

**Book Review**  
**By**  
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**Yaakov Katz and Amir Bohbot, *The Weapon Wizards: How Israel Became a High-Tech Military Superpower* (New York: St. Martin's Press, 2017) 287.**

Yaakov Katz is editor-in-chief of *The Jerusalem Post* and a lecturer at Extension School of Harvard University. Amir Bohbot is a military editor and senior defense analyst of *Walla*, Israel's news website. He also has experience of working for *Maariv*. In their joint effort, both authors answer the important question as to how Israel revolutionized its society from "Israel exporting oranges and false teeth" to "Israel exporting electronics, software, and advanced medical devices".

The book's main focus is technological advancement in Israel's military industry. It has eight chapters and each chapter discusses a specific military aspect in the story of Israel's technological revolution. All the chapters are based on extensive interviews of relevant people belonging to different military backgrounds. In the introduction, the authors point out Israel's scarce natural resources, and that its only asset is human resource. In this situation, the country looked for some national trait which could be helpful to the newly born state to survive and prosper. A culture of innovation provided that answer and became the distinctive point of Israel's ideology. In the authors' opinion, "if Israel is not creative in its thinking, there is a chance it will not survive". Universal conscription allows highly qualified people from different fields to be exposed to the actual needs of the armed forces. Furthermore, Israel's unique military culture provides space for even junior officers to voice their views and participate in the discussion on important national security issues. According to the authors, mandatory enlistment in Israeli armed forces and breakdown in

social hierarchy has created the right environment for promotion of innovation and creativity.

Chapter one, *Beginning in a Bunker*, describes three fundamental ventures which were indispensable for the nation's survival in the early years of Israel's independence; first, a covert project for the establishment of Israel Military Industry (IMI), previously known as Ayalon; establishment of Israel Aerospace Industry (IAI), and Israel's negotiations for a nuclear reactor with France. Chapter two, *Creative Drones*, explains the story of the first drone development, the Scout. Israel was facing difficulty with its reconnaissance and surveillance missions during Suez Canal Crisis when an intelligence officer came up with the idea of flying toy aero-plane with surveillance cameras over enemy territory. The authors go on to discuss in same detail the creation of drone industry with improved capabilities such as day/night cameras, infra-red vision, laser targeting and special sensors to detect Weapons of Mass Destruction (WMD); and the deployment of first drone squadron. In chapter three, *Adaptive Armor*; the authors reveal the story of Major General Israel Talik, the father of the Merkava Tank which is classified as one of the top-secret projects to this date. This chapter also describes putting together of a technical team for designing Israel's future main battle tank named 'Rakia'. Chapter four, *Chutzpadik Satellites*, discusses the story of Chaim Eshed and Uzi Rubin who struggled for two decades to get Israel's satellite plan approved. The satellite program subsequently became Israel's ballistic missile program.

The chapter, *Rocket Science*, explains the idea and development of 'Iron Dome' and the role it played in Israel's defense. Iron Dome batteries, during eight days of 'Operation Pillar of Defense' (anti-Hamas operation) in 2012, shot down approximately 85% of rockets targeting Israeli territory. In 2014, during 'Protective Edge' (anti-Hamas operation), Iron Dome achieved 90% success rate. Chapter six titled *Intelligence Machines* highlights how Israel got

tactical advantage in intelligence and anti-terror operations against its adversaries. This chapter also gives details about working of Military Intelligence Directorate's research division which is responsible for providing Israel's political and military leadership with the best-educated guesses to strategic queries. The seventh chapter, *Cyber Viruses*, gives an account of cyber worm, Stuxnet, that caused a set-back to Iran's nuclear program and US-Israel collaboration in the project. National Security Agency (NSA) and Unit 8200 (Israel's equivalent to NSA) codenamed this top secret operation as Olympic Games and worked for years to develop the cyber virus. In response, Iran decided to fight back and established its own cyber unit to create potent offensive and defensive capabilities.

The authors fondly describe the story of Ben-Israel who in 1995 came up with the idea of a computer warfare unit for Israeli Defense Forces (IDF). While Israel does not showcase its cyber capabilities, the fact remains that with a population of just eight million people, Israel has captured about 10% of global cyber market. In last chapter of the book, Katz and Bohbot describe diplomatic ties with countries like China, India, Singapore by using back channel efforts. This chapter also reveals how Israel successfully influenced and stopped Russia's delivery of S-300 missiles to Iran. The authors note the need for effective diplomacy for success of military operations. They include interesting accounts of both successes and failures in this regard: the decision to attack the under-construction Syrian nuclear reactor at al-Kibar in September 2007 is an example of the former.

In conclusion, the authors note that excavation of tunnels between Israel and Gaza by Hamas as a classic case of disruptive innovation by the adversary. These tunnels had blunted the strategic edge of Israeli Defense Forces to an extent. The book reveals the construction of an underground IDF's future weapon test facility, the Bor, which is located underneath the Defense Ministry in Tel

Aviv. According to the authors, in order to prepare for future conflicts, the IDF has its focus on three areas; improving interoperability, increasing the use of standoff / robotic platforms, and guaranteeing that Israel holds international legitimacy for its actions.

This book is a good read to understand Israel's national approach to its security problems. The central thesis of '*The Weapon Wizards*' is that Israel has been able and continues to 'punch above its weight' in the field of military innovation because of a societally encouraged norm of challenging authority and lack of deference to established authority. The one area that readers curious about Israeli armaments might want to know is that its nuclear program is (understandably) not covered in the book.

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