cue, distinguished intelligence historian Jeffery Richelson has delivered *Spying on the Bomb: American Nuclear Intelligence from Nazi Germany to Iran and North Korea*, a comprehensive history of US nuclear intelligence efforts.

Richelson breaks the material into essentially stand-alone case studies, which is an effective approach given the enormous scope of the subject he has undertaken. The first third of the book focuses on the earliest days of American intelligence efforts against Nazi Germany, Soviet Russia and Communist China along with the development of a global network of sensors and collection assets to monitor testing activities and weapons stockpile growth. The final two-thirds of the book is a mix of chapters on the pariah nations of Israel, South Africa, Taiwan, India and Pakistan and the rogue nations of Iraq, Iran, North Korea and Libya. The author also provides extensive reviews of US intelligence collection operations against the French and detailed analysis of two specific nuclear test incidents: the 1979 "double-flash" in the South Atlantic and the surprise Indian underground tests at Pokhran in 1998.

On one level, *Spying on the Bomb* is a notable success. It is an invaluable contribution to our understanding of the full sweep of the US nuclear intelligence experience, from the earliest days of the Cold War to the present international crisis with Iran. Richelson's primary research is exhaustive and impressive. He employs a broad mix of sources in building each case study, using de-classified (or leaked) government documents, Congressional testimony, private interviews and public technical documents. Because the author avoids any unifying narrative device, each chapter can easily be read in isolation and can therefore serve as an excellent open-source reference manual on American intelligence efforts against a dozen countries. Moreover, the author keeps each case study engaging with the use of cloak-and-dagger anecdotes, such as the proposed December 1944 assassination of prominent Germany physicist Werner Heisenberg at a conference in Zurich by former professional baseball player-turned-spy Moe Berg or the Mossad's use of a femme fatale to lure and capture Dimona reactor turncoat Mordechai Vanunu in Rome in 1985.

That said, there are two aspects of Richelson's style and approach that will make *Spying on the*

Bomb tough going for many would-be readers. First, the author assumes a significant pre-existing knowledge of nuclear weapon technology, such as the enrichment process for uranium, the production of plutonium, and the various methods of device design. Any reader new to the topic will find many sections difficult to comprehend. Second, each chapter is so densely packed with foreign names, places, and organizations that it can easily overwhelm even the most widely read reader. For example, the book lists the names of over 800 people in the index, many of them only being referenced once.

On another level, *Spying on the Bomb* is something of a disappointment. Richelson is a leading intelligence scholar with an enviably deep understanding of the intelligence process, supporting technologies and component agencies. Yet, he simply refuses to offer any assessments or lessons learned from the half-century American engagement in nuclear espionage. In the preface, Richelson blandly notes that "There is no simple explanation for success or failure in [U.S. nuclear intelligence efforts]" and is evidently content to leave it at that, which is a shame given that several themes emerge from his research that bear emphasis and consideration on a broader level.

First, with one very notable exception (Iraq in 2003), the US intelligence community has consistently and often grossly underestimated the capabilities of foreign nuclear weapons programs. The Soviet Union, China, Israel, South Africa and Iraq (in the 1980s) were all years ahead of where the consensus opinion in the intelligence community thought possible. Although Richelson does not say so explicitly, the thrust of his work certainly suggests that the US intelligence community's record on assessing nuclear weapons capabilities consists of varying degrees of failure. It remains to be seen how the intelligence catastrophe on Iraqi WMD will impact the intelligence community in the years ahead. Will it instill a new rigor in analysis and promote inter-agency cooperation that avoids the pitfalls of Iraq? Or is it likely to produce a crisis of confidence that constrains intelligence organizations from making actionable assessments of foreign nuclear intentions and capabilities based on limited information, thus removing them as players in the national security decision-making? Richelson does not conjecture either way.

Second, nearly all of Richelson's case studies demonstrate the important role allies and international organizations have played in thwarting the nuclear ambitions of rogue states and in operating a sophisticated global web of monitoring equipment to enforce treaties and confirm testing activities. The IAEA and other international bodies have certainly failed in their duties several times in the past (which the author does not hesitate to point out) but he also maintains that such bodies play an important role in the non-proliferation regime and are often quite effective in complicating illicit uranium enrichment and nuclear weapon design programs. Unfortunately, Richelson does not explore how the international community and the non-proliferation regime can best be leveraged in the global struggle against extremists that clearly covet a bomb of any kind or effectively stifle the nuclear ambitions of Iran and North Korea.

Third, Richelson demonstrates that bureaucratic infighting, overlapping missions, and organizational rivalry have burdened US nuclear intelligence activities since their inception, and he expresses little hope that the shortcomings of the past will be ameliorated anytime soon. He places specific emphasis on the mutual animosity between the competing foreign intelligence cells at the national nuclear labs - Lawrence Livermore's Z Division and Los Alamos' Intelligence and Research team. Rather than maintaining separate areas of focus or serving as Red Team/Blue Team cells for independent analysis and thoughtful, professional disagreement, the two units are portrayed more like bitter corporate rivals battling in a zero-sum game for marketshare. Again, possible reform initiatives or organizational realignment to combat these consistent failings are left up to the reader to imagine.

Finally, Richelson's case studies make it abundantly clear that there is no substitute for good human intelligence, a discipline that has never been the *métier* of the US intelligence community. The few examples of bona fide intelligence coups in the nuclear weapon arena came from well placed and well groomed inside sources, such as Colonel Chang Hsien-yi, who was deputy director of Taiwan's nuclear energy research institute and a critical supplier of intelligence before defecting to the US in the late 1980s. Presumably recent efforts to boost the HUMINT capabilities at CIA and DIA will address this critical shortcoming; unfortunately, Richelson does not provide any thoughts on how this might best be achieved or how long it will take for the investment to make substantial returns.

In closing, Jeffery Richelson's latest piece is an outstanding factual overview on the US intelligence community's fifty-year history in tracking the nuclear activities and intentions of over a dozen nation states. However, any insights into what it all means and how that long experience may be exploited to improve our ability in meeting similar intelligence challenges of the 21st century is left to the reader alone to ponder.

#### **Awene**

Impossible to ignore the fact that all nations which wanted the bomb also succeeded in getting it. This will continue in future when all rogue nations will have the ability to arm themselves and harm and threaten others. Unavoidable to have this end in a nuclear conflict. The book is absolutely fantastic, very thorough and informative. Highly recommend to all who still doubt.

#### **Kit**

Jeffrey Richelson's "Spying On The Bomb" is an exhaustive unclassified account of the American Intelligence Community's effort to track the development of nuclear weapons by other countries. This effort began with fears that Nazi Germany might acquire the atomic bomb ahead of the Allies, transferred its attention to the Soviet Union after World War II, and afterward concerned itself with nations such as China, France, India, South Africa, and Libya. Most recently, and perhaps most notoriously, the U.S. Intelligence Community has attempted to track the nuclear ambitions of Iraq, Iran, and North Korea.

Richelson has accomplished an impressive amount of research, based on public information, declassified sources, and a variety of personal interviews. The book represents perhaps the most coherent account possible at present without access to classified data.

Out of this research comes a number of salient points. First, the U.S. record in tracking nuclear weapons development by other countries is a mixed bag of partial successes and some outright failures. Second, nuclear weapons development is an extremely hard target. No other target sets in these countries were and are so closely guarded by layered security, deception, lies, and espionage. Third, the U.S. effort has often been hamstrung as much by rivalries between intelligence agencies and indeed between individual analysts as by inadequacies in collection.

Richelson doesn't formally summarize the U.S. intelligence effort at the end of his book. It may be that any fifty year campaign against multiple countries under vastly different circumstances lacks common threads beyond the nature of the target. With respect to the programs of some countries, no definitive determination of their status and hence no grade for the U.S. effort is yet possible

What Richelson does achieve is a straightforward account for the student of the intelligence community. For example, his narrative of the multiple failures to get right the Iraq nuclear threat is as accessible and as even-handed as any in print. The material on the lesser known nuclear

programs, and on incidents such as the 1979 "flash of light" near South Africa, is fascinating.

This book is highly recommended as an excellent resource for students of the intelligence community and of nuclear weapons development as policy.

### **Ielonere**

I confess that I think the spread of nuclear weapons is inevitable. To make a nuclear bomb all you need is 1940s technology. In time more and more nations will get them. At best, the US can try to slow down the growth. To do that they need accurate intelligence. What is critical is before they get the bomb as later it is much harder to stop it. Reading this book I did not feel confident the US intelligence was that successful in finding out this information. Partly it is asking too much of an intelligence agency for example it is clear from the book that few in the countries that are trying to make bombs know or even suspect it. The cost is not that high. It appears the local intelligence in these countries is adequate in security. It does not take that much time to make one if a country wants too. It is also clear for all the technological marvels available to the US they do not have enough. Although it does appear the US often knows a bomb has gone off after it has gone off.

What I did not like is the book lacks an overall assessment at the end of each section. So I felt like we are going from story to story with no real theme.

However it is a good study and if your interested in this subject it is a must read.

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