

Tools of Empire: Technology and European Imperialism in the Nineteenth Century. By Daniel R. Headrick. (New York and Oxford: Oxford University Press, 1981. Pp. v + 221. Preface, contents, bibliographical essay, index.)

Tools of Empire is a wonderful book that offers a new approach to the study of imperialism in the nineteenth century. Daniel R. Headrick, a professor of Social Science and History at Roosevelt University, utilizes clear and concise prose to mark not only the rise of colonization in Africa and Asia, but also how the advancements in technologies during that time aided the imperialist drive.

According to Headrick, Tools of Empire does not attempt to undermine any of the current understandings and interpretations of nineteenth-century imperialism, but instead he offers to “open new vistas” and “promote new thinking” on this particular discourse.

Headrick’s “new thinking” position declares that during the latter part of the building of European empires, both the motives and the means of colonization changed. These new ideologies and new technologies worked together to facilitate more efficient and less expensive means of obtaining and sustaining colonies.

The process is neatly outlined in three sections. Each section reviews an important step regarding the manner, and the technological chronology in which colonies were obtained, established, and made profitable. Headrick begins with the “Tools of Penetration.” The steamboat and quinine allowed European settlers not only to travel up river against the current, but also survive Malaria and other tropical diseases once they arrived.

Once settlements were established and the settlers provided with adequate prophylaxes to maintain health in the tropics, Headrick turns to the tools of conquest: namely guns. The history of the firearm in regards to imperial power is not a simple one,

but Headrick offers a quick microcosmic view of the evolution of this technology. He begins with a brief history of the weapons and wars in the early nineteenth century. He moves on to discuss the smoothbore muzzle-loaders and their relative inefficiency.

The single-shot breechloader is viewed as one of the greatest inventions in warfare, however it enjoys a relatively short life in the spotlight before the invention of repeating firearms. Following industrialization, the speed of gun manufacturing greatly increased as well as the standardization of parts.

Other gun manufacturers would export guns into Africa, but, as Headrick briefly mentions, the colonial governments, especially the British, maintained control of the most technologically advanced ones. Headrick discusses how this “disparity of firepower” led to a change in strategy and tactics from the resisting African forces.

Implicitly Headrick reveals that these firearms and similar technologies became the equivalent of the steamboats: they had become a tool of penetration on land. He discusses explorer’s contact with natives as they traveled further inland. The author makes it very clear that peaceful encounters and friendly terms were a rare exception.

One account describes Henry Morton Stanley returning to a previous African village, with which he had a previous altercation, and “summarily decimating it” with supreme numbers and firepower. The remarks of Sir John Kirk on the incident frame the author’s feelings of this entire section of the book: “unparalleled...for the reckless use of the power that modern weapons placed in his [Stanley’s] hands over the natives.” (116)

The book ends with arguably the most enduring legacy of technology within colonial possessions: communications. The beginning of the final part of the book deals mainly with India. Headrick examines the evolving trade routes to the jewel in Britain’s

crown. As technological advances increased exponentially, the route was shortened at first by steam and the Red Sea route, then eventually by the large scale construction of a canal.

The nature of raw materials also changed during this period with the importance and advantages of iron ore becoming prevalent. Iron, according to Headrick, for early boats, eventually railways and engines, and other building processes completely changed overall economics of colonial enterprise.

This section also sees a dichotomy in the scale of technology. Headrick shows that not only were enormous advances like the Suez Canal, Iron ships, or railways important. Smaller items also had profound impacts and repercussions on colonial advancement and success, things like the compass and the humble ship propeller.

The canal sped up commerce and communication between Britain and India, but it still had limitations. This last hurdle of expedient communication still dogged the empire. The submarine cable and the telegraph seemed to remove all distance from the mother country to her possession.

Increased knowledge of not only wires, but of simple insulation materials and techniques allowed ideas, decisions, orders, and even some personal correspondence to be relayed immediately. While other technological advances changed the relationship of the men on the ground with the natives, the underwater cable system changed the relationship with the men on the ground and the men in London.

The book ends rather anticlimactically with discussions on thalassocracies, or “empires at sea,” acceptance of the railroad system by the Indian and African people, and the standard imperial jingoist and racist discussions. Headrick does an excellent job of

comparing and contrasting lasting affects of imperial technologies of India and Africa, but spends less time on Asia. He does say, however, that his time dedicated to each was comparable to the time spent by the imperial powers in each, so in that light the inequality of discussion is justifiable.

While the final chapters deal mainly with native acceptance of colonial technology and the improvements of existing technologies, the book overall gives a great broad portrait of how both the reasons for establishing colonies and the means by which to do so greatly changed in the latter half of the nineteenth century. If for no other reason did technology help in forging empire during this time, Headrick shows that these marvels made it easier for the men on the ground to do more with less and they also made it decidedly cheaper for the governmental overseers to carry out their plans.

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