Large Timescale; Large Questions

David Christian’s *Maps of Time: An Introduction to Big History*
Berkeley: University of California Press, 2004

Miriam E. Wells

*Maps of Time* occupies a troublesome middle-ground between science and history, at once comfortably bridging the story of the universe with scientific fact and hypothesis, and at the same time unintentionally creating unease for historians about the value and implications of their work. David Christian’s sweeping historical insights use a large timescale without regard to the nuances of individual situations. As a result, the book appears to reduce a multifaceted human history to a single series of outcomes arising from particular natural events. In addition, *Maps of Time* may produce some discomfort for people who value the human contributions of art, literature and religion. The creative and spiritual aspects of life, and the possibility of free will are remarkably absent. While it remains unclear whether this was the primary intent of the book, it certainly induces some engaging controversy.

Christian begins the book with the premise that the interconnectedness of global historical phenomena should lead historians to consider the value of a “grand unified story,” which is the historian’s counter to cosmology’s “grand unified theory.”¹ In the absence of “big history,” an historian might argue that knowing several centuries of Iran’s history and interactions with colonial powers ought to inform our understanding of the 20th century’s events, and potentially affect current policy. The field of big history takes this a step further, and links modern Iran with human prehistory in the region, and then links that with natural organic and geologic changes in the land, which no doubt affected human prehistory. At any given interval of time, certain conditions can be linked to either critical events or gradual changes that predate them. This linkage continues backwards until we reach the theoretical beginning of time: the big bang.

Admittedly, the study of trends over long periods of time, or in this case, over all time as we know it, is an unusual trajectory for an historian whose original interests lay in the social, political and economic history of modern Russia. Rather than focusing on a narrower and narrower scope of research, however, Christian expanded his interests to encompass the universe. This isn’t, in itself, surprising— anyone with curiosity about the world, or what it means to be human, would find the subject matter full of interesting questions. But what makes it history?

In one sense, this is an extraordinarily readable work of science that synthesizes the research of past and modern scientists in every field. There were large segments of text that could easily be integrated into a fine science textbook: one that does not reduce astronomy and chemistry to equations. In fact, the bookends (chapters 1-3, dealing with the origins of the universe, the solar system, and Earth; and the final chapter, “Futures”) feature much of the content discussed in introductory natural science classes such as astronomy and geology, without the pesky formulae! These chapters, in particular, give a useful grounding in the way the universe works to individuals who haven’t had the benefit of a scientific background, and help bridge the chasms that divide the fields of the sciences, the social sciences and the humanities.

An inquisitive reader of Maps of Time might be prompted to continue asking questions about the unfamiliar parts of the book, some of which could be addressed, at least with theories, in a classroom setting. Christian’s ability to prompt these questions that fall outside the discipline of history seems remarkable at a time of extreme specialization. This is an encouraging sign; historians can only benefit from being engaged with science.

Because this is also history—some of it pre-human history, some human history—Christian intersperses his work with references from the social sciences and humanities. Here, the crossover nature of the text benefits historians—if people in the sciences are inclined to read the work. Historians are often encouraged to, and nearly always find it necessary to read outside of the discipline (both original and secondary sources) because of the interrelatedness of life, and the historian’s need to assess events in a larger context. Scientific disciplines often give the impression that delving into any other kind of analysis is superfluous to their work. If scientists took a similarly large view of the world, it might actually send scientific research in different directions and at the same time lend some of the legitimacy to history that science somehow commands without effort!

For example, in Christian’s rather scientific discussion of the Holocene, he places alongside geologic and archeological evidence the observations of now historical sociologist Émile Durkheim, and anthropologist Bronislaw Malinowski. Conversely, a cosmological metaphor is applied to a discussion of Marx, and the steep “gradient of wealth” that distinguishes capitalism from the tributary world. Historians may take issue with this approach, which I will discuss shortly. There is another layer of commentary sprinkled throughout the book, which might be labeled historiography. In the first half of Maps of Time, there is an attempt to re-create not only the actual

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2 For instance, as Christian is discussing the shape and expansion of the universe, I wondered if the universe is likely to be spherical, since I would assume the rate of expansion to be the same in all areas. If it is spherical, then can we identify the center? I know these questions seem a little ridiculous, but perhaps they aren’t to cosmologists.
3 Christian, 261 and 265.
4 Christian, 358.
evolution of the Earth as we know it, but also to analyze the changes in thought about the past. We at least get a taste of the progression of written historical thought, and of the changes in scientific theories over time. In this, the book has an advantage over the common textbook approach, which is written from the omniscient viewpoint. More interdisciplinary crossover would have improved the depth of discussion in the book, but length was clearly an issue, and to his credit Christian provides extensive bibliographies for further reading.

The later chapters of Maps of Time are increasingly familiar to historians, and because of that familiarity begin to seem more like a general world history presented in the omniscient view of many textbooks. The challenges of such a large-scale account can be similar for science and history, in a text that leaves little room for detailed analysis or competing views. However, as a history that is presumably not meant for use as a textbook, the approach can be uncomfortable. Christian’s human history is one which takes into account political, economic and demographic changes, but somehow manages to excise human thought. At first glance, it seems impossible to separate human politics and economics from development of thought, combined with the diverse driving forces of religion, philosophy, literature, art, and ethics. But Christian chooses to outline these outcomes as the results of natural, and possibly random events or circumstances.

This is part of the story, but not all of it. The reader gets the sense that Christian himself is aware of this gap, and that it was purposeful. The omission of religion, for instance, at least as a political and national force (only mentioned in passing, occasionally), distances the book from a more complex, possibly answerless analysis of the human condition. For example, Christian’s discussion of the beginnings of human slavery connects “ubiquitous” forced human labor to the value of “humans [as] efficient converters of food into energy.” This may be one of many reasons for slavery, or it may be the only reason, but the analysis ignores the complex moral codes regarding slavery emerging at least 5000 years before the present, in addition to the conflicts that two competing moralities will have over this subject, again and again.

Christian’s framing of the book as a “modern creation myth,” somewhat puzzling, particularly because human thought is eliminated from his history. If this is a history that seeks to unite humanity in its similarities, as opposed to highlighting its differences, it does, at the same time, have the effect of alienating people entirely. Some further guidance concerning Christian’s attempt to write a modern creation myth can be found in the final chapter, “Futures.” “Futures,” is once again unfamiliar territory for the historian (at least, for historians not engaged in speculative

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5 This is also discussed in Sam Wineburg, Historical Thinking and Other Unnatural Acts: Charting the Future of Teaching the Past (Philadelphia: Temple University Press, 2001).

6 Christian, 263.
fiction, or science fiction). In it, Christian comments that it is wrongheaded to end a history like this squarely in the present, without addressing the future.\textsuperscript{7} And he is certainly correct with regards to the geologic and cosmologic side of the book. The beginnings of the universe go hand in hand with questions about the end of the universe, and both areas are being actively studied at present.

It is the “Futures” section that provides the best look at just how small a fragment of time human life is, in a universal scale. Even Maps of Time overvalues the human contribution in terms of the percentage of text about them (us!) in comparison with the percentage of text dealing with cosmology or geology, or early non-human life. In fact, as we currently understand the future of the universe, our beginnings, until this moment, are only a sliver of the time allotted to the universe—he calls it “a dazzling flash of creativity at the beginning of time” which, due to entropy, will only decrease until it is finally gone.\textsuperscript{8}

However, in the much shorter term, Christian’s predictions for the human future are dire. Christian’s treatment of humans within this large timescale is often harsh, but it doesn’t compare with his equating of today’s humans with the historical inhabitants of Rapa Nui (also known as Easter Island). The inhabitants of Rapa Nui were faced with limited crops and resources, a growing population, isolation from other islands, and a belief system which required them to harvest all the available resources of the island, and which left them without transportation to escape their predicament. It was a civilization that, at its beginnings, was advanced enough for overseas exploration and colonization, and the art and transport of huge memorials, which disintegrated into tribal warfare, and finally disappeared. Most chillingly, Christian suggests that the people who harvested the last trees on Rapa Nui knew what they were about to do, and were powerless to stop it.\textsuperscript{9} Here, and very gently, he provides the lightest of social agendas: that we are systematically destroying our resources; we know we are doing it, and yet we go on doing it. It is possible, if not explicit, that the book’s “creation myth” is really a statement, given the absence of religious or moral guidance,\textsuperscript{10} which is intended to spark awareness, compassion, and ethical action.

But he follows this with a model for the universe after humans cease to exist. It is large—much larger than we can imagine—and it is full of celestial deaths. After all this, one wonders, what is the point of doing history—or anything? To find the answer to these questions, we have to look closer to the present. Maps of Time can clearly serve, in one capacity, as an entry point for

\begin{itemize}
\item \textsuperscript{7} Christian, 470.
\item \textsuperscript{8} Christian, 489.
\item \textsuperscript{9} Christian, 473-475.
\item \textsuperscript{10} This is not to say that moral and religious guidance does not exist; however, there appears to be a greater frequency of atheism or agnosticism in the present-day US, and possibly an absence of accountability either within or outside of organized religion.
\end{itemize}
discussions about the worth of history. It is also an excellent big picture view that skillfully connects academic fields. And finally, it stirs up some controversy (intended or not) about the place of human thought, philosophy, creativity—and also human accountability to the Earth and to each other.\footnote{As I write this, I wonder—if this was the intent—why not mention tikkun olam?}

This seems to be a noble goal, but does “big history” accomplish it? Even with its scientific basis, or perhaps because of it, this reads like a framework, of sorts. It seems easy to attribute a kind of inherent truth or superiority to scientifically-backed, large-scale history simply because we understand our current scientific methods to be well tested and our theories basically proven. However, historians will be aware that what appeared to be basic truths at various times in the past have since been overturned. While these are the most currently and widely accepted theories of the origin of the universe, insofar as a layperson can understand them, they are also fallible, like every other truth we hold dear.

The arrival of “big history” on the scene as a course of study, a framework for an historical argument, or plain old reading material, may be attributed to modern (and Western) society placing increased value on the sciences. As we know more about genetics, or neuroscience, for example, the less we depend upon the insights of the social sciences or humanities to guide us in interpretations of the past. Do we seek a psychological explanation for an historical mass hysteria, or do we ferret out historical insights through documents? It is possible that Christian would favor both, as he has created a wonderful bridge between the fields . . . but ultimately, in Maps of Time, science holds the winning hand.

But Christian’s work is one of many historical approaches. There is room in the field for a highly scientific analysis of time, although it would enhance the work if Christian would document the leaps he makes between times and theories more frequently. If he were to tie together the threads of universe formation and present thought or social structure in the same way that mathematician and writer Steven Strogatz links diverse natural and physical phenomena together in his book, \textit{Sync: The Emerging Science of Spontaneous Order}—phenomena which apparently defy the universe’s tendency towards entropy, it might be a more effective bridge between science and history.\footnote{Steven Strogatz, \textit{Sync: The Emerging Science of Spontaneous Order}, (New York: Hyperion, 2003).} Currently, it feels like the conversation is still one-sided, with all the outreach and discussion coming from history, without reciprocal dialogue from the sciences. The sciences can benefit from seeing that historical events, or even the everyday acts involved in life, are connected with and do sometimes mimic the large pattern of the cosmos—and it is good for history when outsiders observe these connections made by an historian.