

Ice Ages

What causes Ice Ages? How did we learn about them? What were their effects on the social history of humanity? Allan Mazur's book tells the appealing history of the scientific "discovery" of Ice Ages. How we learned that much of Earth was repeatedly covered by huge ice sheets, why that occurred, and how the waning of the last Ice Age paved the way for agrarian civilization and, ultimately, our present social structures. The book discusses implications for the current "controversies" over anthropogenic climate change, public understanding of science, and (lack of) "trust in experts." In parallel to the history and science of Ice Ages, sociologist Mazur highlights why this is especially relevant right now for humanity. *Ice Ages: Their Social and Natural History* is an engrossing combination of natural science and social history: glaciology and sociology writ large.

Allan Mazur is a professor emeritus in the Maxwell School of Citizenship and Public Affairs at Syracuse University. He has also worked in the aerospace industry. He is a Fellow of the American Association for the Advancement of Science. He is interested in biosociology and conflicts over science, technology, and the environment. He is author or co-author of over 200 academic publications and ten books, including *Biosociology of Dominance and Deference* (2005), *Global Social Problems* (2007), and *True Warnings and False Alarms: Evaluating Fears about the Health Risks of Technology, 1948–1971* (2010).

‘Allan Mazur takes us on a fascinating journey through two million years of Earth history and human history, linking the two through a lucid description of the great Ice Age fluctuations in climate. This is a book for all readers interested in our shared human career, and in how the dynamic surface of the Earth has influenced that career through the ages.’

Peter Bellwood, Australian National University

‘Allan Mazur gives us a masterful exemplar of the history of science. He shows specialists from several disciplines and nonspecialists with just a modicum of science how diverse paths of inquiry over recent human history have revealed the details of prehistory going far back into geological time. He shows us how more detail is known than might have been imagined when the scientific work began in the 18th century. Not since Simon Winchester’s *Krakatoa* has the science of geology been so absorbing! More importantly, Mazur shows both how ice ages – large and small, long and short – and their endings have changed human history, and how our short-sightedness about their causes and effects is going to change future human history, for the worse . . . unless the right people learn the lessons of this book.’

Alex Rosenberg, Duke University

‘Living on a warming planet, we struggle to imagine that it was periodically covered by vast sheets of ice. Allan Mazur, a master of calm, companionable, and often humorous prose, guides us through the various efforts humans – plucky survivors of the Pleistocene – have made to understand the Earth as well as their transformative and, it now turns out, damaging presence on it. An impressive synthetic effort, blending science and cultural history, Mazur’s excellent *Ice Ages* gives us the tools necessary to participate knowledgeably in debates about climate disruption.’

Christoph Irmscher, Indiana University, author of *Louis Agassiz: Creator of American Science*

‘This absolutely fascinating book weaves together the complicated strands of human endeavor that led to the great scientific discovery of ice ages on Earth. It should be read by everyone interested in the current pressing problem of global climate change, both natural and human induced.’

George Denton, University of Maine

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Their Social and Natural History

Allan Mazur
Syracuse University



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To Polly, who gave me everything.

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PREFACE

This book contains little original information. Its contributions lie in my selection and assembly of work by prior scholars into an overview of how, over little more than two centuries, we came to understand the history of life and of the Pleistocene Ice Age. Humans (the genus *Homo*) first came on the scene during the Ice Age, and the sole remaining species of that genus was *Homo sapiens* by its end. Recession of the great northern ice sheets was a precondition if not an essential stimulus for nearly all surviving human communities to switch from hunting and gathering to an agrarian lifestyle, some later elaborated into the earliest civilizations and only recently into industrial society. This is human history on the grandest scale. It is remarkable that many Americans do not believe essential features of the story.

Combining so many disparate strands and sources to weave this narrative, one confronts among other problems that of different measurement units. There are British derived yards, feet, and miles, still used in the United States, which is resistant to adopting the more logical metric system. I have sometimes included both systems, one in parentheses, but as often simply used one or the other, depending on context, when I think it intelligible to readers.

I appreciate the help and advice of Calvin Barrett, Peter Bellwood, Richard Buttny, George Denton, Arwyn Edwards, Meredith Berman Ellis, Christoph Irmscher, Linda Ivany, Ross MacPhee, Peter Richerson, Alex Rosenberg, Martin Rudwick, Liz Williams, my

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