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Fu-go: The Curious History of Japan's Balloon Bomb Attack on America

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Fu-go: The Curious History of Japan's Balloon Bomb Attack on America, by Ross Coen. Lincoln: Univ. of Nebraska Press, 2014. 296 pages. \$28.95.

The world recently commemorated the seventieth anniversary of the surrender of Japanese forces at the end of the Second World War. Even seven decades later, however, little-known stories of various military operations are being published that provide insight into ways the Pacific War was fought using remarkable technology and ingenuity. This is very much the case with Ross Coen's fascinating book, which provides a detailed discussion of the use of the first unmanned intercontinental weapon: the *fu-go* balloon. These attacks were, at the time, the longest-range attacks ever conducted in the history of warfare.

In his carefully researched and richly documented book, Coen weaves the story of an improbable project that succeeded in launching upward of nine thousand gas-filled balloons from the Japanese home island of Honshu to attack the North American coast in late 1944 and early 1945. At least six hundred of these balloons are known to have actually made it to the United States and Canada, carrying antipersonnel and incendiary bombs. The intentions were to kill individuals; set forest fires in the heavily timbered Pacific Northwest; and demonstrate that Japan could attack the American mainland, thus creating panic and anxiety.

Once this bizarre form of attack was recognized by U.S. military forces, strict censorship was exercised on press and other media outlets, which were forbidden to publish any information about the silent attacks against which there was little defense. This lack of

public awareness led directly to the only combat deaths to occur in the continental United States during the entire war. On 5 May 1945, a group of hikers came across a crashed *fu-go* balloon near Bly, Oregon, and in the process of trying to determine what the device was they caused it to explode, killing twenty-six-year-old Elsie Mitchell and five children.

The *fu-go* balloons were cleverly designed to make the transpacific crossing by using an automatic altitude-control device to drop sandbag ballast at intervals as the hydrogen-filled balloons rose and settled owing to the solar heating of the gas envelope. The balloons flew as high as thirty thousand feet to capture the prevailing easterly jet stream, carrying them across the Pacific in as little as three days. A *fu-go* measured approximately thirty-three feet in diameter, was constructed from laminated *washi* paper, and was supported by nineteen thousand cubic feet of hydrogen.

The censorship that resulted in the Oregon deaths also had a more positive effect by denying the Japanese any knowledge about whether the balloons were successfully crossing the ocean. Facing increasingly destructive raids on the home islands that made the manufacturing and launching of the balloons more difficult, and with no indication that the attacks were succeeding, the program was abandoned in April 1945. (The last balloon recovered in North America during the war was found near Indian Springs, Nevada, which is near current-day Creech Air Force Base, the home of the Predator/Reaper drone program.) Balloon remnants have been found as far east as Michigan, and as recently as October 2014, when a balloon was detonated by Canadian bomb-disposal personnel in British Columbia.

Today's headlines are filled with discussions questioning the ethics of launching unmanned weapons (drones) against targets when nearby innocent civilians might be killed or injured by an attack. It is interesting to reflect on the ethical ramifications of launching thousands of unmanned weapons (the *fu-go* balloons) against an entire continent, with no ability to predict within thousands of miles where the weapons would strike or who would be injured or killed. Such attacks today would certainly violate the law of armed conflict, but they must be judged within the context of warfare in the last century.

I strongly recommend this book to those with an interest in the technology of warfare, and to those who may have heard of the balloon bomb attacks and thought them to be almost-mythical events.

JOHN E. JACKSON



Reconstructing a Shattered Egyptian Army: War Minister Gen. Mohamed Fawzi's Memoirs, 1967–1971, ed. Youssef H. Aboul-Enein. Annapolis, Md.: Naval Institute Press, 2014. 320 pages. \$10.94.

Few states in modern times have seen their military beaten as badly as Egypt did in 1967—and have that military survive. Even fewer, perhaps no others, have then deliberately rebuilt that defeated force to a point at which a mere five years later it could again offer battle and, arguably, produce victory. How the Egyptians accomplished this has been something of an incomplete and little-known story up to now. This is mainly due to a lack of translated articles and writings penned by senior Egyptian

leaders. Youssef H. Aboul-Enein has, with this volume, begun to fill in some of the major gaps in the account.

Aboul-Enein's book is actually a collection of articles initially published in *Infantry* magazine. Each of the original accounts was written by General Mohamed Fawzi, the man handpicked by Nasser to build the defeated and demoralized Egyptian forces into a professional, combined-arms military that could retake and hold occupied Egyptian territory. Fawzi served as war minister for both Nasser and Sadat and was the master architect of the stunningly successful creation of professionalism in the Egyptian armed forces. His voice, despite whatever biases and personal axes to grind he may bring to the table, deserves to be heard, and Aboul-Enein's translation gives Fawzi that opportunity.

Fawzi's challenge was massive. The pre-Fawzi army was much more involved with state security than with power projection or war fighting. As the 1967 war had revealed, the Egyptian armed forces, even with Soviet equipment, were woefully inferior technologically to Israeli forces. The Egyptian army was riddled with low morale and displayed an apparently well-deserved inferiority complex. Its soldiery was, for the most part, uneducated and poorly trained. The Egyptian high command was overcentralized, overpoliticized, and, as events had proved, unable to exercise anything like the command and control required in modern combat. The end of the war both left Israel with strategic depth and turned the Suez Canal into a natural defensive barrier that was further fortified with a series of formidable defensive positions.

Fawzi admits to having certain unusual advantages in accomplishing his