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Reviews

Climate change and the course of global history: a rough journey

By John L. Brooke. Cambridge: Cambridge University Press, 2014. Pp. xxi+631. Hardback £65.00, ISBN 978-0-521-87164-8; paperback £22.99, ISBN: 978-0-521-69218-2.

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Thinkers from Herodotus to Montesquieu (and beyond) have put climate at the centre of their accounts of social evolution. But our understanding of the details of climate change was always so rudimentary that it was hard, perhaps even impossible, to build rigorous historical arguments about how climate change might have shaped human history without falling for simplistic forms of determinism. Arnold Toynbee tried. So too did the geographer Ellsworth Huntington in the 1920s. Other attempts, including those of Le Roy Ladurie and H. H. Lamb, were more cautious about the evidence and hedged their bets, leaving the impact of climate on history in a sort of hypothetical limbo. Most historians, as Brooke reminds us, preferred to avoid the idea that 'natural forces in some way circumscribe human agency', for fear of 'being labelled "environmental determinists"'. They opted, instead, 'for a model of change in which all of the significant causal agents in historical processes are internal – or endogenous – to human culture, society, and economy' (pp. 1–2).

Recently, however, and driven largely by debates about anthropogenic climate change, research on climate history has attained new levels of precision and sophistication. Brooke's immensely important book tries, first of all, to introduce historians to 'the findings of this new global climate science' (p. 2). It does that superbly, with wonderful graphs in the introductory sections of each of its four main sections, and clear explanations of technical issues such as the Milankovitch cycles (pp. 67 ff.) or the El Niño/Southern Oscillation system (pp. 169–71). Secondly, it offers powerful, clearly formulated, sometimes provocative, hypotheses about the significance of climate research for historians. In a recent review of the emerging literature on history and climate, John McNeill wrote, 'Perhaps a historiographical wheel is turning.'[1] Brooke's blockbuster of a book will spin the wheel faster.

Brooke is a distinguished historian of the USA, based at Ohio State University. Since the early 1990s he has taught courses on global environmental history and this book is a product of his own 'global turn'. On the first page he tells us that the book is 'a venture into history on a grand scale, a contribution to what is coming to be known variously as "big history", "deep history", and "evolutionary history"'. For this project, going big was essential because climate change has to be understood at multiple scales, including scales much larger than those of human history. Given his theme, it was also inevitable that Brooke would break with the long-established convention that historians should look primarily to human explanations for human history. His central thesis is that the biosphere has played a powerful and persistent role in human history, not just by providing the framework for human history but also by providing powerful and often unpredictable exogenous shocks to human communities at many different chronological and spatial scales.

Brooke organizes his material chronologically and thematically in four main parts. The first part discusses evolutionary change at geological scales of millions of years and the impact of climate change

1 J. R. McNeill, 'Changing climates of history', *Public Books*, 1 December 2014, http://www.publicbooks.org//nonfiction/changing-climates-of-history (consulted 26 March 2015).

on hominin evolution. The second describes the complex relationship between climate change and the rise of agrarian societies and states, up to *c*. 3,000 BCE. The third part takes the story up to the time of the Black Death, and the fourth discusses the relationship between climate change and the evolution of the modern world.

The most important hypothesis the book defends is that climate change has indeed played a crucial role in shaping human history. It may be seen in the impact on hominin evolution of the unusual variability of climates in the last few million years. It may also be seen in the emergence and flourishing of agrarian societies and eventually of state societies based on the remarkable stability of climates since the end of the last Ice Age. Woven into the larger argument is the intriguing hypothesis that many periods of significant technological change may have been provoked by the stress of dealing with climatic deterioration: from the appearance of agriculture itself during the cold snap of the 'Younger Dryas', through the secondary products revolution after the cold spell of the seventh millennium BCE and the collapse of early states at the end of the third millennium BCE, to the Industrial Revolution in the centuries after the 'little ice age' (pp. 287 ff.). Whether this argument succeeds or not is less important than the fact that we can now try to test such hypotheses with some rigour.

At lower scales, Brooke argues that smaller climatic fluctuations such as the medieval warm period or the subsequent little ice age provide the only plausible way of explaining many 'strange parallels' between the histories of quite disconnected regions. World historians in particular should welcome arguments that stress the interconnectedness of historical processes even before the sixteenth century. But climate is not the only 'exogenous' factor that Brooke explores. He also treats diseases as 'exogenous' to human history, in contrast to historians such as W. H. McNeill, who argued that the impact of epidemic diseases was shaped profoundly by patterns of settlement and trade.

Personally, I am not convinced that disease can be treated mainly as an 'exogenous' factor in human history. Nor am I completely convinced by another fascinating argument that most social collapses should not be regarded as Malthusian but rather as the results of exogenous factors including climate change and disease. It is certainly true that we have missed the importance of climate change as a causal factor in many periods of social decline as well as in periods of efflorescence. But this does not mean that Malthusian forces were not also at work throughout the agrarian era, particularly at local and regional scales, because rates of innovation were rarely fast enough to keep up with population growth.

But such criticisms are carping. Brooke's encyclopaedic account of the relationship between human history and climate change will offer historians much food for thought, and a short review cannot do justice to the range of new ideas and information in it. As someone fascinated by Eurasia's steppe lands, I learned that climate change there may have taken distinctive forms. For example, during the little ice age the steppe may have experienced warmer and drier climates than the coastal regions of Eurasia. Such contrasts may help explain the astonishing speed with which the Mongol empire was built. They may also help explain why (despite the claims made in Geoffrey Parker's wonderful 2013 book, *Global crisis*[2]) Muscovy did not really have a fundamental crisis in the mid seventeenth century. On the contrary, this was the era in which Muscovy became a great world power, perhaps just because it avoided the crises suffered by so many other Eurasian powers.

Brooke's study has the power to transform historiographical thinking at many scales. Above all, perhaps, it will encourage historians to take more seriously the need to set our accounts of human history within a larger biospheric setting in which humans are *not* the only significant agents of change.

The sea and civilization: a maritime history of the world

By Lincoln Paine. New York: Alfred A. Knopf, 2013. Pp. xxxv+744. 72 illustrations, 17 maps. Hardback £30.00, ISBN 978-1-4000-4409-2.

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This is a bold and ambitious book. One can only admire an author who sets out to write a maritime history of the world that seeks to explore long-running interactions between 'the sea' and 'civilization'. Most historians would shy away from such a challenge in view of the enormous range of knowledge that is required to offer even a summary of maritime history that extends over several thousand years, as well as

2 Geoffrey Parker, *Global crisis: war, climate change and catastrophe in the seventeenth century*, New Haven, CT: Yale University Press, 2013.