

Engineers of Victory – The problem solvers who turned the tide in the Second World War

by Paul Kennedy

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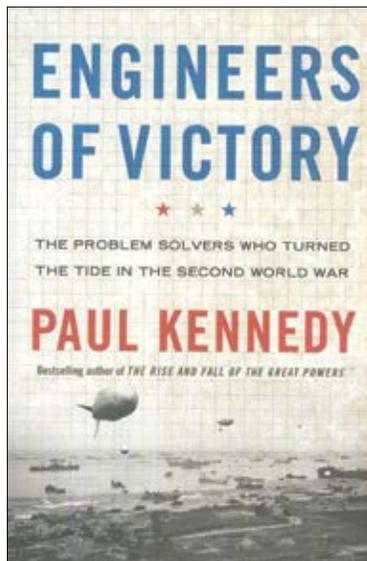
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Reviewed by Mark Tunnicliffe

The Second World War was a massive enterprise from any perspective: geography, combatants, casualties, scope, and resources. Any historian attempting to examine it faces a daunting task, and most have taken one of two approaches: a ‘top down’ view taken from the grand strategic, broad narrative or economic perspective; or a ‘bottom up’ view, as reflected in the experience of a particular individual or unit, a key campaign or battle, or the influence of a selected technology. Yale professor of history Paul Kennedy, author of the acclaimed *Rise and Fall of the Great Powers*, has taken a third approach – he begins at the middle. In *Engineers of Victory*, Kennedy asks how allied institutions comprised of individuals, organizations, doctrine, and technology were combined to produce successful responses to counter the Axis successes of the early years of the war. His ‘engineer’ context uses a broad definition framed as “...a person who carries through an enterprise through skilful or artful contrivance,” rather than the narrower technological and academic definition usually associated with the term. Appropriately illustrated with maps (to underline concepts) and plates (depicting individuals and technologies), Kennedy refines this definition in the context of the war to the integration of concepts, ideas, people, and technology in order to solve fundamental military problems.

Consistent with this approach, Kennedy confines his study to the middle years of the war, using a case study methodology to examine five key problems confronting the Allies at that time – winning the U-boat war in the Atlantic, winning command of the air over Europe, stopping the Blitzkrieg, conducting amphibious operations, and executing long-range operations in the Pacific – all posed as engineering ‘how to’ challenges. Kennedy’s work analyzes the turnaround decisions and processes that integrated a few motivated people and teams, a fundamental concept or doctrine, and a key technology or technologies that made the decisions work. In other words, this is an intriguing ‘systems level’ approach to fundamental problem solving with respect to one of the 20th Century’s greatest challenges: winning the Second World War. As Kennedy points out in his introduction, the relative weight of resources available to the Allies indicated that they should emerge as victors, but their identification of key problems and an engineered



solution to them probably produced victory earlier and at less cost than might otherwise have been the case.

Kennedy relies upon secondary sources, including official histories, case history reviews, campaign histories, personal accounts, and technology studies. He also dips into Internet sources (particularly Wikipedia) and technology-centric publications, such as the platform pamphlets from Osprey Press. For this, his eclectic selection of sources, he makes no apology, as it permits him the span of depth in discussion that ranges from the particular (and personal), to the campaign level that frames his thesis.

The approach taken for each of these case studies is to examine earlier examples of a similar campaign to highlight where it succeeded or failed in order to introduce the particular Second World War problem. Some of these brief counter examples are drawn from early periods in history (Roman era Mediterranean anti-piracy operations as a preface to Atlantic convoys, for example), but more detailed examples are taken from engagements fought earlier in the war. Thus, the failed German attempt to gain command of the air in the Battle of Britain serves as a foil to the Allied air campaign three years later, and, naturally, Dieppe serves as a useful example of how *not* to prepare for an amphibious landing on an opposed shore.

At times, Kennedy appears to segue from his own question. In discussing the issue of “How to stop a *Blitzkrieg*” for example, he appears to answer the problem in the first few pages (i.e., you need sufficient geographic and strategic depth). His further analysis of the land campaign is then devoted to answering a different issue: “How to recover the geography lost to *Blitzkrieg*.” Further, his occasional mishandling of details can be frustrating at times. His identification of the Junkers Ju-52 (a transport aircraft) and Messerschmitt Bf 110 as medium bombers playing key roles in the Battle of Britain, for example, leaves the reader puzzled as to the depth of his research. That misidentification of the Bf-110 is particularly unfortunate, as it represents a missed opportunity to highlight the implications of the successful development of the P-51 *Mustang* as a long range escort fighter for the prosecution of the air war over Germany. While there were fighter-bomber variants of the Bf-110, that aircraft was originally developed as a long-range fighter, and, as such, when it was used over England as a bomber escort, it proved a failure due to the limitations of its design in the context of aerial combat in that theatre. A comparison of the two aircraft development projects could then have further underlined his theme of successfully matching people, concepts, and technology as key to tipping the balance in war.

Kennedy’s style is readable, and indeed flexible, varying as it does from the analytical, through the informal, to sometimes almost maudlin (when he describes the final days of some of the key players). This variation in style is probably an appropriate accompaniment to the variation in the scope of the issues the

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author combines in his study. While one might quibble over his use of terminology, and some points of view (his criticisms of the T-34 tank as a technology appear focussed more upon *how it was used*, rather than the basic design), Kennedy's characterization of the overarching problem posed by the Second World War as one of the management of distance, and 'engineering' as a solution to that problem, is worth thinking about. So also is his suggestion that this kind of engineering might have value in other areas of human endeavour.

And is that not enough to ask of any book – to make the reader think?

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