

Book Reviews

Katherine C. Epstein. *Torpedo! Inventing the Military-Industrial Complex in the United States and Great Britain*. Cambridge, Mass.: Harvard University Press, 2014. ISBN: 978-06-74-72526-3. Pp. xi, 305. Hardcover. £37.95/ \$47.50/ €43.00.

Upon first glance, *Torpedo!* is ostensibly a history of the early technological development and manufacture of the torpedo in Great Britain and the United States. Going further than a simple dry recounting of technological invention however, Epstein skilfully blends aspects of weapons production, armaments negotiations, and technical progress into a greater theoretical framework based upon William McNeill's earlier 'command technology' concept. The ultimate stated goal of Epstein's work is to trace the origins of the military-industrial complex and to 'map a busy but unexplored intersection of military history, diplomatic history, the history of science and technology, business history, legal history and policy history'. (p. 2) Whilst Epstein succeeds quite admirably in the latter goal, it is somewhat debatable as to whether or not *Torpedo!* has achieved the former.

The book is divided into an introduction, six chapters, and a conclusion. The introduction and conclusion are generally used to outline the majority of Epstein's thoughts and conclusions upon the more theoretical nature of the interplay between armaments, technology and legal affairs. The individual chapters meanwhile are each paired up; with three focused upon torpedo development within the United Kingdom and three the United States, in a roughly parallel chronological order. This comparative approach helps to illustrate the different routes taken by the British and American navies in evolving both the weapon itself, and the policies which surrounded it. Epstein's writing is generally free-flowing, and

bar one or two occasions, manages to avoid getting bogged down in too much rivet-counting, a notable achievement in a book with such depth and detail. The level of archival research undertaken in the composition of Epstein's work is also generally impressive, with primary source material gathered from a range of different locations across both Britain and America.

For a work so heavily focused on the production of armaments however, there seems to be remarkably little discussion of the more generalised nature of the armaments industry of the era itself. Bar some small detail in the introduction, and a single footnote reference to the eminent Clive Trebilcock, there seems to have been little consideration of the wider market of warships and weapons technology. As Epstein's account of torpedoes is intended to chart the origins of the more generalised 'military-industrial complex', this appears to be something of a curious oversight. Whilst collusion between governments and armaments firms in the development of some specific technologies did take place during this period, the more general nature of the armaments market of the time was inherently competitive, with few loyalties or obligations assumed on the part of either respective governments or businesses. With the term 'military-industrial concept' remaining ill defined at best, it is difficult to see how one can necessarily assume this single example of weapons development to be indicative of a broader trend in military-industrial relations. It would not appear to be unreasonable to suggest

that there is scope for additional research to be done upon the subject before any sort of generalisations should be made.

One intriguing new concept introduced in *Torpedo!* is that of 'servant technology', defined by Epstein as 'technology dedicated to generating information that could be used to improve command technology'. (p. 75) Such a category could be expanded upon and used to analyse other navy-related technologies such as the chronoscope or Froude's model ship tank. Unfortunately, possibly due to space considerations, *Torpedo!* neglects to develop the idea of 'servant technology' in any larger context; instead settling for a brief exploration of the subject insofar as it remains directly relevant to the subject of torpedoes. Epstein also wades briefly into the ongoing historiographical debate over Nicholas Lambert's revisionist concept of 'flotilla defence', a subject which continues to be a source of historical controversy. However, Epstein's somewhat one-sided subscription to Lambert's interpretation of general British naval policy in this field feels somewhat premature given the number of queries that have been recently raised on the subject by David Morgan-Owen and Christopher Bell.

Overall, it can be said that *Torpedo!* is a thoughtfully written, well researched publication which successfully examines both the development of a nascent military technology, and the resulting legal issues and business negotiations which that development caused. Far too few military histories take serious account of the commercial and legal dealings involved in the actual manufacture of a new weapon, preferring instead to focus purely upon technical or policy concerns. Epstein's work is an excellent step towards helping to fill in this traditional historical blind spot.

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