Review

Freemon, Frank R.
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Prostheses for Amputated Limbs

Guy Hasegawa is a well-respected historian of Civil War medicine and a practicing pharmacist. He received his Pharm.D. from the University of California at San Francisco as well as advanced training at the University of Illinois at Urbana (the alma mater of this reviewer). His well-written book is the only full-length treatment of artificial limbs in the Civil War.

The new armaments of the era took off arms and legs at an unprecedented rate. "The minie ball striking a bone does not permit much debate about amputation," said one experienced Union surgeon (Freemon, *Gangrene and Glory*, 48). Earlier generations of amputees hobbled about on peg legs or made do with a hook for a missing hand. But in the decades before 1860, artisans produced new artificial legs and arms. Entrepreneurs, some of whom had themselves lost a leg, manufactured prostheses that resembled the missing limb. Trial and error produced wood that did not warp, lining that did not produce an odor when wet, and legs with springs where joints had been.

War sometimes accelerates technological developments. As the carnage of the American Civil War became apparent, Union medical authorities contracted with private firms to supply prostheses. Surgeon general William Hammond summoned a board of Army and civilian surgeons to select the best available artificial limbs. Despite some failings, the United States provided *gratis* the best available prostheses to its maimed soldiers. The Confederate medical authorities made no such effort. A private organization in the South, supported by grants from cities and states and personal donations from individuals, took up the slack. This organization was called ARMS, an acronym standing for Association for
the Relief of Maimed Soldiers. Fewer artisans in the South provided fewer limbs. During the War, the Union provided 3,798 prosthetic legs and 2,204 prosthetic arms or hands. The Confederate private organization provided 430 legs between January 1864, when they began in earnest, and March 1865, when Union forces overran the workshops.

History books end the Civil War in 1865, but for maimed soldiers, the misery of the war was just beginning. The United States government supplied artificial limbs to its veterans, including replacements every five years. A limbless veteran could select payment rather than a replacement; most chose cash. The United States government provided nothing for Confederate veterans. After a few years, all former Confederate states provided prostheses for veterans from their states.

In the next hundred plus years, little changed. Look at the limbs hanging from the ceiling of the prosthetic clinic in The Fugitive, a film released in 1993. These artificial limbs had not visibly changed from those used by Civil War veterans. Body armor used in the Iraq/Afghan Wars saved lives but did not protect limbs. Research produced an entire new generation of prosthetic legs, allowing double amputees to run a faster 100 meter dash than most people with two normal legs.

This is a short book, only 80 pages of text. Two appendices, 22 illustrations, and a detailed index swell the length to 126 pages. In these few words, Hasegawa tells a compelling story. The reader of his work alternates between sadness at the suffering of so many Americans and amazement at their courage.

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