

considerable sympathy with, and understanding of, the Afghans. One hopes that Dr. Amstutz will soon be in a position to produce a second volume, entitled, it is to be hoped, *Afghanistan: The Last Five Years of Soviet Occupation*, to update this book.

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Paine, Lauran. *Silicon Spies*. New York: St. Martin's Press, 1986.

Despite the presentation of some useful information, this is a book which will perplex many scholars of the subject and will confuse and mislead the general reader. The subject of Soviet acquisition of "Western" technology is a vital one, but this effort to address it is a bewildering array of unsifted data, undigested material, some facts, largely undocumented, tortuous logic and eccentric argument.

Readers who are concerned about references and the documentation of this wilderness of weird generalizations will be frustrated. There are no footnotes, the mediocre bibliography lists, in no particular order, twenty books, without publication dates in most cases, and lacks the most important and current works¹ on the topic under study as well as on peripheral subjects discussed such as robotics, SDI and West German security problems. Like the bibliography, which appears to be an afterthought, the index is virtually useless and omits significant items such as West Germany's School for Economic and Industrial Security (SEIS), one of the cases where the author presents interesting, fresh material. Except where the author cites the source directly in the text much of the material is difficult to check or document.

Readers familiar with the vast literature of intelligence studies will recognize author Lauran Paine as a non-fiction writer who since the 1960s, mainly in British titles, has written prolifically on a range of topics from the CIA and British intelligence services to the Abwehr in World War II and terrorism. Many of his works share the same general features of this book: brevity, some factual inaccuracy, awkward writing and unfathomable generalizations. The basic thesis is indisputable: since World War II the Soviets and their allies have acquired, by various means, important elements of Western technology, including nuclear technology, which enabled them to achieve parity in some areas, superiority in others, and that this leakage of technology continues today and has causes which go beyond Soviet espionage. Paine presents a fairly comprehensive list of technologies, labelled the "Soviet shopping list":

1. Inertial guidance systems
2. Solid propulsion technology
3. Smart bombs and projectiles
4. Antiballistic missile systems

5. Improved long-range aircraft
6. Aircraft carriers
7. Anti-submarine technology
8. Improved nuclear submarines
9. Electronic circuitry and microelectronics
10. Computer technology and equipment

The author's main point throughout the book is that the Soviet Union has achieved military superiority in many categories of weaponry and military industrial strength and that the capacity of the Soviet Union to adopt and adapt Western inventions by various means is remarkable. Students of intelligence will find nothing new or revealing here in the Soviet espionage/Western security problems area and will discover numerous factual and interpretive errors. To take only a few of the more obvious slips: on page 48 the reader is informed that the N.K.V.D. was created in 1922; and on page 100 it is stated that the C.I.A. is the "largest" of Western intelligence agencies and is one-tenth the size of the 700,000 person-strong KGB.

Within his general thesis, the author cannot make up his mind as to where the weight of blame for the leakage of Western high-tech should be placed. At different places in the book, he places the largest responsibility for Soviet military strength at the feet of: Soviet espionage; high-tech thieves; porous Western security systems or inadequate industrial counter-intelligence forces in both the government and private sectors; West Germany as "the most thoroughly penetrated country in the West"; Soviet research and development programs and their alleged capacity for rapid utilization for military industry of Western civil and military innovations; defecting Western scientists to the Soviet Union (though he cites only two or three cases); the Soviet Union's "superior" manufacturing sector; and "both ignorance and duplicity."

Consistent argument and logical organization are lacking in every chapter. Although some accurate information, most of it technical in a very limited sense, is presented, it is lost in a maze of odd bits of data, *non-sequiturs* and astonishing generalizations asserted but not proved.

For example, the author shows how the Soviet system has acquired Western technology and how, allegedly, it has achieved military superiority by the early 1980s without going to war. Then we are told suddenly on page 144 that the Soviet Union is dominated by Soviet military men with outmoded philosophies who are "willing to start a war." Many other topics are discussed with equal eccentricity. After a desultory discussion of the 1978 and 1983 Soviet destruction of Korean Air Liners, the author suggests that the main theories of causation are wrong, that the true cause was Soviet experimentation with a secret counter-navigational (beam) system which lured those planes to tragedy. As usual, no documentation or evidence is provided.

The writing is full of odd grammatical constructions and unidiomatic phrases, a tendency which might suggest to some language analysts that the original language of the author was not English and that the book's editors, in this case Robert Hale in London, were out to lunch when this manuscript came through. Some samples include: the U.S.S.R. is described as "history's most over-armed nation"⁴; and Soviet research and development has enabled Soviet scientists "to carry acquired knowledge to great lengths."⁵ There are some passages which resemble stilted, academic double-talk which could be easily parodied, without changing one word, by the Monty Python team: "The Computer Age is upon us. So much for that fact."⁶ Finally, the *pièce de resistance* of meaningless prose: [Given the crushing costs of military weaponry today] ". . . managing to survive will bankrupt the survivors. That is bad enough - a world without an economy - but the real tragedy is that none of this is really necessary."⁷

The last quarter of the book leaves the main theme and discusses elements of the question of the Strategic Defense Initiative or "Star Wars." Oddly enough, though similar problems of writing and evidence occur there as well, the argument is more sophisticated and, in its own eccentric manner, relatively evenhanded. The angry old "Cold Warrior" of the first fourteen chapters gives way to the less committed thinker who presents the fundamental arguments of several sides of the debate over deterrence and SDI. Paine states that SDI is the only hope of the West in overcoming the alleged Soviet military hardware superiority of today. He then proceeds to isolate the flaws in SDI, including the idea that about two-thirds of the technology required to make it feasible does not exist today and may not by the year 2000. A final inconsistency weakens the last few chapters. The author initially found SDI a real hope to allow the Cold War adversaries to "worry less," but he finds also many weaknesses in the laser technology aspects and re-discovers the deterrence value of MAD (Mutual Assured Destruction). In the end, the reader is uncertain as to where Paine stands on SDI. There is, then, no conclusion to this strange book, but there is a question which readers will find of interest and which may provide the topic for the author's next leap into the unknown: "who owns space?"

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Endnotes

1. One of the best books on high technology theft in general is Linda Melvern, David Hebdirch, and Nick Anning, *Technology Bandits* (Boston: Houghton-Mifflin, 1984), 313 pp.
2. Lauren Paine, *Silicon Spies* (New York: St. Martin's Press, 1986), p. 75.
3. *Ibid.*, p. 9.
4. *Ibid.*, p. 12.

5. *Ibid.*, p. 86.
6. *Ibid.*, p. 157.
7. *Ibid.*, p. 160.
8. *Ibid.*, p. 214.