

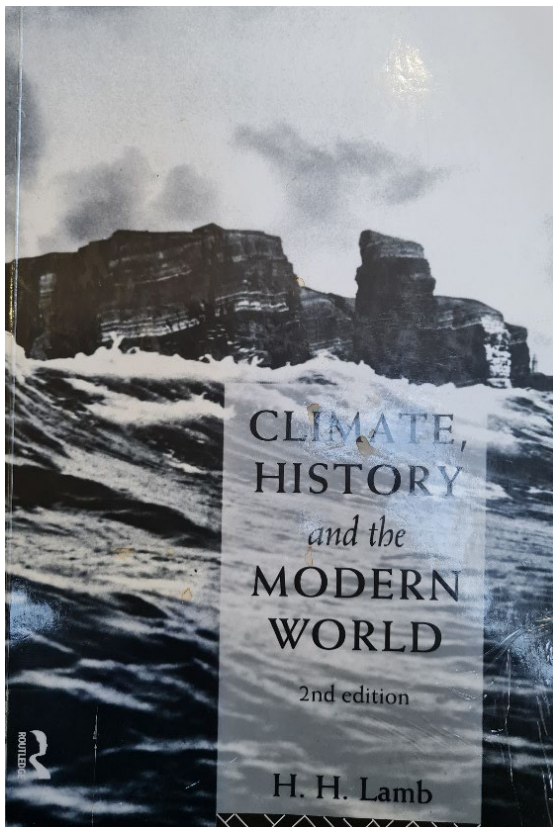
## My 1995 'Climate Book of the Year'

Lamb, H.H. (1995) *Climate History and the Modern World*. (2<sup>nd</sup> edition). London & New York: Routledge. 433pp.

This essay continues my series of monthly posts in which I select one 'climate' book to highlight and review from one of the 44 years of my professional career in climate research (starting with 1984, my first year of academic employment). The series will end in September 2027, the month in which I shall retire. [See here for more information](#) about the rationale for this series, and the criteria I have used in selecting my highlighted books.

This '1995 essay' can be [download as a pdf](#).

For most of the twentieth century, climate was regarded as a relatively constant boundary condition of modern society. The prevailing belief among scientists and planners was that



on time-scales that mattered for human decision-making, weather statistics collected over a 30-year period or so provided the information needed to make reliable long-term climate-sensitive planning decisions. A few people began to challenge this belief during the 1950s and 1960s, notably the British historical climatologist Hubert H Lamb (1913-1997), founding director of the Climatic Research Unit (CRU) at the University of East Anglia. Based on analysis of a variety of instrumental, documentary and proxy evidence, Lamb's work pointed to climate fluctuating on much shorter time-scales as well as well-established geological ones. During the 1970s, a range of theories began to mature about the possible causes of these shorter-term fluctuations. Some of these causes were natural—for example, volcanic eruptions and solar

variability—and some human in origin—for example, land-cover changes and human emissions of particulates and greenhouse gases into the atmosphere. Yet at the time there was no clear consensus about which causes were dominant over different time and space scales. For a few years in the early-1970s, the best-publicised view was that the Earth as a whole was cooling.

It was in this context that the first edition of Lamb's 'Climate, History and the Modern World' was written. Lamb had retired as director of CRU in 1978 and the following year he received a grant from the Rockefeller Foundation which allowed him resident scholar status at the Foundation's study centre at Bellagio, Italy.<sup>1</sup> During this year at Bellagio, Lamb worked on the outline of the book, bringing together much of the evidence and thinking about climate change as it had emerged during the 1970s.<sup>2</sup> 'Climate, History and the Modern World' was initially published by Methuen in 1982 and Lamb painted on a large canvas the relationship between changing climates and societies during the 5,000 years of recorded human history.

I read the book as a PhD student in the early 1980s and it firmly established two things in my mind: that climates change on all time-scales and that such changes matter for human societies. In March 1981, a year before the book appeared, and whilst a final-year undergraduate geography student at Durham University, I had attended a conference lecture given by Lamb. Afterwards, inspired by his talk, I timidly asked him whether I might be able to study as a postgraduate student under his supervision at the Climatic Research Unit. (The answer was 'no'—he had by then retired—although seven years later I was to join CRU as a hired post-doctoral researcher).

The success of 'Climate, History and the Modern World' during the 1980s prompted Lamb to prepare a revised, second, edition in 1995—published now with Routledge who had acquired Methuen's back lists—and I have selected this new edition as my **1995 Climate Book of the Year**. He was now 82, long retired from his leadership of CRU, and close to the end of his life. In his re-written 1995 Preface, Lamb hinted at his thinking behind this new edition: since 1982, he said, the subject of climatic change "has been continually in the limelight and research has been active ... The idea of climatic change has at last taken on [sic] with the public, after generations which assumed that climate could be taken as constant" (pp. xxiii-xxiv).

Between the first and second editions of his book—the thirteen years from 1982 to 1995—not only had the study of climatic change expanded dramatically but, as Lamb remarked, the salience of the issue and the importance of the questions it raised for national planning and international politics had greatly increased. The empirical evidence for human-caused global warming had strengthened, the new modelling paradigm of Earth System Science had become internationally established, and the United Nations had inaugurated the IPCC (in 1988) and negotiated the UN Framework Convention on Climate Change (in 1992). The original vision "to establish a research centre [the Climatic Research Unit, in 1972] devoted

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<sup>1</sup> p.208 in: Lamb,H.H. (1997) *Through All the Changing Sciences of Life: A Meteorologist's Tale*. East Harling, Norfolk: Taverner Publications. 277pp.

<sup>2</sup> Much of the material in 'Climate, History and the Modern World' derived from Lamb's magisterial 1,450 page work, 'Climate: Present, Past and Future', also published by Methuen, which appeared in two volumes, 1972 and 1977. This lengthy material was condensed in his 1982 book, and presented in a more synoptic and accessible manner.

to the study of past, present and future climates, [was one] inspired very largely by Professor Lamb”; by the end of his life in 1997, this vision had proven profoundly prescient.<sup>3</sup>

And yet there were significant differences between the way in which Lamb studied the causes and consequences climatic change and the goals of Earth System Science and the new institutionalisation of climate change research under the auspices of the UN. These differences are very evident in ‘Climate, History and the Modern World’. Not least was Lamb’s suspicion of climate models and his suggestion that natural factors would “over-master” the effects of human use of fossil fuels (p.369). And so, in the new concluding chapter—‘Recent developments and the outlook’—that he added to the 1995 edition, Lamb advised caution about over-attributing all changes in climate to the effect of rising levels of greenhouse gases,

... it is easy to notice the common assumption that Man’s science and modern industry and technology are now so powerful that any change of climate or the environment must be due to us. It is good for us to be more alert and responsible in our treatment of the environment, but not to have a distorted view of our own importance. Above all, we need more knowledge, education and understanding in these matters” [p.xxiv].

Lamb here was reflecting Robert Merton’s scientific norm of ‘organized scepticism’, namely that “the acceptance of all scientific work should be conditional on assessments of its scientific contribution, objectivity and rigor”.<sup>4</sup> As the entry for Lamb in the Oxford Dictionary of National Biography (ODNB) states, it was an irony that,

...although the world is now very aware of climate change over decades and centuries, and Lamb did more than any other scientist to establish its acceptance, right to the end of his life he maintained a guarded attitude towards what was known as ‘greenhouse gas’ warming. He felt that others were too reluctant to consider the full range of other potential causes, and he included members of the Climate Research Unit in that category.<sup>5</sup>

Yet Lamb’s own work was not immune to criticism, from colleagues both inside and outside the Unit which he founded. For example, in the year he retired as director, 1978, three colleagues from CRU—Ingram, Underhill and Wigley—questioned the methods of reconstruction Lamb had used to construct some of his historical climatic indices for England, Iceland, Central Europe and the Russian Plain. In a major review of the field of historical climatology for the journal *Nature*, these authors wrote,

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<sup>3</sup> I wrote these words in 1997 in the Preface to an edited commemorative volume, which marked the 25<sup>th</sup> anniversary of CRU and which was dedicated to Lamb; p.xxv in: Hulme,M. and Barrow,E.M. (eds.) (1997) *Climates of the British Isles: Present, Past and Future*. London: Routledge. 454pp.

<sup>4</sup> Merton,R.K. (1973) [1942] The normative structure of science. In: Merton,R.K. (ed.) *The Sociology of Science: Theoretical and Empirical Investigations*. Chicago: University of Chicago Press, pp.267–278.

<sup>5</sup> Davies,T.D. (2004) Lamb, Hubert Horace (1913–1997). *Oxford Dictionary of National Biography*. <https://doi.org/10.1093/ref:odnb/66263>

...[Lamb's] indices are partly based on compilations which are now known to be unreliable, and, on this ground alone, they must be regarded as suspect: they are currently being revised in [CRU] ... Although this low correlation [with an independent data set] may be partly the result of real changes in meteorological factors, it must be largely attributed to the variable, but generally poor, quality of the compilations used by Lamb. These ... results indicate the need for a re-examination of the data which form the basis for the currently accepted historical climate record.<sup>6</sup>

Lamb was stung by this public criticism of his work and his written complaint and rejoinder to the editor of *Nature* were never published.<sup>7</sup>

In retrospect, the 1995 edition of 'Climate, History and the Modern World' is significant since it captures an approach to the historical study of climate and society which was beginning to be superseded by the 1990s. Lamb was a hugely influential historical climatologist of the twentieth century, being part of a generation of international historical climatologists such as Hermann Flohn in Germany, Reid Bryson in the USA, Emmanuel Le Roy Ladurie in France, and Christian Pfister in Switzerland. But the methods and interpretations of climatic reconstructions which Lamb espoused were giving way to the work of a new generation of professionally-trained climate historians, such as Wolfgang Behringer (Germany), Jean-Baptiste Frescoz (France), Dagmar Degroot (the Netherlands) and Sam White (USA). These too relied upon historical sources to evaluate past climates and their effects on societies, but with greater attention to source criticism and cultural context.

However one seeks now, decades later, to interpret Lamb's work and beliefs about climate change, there is no question that he exerted significant influence on a generation of climatologists and historians in the latter decades of the twentieth century, myself included. As his entry in the ODNB states, "...before his retirement in 1978, [Lamb] and his new colleagues in the Climatic Research Unit had convinced the remaining doubters about the reality of climate variations on time-scales of decades and centuries".<sup>8</sup> Lamb's visionary founding of the Climatic Research Unit warrants widespread appreciation, and his 'Climate, History and the Modern World' should be part of any climate change historiography.

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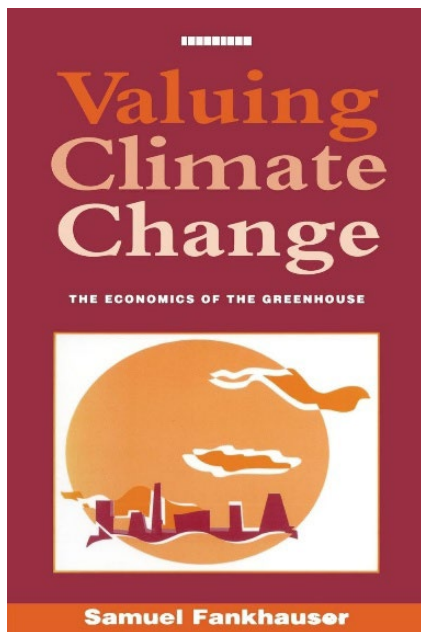
<sup>6</sup> p.331 in: Ingram,M.J., Underhill,D.J. and Wigley,T.M.L. (1978) Historical climatology. *Nature* (Supplement). 276: 329-334.

<sup>7</sup> Source: Lamb archive, UEA Library, LAMB Box 1/4.

<sup>8</sup> Davies, 2004, op. cit.

### Other significant climate books published in 1995

Fankhauser, S. (1995) *Valuing Climate Change: The Economics of the Greenhouse*. London: Earthscan. 180pp.



The mid-1990s witnessed growing attention to the economics of climate change. I have previously reviewed in this series [Bill Nordhaus' 1994 book 'Managing the Global Commons: The Economics of Climate Change'](#), which made a signal intervention by putting forward a neo-classical economic modelling framework for determining an economically optimal climate mitigation policy. Yet Nordhaus' early work was very weak on the estimated economic damages that might be caused by a warming climate. Younger economists were now being attracted to the field and one of them, Sam Fankhauser, turned his attention to better quantifying the damage costs of anthropogenic climate change. Fankhauser gained his PhD from University College London in 1994 for a thesis titled 'Greenhouse economics and the costs of global warming', working under the supervision of the pioneering environmental economist David Pearce. The following year Fankhauser published a book with Earthscan—'**Valuing Climate Change: The Economics of the Greenhouse**'—which was an expanded version of his PhD thesis. He laid out a systematic method for valuing the economic costs of what he called "greenhouse damage", thereby deducing a bottom-up estimate of the (marginal) social cost of emitting one ton of carbon dioxide. Fankhauser's book is particularly important for emphasising two aspects of climate economics that had previously received little attention: the idea of 'secondary benefits' (that reducing carbon emissions would have other benefits, such as improving air quality) and the notion of the 'double-dividend' (that a carbon tax would allow governments to lower and redistribute other taxes). As Pearce remarked in his Foreword to the book, "Fankhauser has produced the most careful analysis yet of the likely economic damages arising from global warming .... In the space of only a few years [his] work has gained worldwide recognition" (pp.xi-xii). Fankhauser was to become an inaugural member (2008-2016) of the UK Government's Climate Change Committee and, later, director (2017-2021) of the Grantham Institute for Climate Change at the London School of Economics.