

Sander Govaerts, *Armies and Ecosystems in Premodern Europe: The Meuse Region, 1250-1850* (Leeds: ARC Humanities Press, 2021, 320 pp. ISBN 9781641893985, <http://doi.org/10.17302/WCP-9781641893992>).

In this work, Sander Govaerts offers a compelling and much-needed analysis of the relations between armed forces and environments. While there have been books by modern historians on the environmental history of the military, this is the first monograph to take the subject back to the medieval and early modern periods.

Govaerts operates with expansive definitions of both keywords in his title: armies and ecosystems. The armies he investigates are not just personnel units in frontline battles – they are also castle guards, town garrisons, medical personnel, and cooks traveling with wagon trains. Within the author's definition of ecosystem, readers learn about an incredibly wide array of topics: shrubs grown on city walls, soldiers picking berries, corpses thrown in ditches, hay provisioning for horses, and dysentery spreading in encampments, to name a few. This large remit allows the author to put together a sweeping view of how violent conflict (or the threat of it) altered environments in both the long and short term.

The book examines the many-faceted relations between environments and military personnel and operations over 600 years in the well-trafficked zone around the long Meuse River, from the river's North Sea outlet near Dordrecht to the headwaters at Neufchâteau, which was simultaneously a conduit and a barrier for armed forces in this politically fragmented European area. Whether they were quickly moving through the region or staying long term, armies created ecosystems of humans, plants, animals, microbes, soil and water. Govaerts argues that little changed in the army-ecosystem relationship from 1250 to 1850, so a chronological exploration would make no sense; therefore, the book is organised into three parts of the ecosystem: landscapes, biotic communities, and pathogens.

The landscapes section deals with frontiers (chapter 1) and fortifications (chapter 2). Govaerts argues that the region was a 'militarized landscape' (the term coming from Peter Coates and colleagues) 'prepared in a direct or indirect way for coping with the possibility of organized violence by armies, but they do not have to be actually engaged in armed conflict' (22). Military operations aimed to control roads and rivers, woodlands and fields. Fortifications, whether they were town walls, castle ramparts, or fortified manor houses required defence and upkeep. All of these activities

had ecosystem effects. The example of training landscapes discussed in Chapter 1 is instructive in this regard: while some training activities, such as a medieval tournament, were short-lived, large campsites and fields regularly used for training manoeuvres altered the landscape on a more permanent basis through drainage ditches, hill construction, and the removal of trees.

The biotic communities part of the book includes disturbances (chapter 3) and policing (chapter 4). Moving away from examining large-scale destruction during a military operation, Govaerts focuses on more mundane ecosystem disturbances of an everyday militarised landscape in the first of these chapters. Practical needs such as firewood and horse fodder were critical for any armed force, so they disturbed local agroforestry systems to attain it, but soldiers also participated in activities that were not directly related to their military duties, such as hunting wolves. Govaerts argues that these kinds of disturbances tended to be short-lived and environments could quickly bounce back. However, he also notes that warfare could reinforce or accelerate economic transformation that had long-lasting consequences. For example, the end of the herring fisheries in the Meuse estuary had ecological reasons (fish migratory behaviour) and technological reasons (the introduction of new fishing tackle), but conflicts along the Meuse also made fishermen vulnerable to privateers which discouraged the business. In the second chapter in this part, the focus is on how armed forces worked to protect woodlands, limit the migration of people, and ensure the availability of horses. Guard duty involved protecting animals and plants considered vital resources.

The work's final part, chapter 5, deals with pathogens. Here, Govaerts explores premodern responses to disease outbreaks among military personnel as well as preventative measures to reduce fatalities, including banal techniques such as providing shoes to sentries and more extensive measures such as constructing cesspits and draining swamps. There are many fascinating nuggets of premodern medical understanding in this chapter, from the catapulting of corpses into a besieged fortress to guidance to soldiers advising them to not forage for food in an unfamiliar area to avoid being poisoned.

In choosing the Meuse River region over an expansive period of time, Govaerts has a wealth of primary sources to draw from, including court records, soldier diaries, maps, broadsides, chronicles, and military manuals. He has done significant archival work to incorporate unpublished materials in the analysis. This broad scope means that a given paragraph may use examples that are hundreds of years and hundreds of kilometres apart. This could be considered a strength, in that the examples span over a long time period and show continuity, but it is also a weakness, as the reader is never sure how common the particular incident or viewpoint was over the 600 years covered in the book.

Govaerts states that his main argument is that armies' 'conscious and concerted protection and conservation of ecosystems predates the rise of modern environmentalism' (17). It is laudable that he wants to place this book into the historiography of contemporary environmental history, but I am not sure whether this is the right framing. While Govaerts demonstrates that these premodern armed forces certainly modified ecosystems (both intentionally and unintentionally), they were not environmentalists. There was no altruistic concern for the environment or species. Instead, the examples in the book demonstrate that armies wanted to create or preserve ecosystems that most benefited them. Maintaining castle walls and gardens, cleaning up latrines and encampments, and guarding woodlands and deer all had direct value for the soldiers, guards, and communities of the Meuse's premodern militarised landscape. While Govaerts is not wrong in his contention that these activities preceded modern environmentalism, a more fundamental argument in the book is best summarised in the conclusion: 'Armies were an essential, but not exclusive, factor in the ecological richness of militarized landscapes along the Meuse' (227).

Through this argument about the ecological richness of the region's militarised premodern landscapes, Govaerts is contributing to a booming scholarly discussion of war and environment. It is unfortunate that he has not engaged with some of the key literature on militarised landscapes beyond the conflict itself such as Marianna Dudley's *An Environmental History of the UK Defence Estate: 1945 to the Present* (2014); the volume *Militarized Landscapes: From Gettysburg to Salisbury Plain* (2010) edited by Chris Pearson, Peter Coates, and Tim Cole; and David Biggs' *Footprints of War: Militarized Landscapes in Vietnam* (2018). These would have been useful as modern mirrors to the history Govaerts tells. Like these works, he demonstrates that armies intentionally and unintentionally modified environments around themselves, creating hybrid ecosystems in the process.

Overall, the book is much more interesting and compelling than the factual book title conveys. The division of the book into thematic chapters really works and would make it easy to select just one chapter as a course reading. The book will be valuable for environmental historians who want to push back their thinking about armies and environmental change into the premodern era, as well as for military historians who want to understand the ecosystems created by armies.

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