FOREWORD

Maps of Time unites natural history and human history in a single, grand, and intelligible narrative. This is a great achievement, analogous to the way in which Isaac Newton in the seventeenth century united the heavens and the earth under uniform laws of motion; it is even more closely comparable to Darwin's nineteenth-century achievement of uniting the human species and other forms of life within a single evolutionary process.

The natural history that David Christian deals with in the first chapters of this book is itself radically extended and transformed from the natural history of earlier ages. It starts with the big bang some 13 billion years ago, when, according to twentieth-century cosmologists, the universe we inhabit began to expand and transform itself. Processes thereby inaugurated are still in course, as time and space (perhaps) began, allowing matter and energy to separate from one another and distribute themselves throughout space in different densities and with different rates of energy flows in response to a variety of strong and weak forces. Matter, gathering into local clots under the influence of gravity, became radiant stars, clustered into galaxies. New complexities, new flows of energy arose around such structures. Then, some 4.6 billion years ago, around one star, our sun, planet Earth formed and soon became the seat of still more complicated processes, including life in all its forms. Humankind added yet another level of behavior a mere 250,000 years ago, when our use of language and other symbols began to introduce a new capacity for what Christian calls "collective learning." This in turn made human societies uniquely capable of concerting common effort so as to alter and sporadically expand widely varying niches in the ecosystem around each of them and, by now, surround us all in the single, global system.

The human history that Christian thus fits into the recently elaborated natural history of the universe is also an intellectual creation of the twentieth century. For while the efforts of physicists, cosmologists, geologists, and biologists were making the natural sciences historical, anthropologists, archaeologists, historians, and sociologists were busy enlarging knowledge about the human career on earth. They extended it back in time and expanded it pretty well across the face of the earth to embrace foragers, early farmers, and other peoples who left no written records and had therefore been excluded from document-based "scientific" history in the nineteenth century.

Most historians, of course, paid no attention to "prehistory," or to the lives of illiterate peoples, busy as they were with their own professional debates. Across the twentieth century, those debates, and the study of abundant Eurasian and a few African and Amerindian texts, added substantially to the sum of historical information and to the scope of our ideas about the accomplishments of the urbanized, literate, and civilized peoples of the earth. A few world historians, like myself, tried to weave those researches together into a more adequate portrait of humanity's career as a whole; and some also explored the ecological impact of human activity. I even wrote a programmatic essay, "History and the Scientific Worldview" (*History and Theory* 37, no. 1 [1998]: 1–13), describing what had happened to the natural sciences and challenging historians to generalize boldly enough to connect their discipline with the historicization of the natural sciences that had taken place behind our backs. Several scholars are, in fact, working toward that end, but only when I began to correspond with David Christian did I discover a historian who was already writing such a work.

The truly astounding dimension of Christian's accomplishment is that he finds similar patterns of transformation at every level. Here, for example, is what he says about stars and cities:

In the early universe, gravity took hold of atoms and sculpted them into stars and galaxies. In the era described in this chapter, we will see how, by a sort of social gravity, cities and states were sculpted from scattered communities of farmers. As farming populations gathered in larger and denser communities, interactions between different groups increased and the social pressure rose until, in a striking parallel with star formation, new structures suddenly appeared, together with a new level of complexity. Like stars, cities and states reorganize and energize the smaller objects within their gravitational field. (p. 245)

Or weigh the words with which he closes this extraordinary book:

Being complex creatures ourselves, we know from personal experience how hard it is to climb the down escalator, to work against the universal

slide into disorder, so we are inevitably fascinated by other entities that appear to do the same thing. Thus this theme—the achievement of order despite, or perhaps with the aid of, the second law of thermodynamics—is woven through all parts of the story told here. The endless waltz of chaos and complexity provides one of this book's unifying ideas. (p. 511)

I venture to say that Christian's discovery of order amid "the endless waltz of chaos and complexity" is not just one among other unifying themes, but the supreme achievement of this work.

Here, then, is a historical and intellectual masterpiece: clear, coherent, erudite, elegant, venturesome, and concise. It offers his readers a magnificent synthesis of what scholars and scientists have learned about the world around us in the past hundred years, showing how strangely, yet profoundly, human societies remain a part of nature, properly at home in the universe despite our extraordinary powers, unique self-consciousness, and inexhaustible capacity for collective learning.

Perhaps I should conclude this introduction with a few words about who David Christian is. First of all, he has an international identity, being the son of an English father and an American mother who met and married in Izmir, Turkey. His mother, however, returned to Brooklyn, New York, for the birth of her son in 1946, while her husband, after discharge from his wartime duties in the British army, joined the colonial service and became a district officer in Nigeria. His wife quickly joined him there, so David's childhood was spend up-country in Nigeria until, at age 7, he went away to boarding school in England. Then, in due course, he went up to Oxford, getting a B.A. in modern history in 1968. (At Oxford this means mastering isolated segments from the history of England since Roman times along with a scattering of other fields in European history and even a few decades sliced from the American past: the very antithesis of "big history.") For the next two years, he took a job as a tutor at the University of Western Ontario in Canada, and earned an M.A. degree there. By then he had decided to specialize in Russian history and returned to Oxford, where a thesis on administrative reforms under Tsar Alexander I won him a D.Phil. in 1974. Like his father, he married an American wife; they have two children.

Between 1975 and 2000 he taught Russian history at Macquarie University in Sydney, Australia, along with other courses in Russian literature and European history. Influenced by the *Annales* school in France, his interests shifted to everyday aspects of Russian lives. Two books resulted, both dealing with what Russians put into their mouths: *Bread and Salt: A Social*

and *Economic History of Food and Drink in Russia* (1985, coauthored with R. E. F. Smith) and *Living Water: Vodka and Russian Society on the Eve of Emancipation* (1990). These books soon attracted invitations to write more general works: first *Power and Privilege: Russia and the Soviet Union in the Nineteenth and Twentieth Centuries* (1986), then *A History of Russia, Central Asia, and Mongolia*, volume 1, *Inner Eurasia from Prehistory to the Mongol Empire* (1998).

The broad geographical and temporal sweep of the last of these books already reflected a teaching venture he launched in 1989 when, in the course of a discussion about what sort of introduction to history the department at Macquarie ought to provide for its students, David Christian blurted out something like "Why not start at the beginning?" and promptly found himself invited to show his colleagues what that might mean. Unlike every other historian who ever tried to teach human history on a world scale, Christian decided to begin with the universe itself; and with help from colleagues in other departments of the university, who lectured on their own scientific specialties, he staggered through the first year of what he jestingly chose to call "big history."

From the start, big history attracted a large and what soon became an enthusiastic student following. But his most responsive professional audience first arose in the Netherlands and in the United States, where news of what David Christian was doing persuaded a handful of venturesome teachers to launch parallel courses. The World History Association as well as the American Historical Association took note by devoting a session to big history at their annual meetings in 1998. Three years later David Christian decided to accept an invitation to come to San Diego State University and bring big history with him.

Other professional interests remain active. A second volume of his *History of Russia, Central Asia, and Mongolia* is in the works; so is an account of the Russian campaign to ban alcohol that peaked in the early 1920s. In his spare time David Christian has also written several important articles on scale in the study of history and a variety of other subjects. He is, in short, a historian of altogether unusual energy, daring, and accomplishment.

You, who are about to peruse this book, have a great experience before you. Read on, wonder, and admire.

William H. McNeill
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