

Review: *Maps of Time*

Stephanie Gajewski

Abstract

This is a review of *Maps of Time* by David Christian (also known as the originating book in the ‘discipline’ of Big History), and an extended discussion on how Big History has evolved, including its teaching in classes and the Bill Gates–funded Crash Course mini-series. The review interrogates the text through historiographical approaches and concepts, and challenges the text and Big History’s standing as ‘history’, which through examination I conclude cannot be considered a work of history.

Big History

Maps of Time: An Introduction to Big History by David Christian, published in 2004, provides the framework for a new field within history and raises many questions about the practice of history and challenges a variety of preconceived attitudes towards the discipline. The book requires the reader to engage in a dramatically new attitude towards history, one that is best summarised by John Green in the Crash Course mini-series *Big History* replying to a statement by himself from the past.¹ Past Green believes that the

¹ Throughout John Green’s Crash Course series, he introduces a gag where John from the Past asks present John seemingly silly and ignorant questions, which John dismisses and throughout

outline set for the mini-series qualified as science, ‘not history’.² Present Green replies, ‘academics often describe history as ... all the stuff that’s happened since we started writing things down but they only start there because that’s where we have the best information ... as a start date for history, it’s totally arbitrary! It’s just a line we drew in the sand and said “okay, history begins now!”’.³ This opening establishes not only the key aims of *Maps of Time*, but problems with its proposition, which includes the concept of expansion of the time being considered as history and what are the appropriate sources for history. By examining the text, its aims and methods and its influence since its publication, other issues key to the discipline of history are raised, including whether there is a timescale too large for a historian to work on, what the role of narrative within history and historiography is and, at the most fundamental level, can *Maps of Time* be considered a work of history?

A ‘traditional’ history text would be bound by a certain scope, be it one of time, geography, event, individual or other aspect. *Maps of Time* does not have this limitation – it aims to tell the story of ‘Big History’, which, according to his 1991 article ‘The Case for Big History’, is ‘the exploration of the past on ... different scales, up to the scale of the universe itself’.⁴ Engaging in historical analysis through a ‘telescopic lens’ isn’t a concept unique to Big History.⁵ Fields including World History and Global History seek to look at history through wider geographic lens. In the same article, Christian notes World History suggests a ‘radical answer ... in geographical terms, the appropriate scale may be the whole of the world’, and his aim with Big History is to take a similarly radical answer with the notion of timescales.⁶

the content of the video, explaining how John from the Past’s opinion was wrong. CrashCourse. 2014. ‘The Big Bang: Crash Course Big History #1.’ YouTube video, 14.24, 17 September, www.youtube.com/watch?v=tq6be-CZJ3w.

2 Ibid.

3 Ibid.

4 David Christian. 1991. ‘The Case for Big History.’ *Journal of World History* 2(2): 225. Accessed 3 June 2016: www.jstor.org/stable/20078501.

5 Frank Furedi. 2013. ‘Big History: The Annihilation of Human Agency.’ Spiked, 24 July. Accessed 3 June 2016: www.spiked-online.com/newsite/article/frank_furedi_on_history/13844.

6 Christian, ‘The Case for Big History’.

In aiming to cover the entirety of the past, *Maps of Time* is divided into six parts that operate as the book's timescales. Part One, 'The Inanimate Universe', describes the time from the big bang to the 'origins and history of the Earth'.⁷ Part Two, 'Life on Earth', covers the 'origins of life' to the 'evolution of life'.⁸ Part Three, 'Early Human History', sees the introduction of humans into the narratives and covers their 'evolution' and 'beginnings'.⁹ Part Four, 'The Holocene', covers material that is traditionally seen as the start of history, with the 'origins of agriculture' and 'civilisations'.¹⁰ Part Five, 'The Modern Era', begins in 1000 CE, focusing on the evolution from 'modernity' to the 'twentieth century'.¹¹ The book concludes with Part Six, 'Perspectives on the Future', where Christian outlines different possible futures for the Earth and the universe.¹² Additionally, throughout the book, Christian refers to 'threshold' moments, which, in a 2011 TED talk, he described as moments that create new 'stages', that create 'the impression of something utterly new appearing almost out of nowhere in the universe'.¹³ *Maps of Time* outlines a number of different thresholds, including the temperature of the universe dropping, the 'appearance of humans' and the development and global spread of cities.¹⁴

Christian's justification for this radical reinterpretation of history is that 'we need to know where we are going, where we have come from, and in whose company we are travelling'.¹⁵ He further notes that 'the project ... fulfils deep needs'.¹⁶ Also, he challenges the traditional modes of history by suggesting that teaching history without the full context of the past is like a 'geographer ... teach[ing] exclusively from street maps'.¹⁷ The aim of Big History is to write a history of the whole past, effectively creating 'a map of the world' that 'embraces the past at all scales'.

7 David Christian. 2004. *Maps of Time: An Introduction to Big History*. Los Angeles: University of California Press, p. xii.

8 Ibid.

9 Ibid.

10 Ibid., pp. xii–xiii.

11 Ibid., p. xiii.

12 Ibid.

13 David Christian. 2011. 'The history of our world in 18 minutes,' TED, April. Accessed 3 June 2016: www.ted.com/talks/david_christian_big_history/transcript?language=en.

14 Christian, *Maps of Time: An Introduction to Big History*, pp. 25–26, 144, 325–326.

15 Ibid., p. 1.

16 Ibid., p. 3.

17 Ibid.

It would take a highly egotistical person to believe they could successfully write an account of the entire past, but Christian believes he is able to achieve this feat. His approach varies according to the different timescales he is writing with. The first three parts of the book, which account for approximately a third of the book's length, are more concerned with explaining scientific fact and providing a chronology of scientific breakthroughs than they are with engaging with traditional historical method. This, in part, is due to this period not containing traditional historical documents. This results in these parts reading only as a chronology of events, with explanations of scientific concepts scattered throughout this narrative.

Once Christian reaches the 'traditional' beginnings of history, evidence of historical method emerges. Archaeological and historical sources appear when discussing the 'origins of agriculture', and Christian is able to write in detail about specific examples of ideas and phenomena, such as intensification in Australia.¹⁸ With the body of traditional historical records available to him, Christian is able to engage in the historical method of reconstructing the past. This can be seen when he explores 'early agrarian lifeways' and his depiction of how these forms of communities operated.¹⁹

In these parts of the narrative that contain minimal historical records, Christian places a heavy emphasis on the length of the time span. As noted in a *New York Times Magazine* article on Bill Gates, Big History and David Christian, Christian states he was influenced by the Annales School, which encouraged the exploration of history on 'multiple scales of time and space'.²⁰ Fernand Braudel characterised three different timescales historians can use: 'traditional history, with its concern for the short time span' becomes, in the words of Paul Lacombe, 'the history of events'; a history that places 'cyclical movement in the forefront of its research' and covers periods of 'ten, twenty, fifty years at a stretch' becomes 'social history'; and, 'the history of the long, even of the very long time span' becomes 'the *longue durée*'.²¹ The *longue*

18 Ibid., pp. 227–229.

19 Ibid., pp. 238–242.

20 Andrew Ross Sorkin. 2014. 'So Bill Gates Has This Idea for a History Class' *New York Times Magazine*, 5 September. Accessed 3 June 2016: www.nytimes.com/2014/09/07/magazine/so-bill-gates-has-this-idea-for-a-history-class.html.

21 Fernand Braudel. 1980. 'History and the Social Sciences: The *Longue Durée*.' In *On History* by Fernand Braudel and trans. Sarah Matthews. London: George Weidenfeld and Nicolson Limited, p. 27.

durée is an apt description of Christian's opening sections, spanning billions of years over nearly 200 pages. While the *longue durée* is still utilised in later components, the periods where traditional historical records exist sees Christian engaging in other timescales of history.

In the analysis of how cities were established and expanded, Christian engages with 'social history', and outlines trends within these civilisations. The remaining parts of the book engage the development of the modern era utilising the *longue durée*, such as when Christian explores the development of trade routes, and at other points utilising social history, including developments within economics and innovation.

The problem with the timescales of Big History is that not only are they too large to allow for any sustained detailed analysis, but there is no grounding focus to anchor the timescales. Further, Christian seems uninterested in the history of events, and instead seeks to write a broader history with few detailed examples to place a greater emphasis on broader ideas that can be taken from different periods. The practice of the historian typically sees the historian being selective in their material in order to illustrate their argument. *Maps of Time* sees all information as necessary, which results in these vague generalisations about the past. Richard J. Evans notes, 'History ... can produce generalisation, though the broader they are, the more exceptions there are like to be and the further removed they will become from hard evidence'.²² By operating on a scale that does not allow for in-depth analysis of these hard facts, *Maps of Time* is reduced to these broad generalisations.

Of course, what separates Braudel's utilisation of the different timescales from Christian's is that Braudel has a specific geographical focus. His work utilising the different timescales is focused on the Mediterranean, resulting in the timescales being applied to a specific location and providing a focus to his historical work.²³ This focus is lacking in *Maps of Time*, which instead uses the *longue durée* on the entirety of what Christian believes to be 'history' and only

22 Richard J. Evans. 1997. 'History, Science and Morality.' In *In Defence of History* by Richard J. Evans, London: Granta Books, p. 60.

23 Fernand Braudel. 1980. 'The Mediterranean and the Mediterranean World in the Age of Phillip II: Extract from the Preface.' In *On History* by Fernand Braudel and trans. by Sarah Matthews. London: George Weidenfeld and Nicolson Limited, pp. 3–5.

engaging with ‘social history’ when there are enough sources to do so. This lack of a singular, specific focus results in Christian working in the broader time scopes of history and creates a text with minimal detailed historical analysis.

The greatest strength of *Maps of Time* lies in its ambition to attempt to unify all of human knowledge. What the book lacks in depth it certainly makes up for in breadth. Throughout the book, Christian presents a clear narrative, grounded in an academic longing for something bigger. His introduction is packed with idealistic reasons for Big History’s existence, including the ability for individuals to ‘find a role in the larger scheme of things’ and utilising Big History to construct ‘a more unified vision of history and of knowledge in general’.²⁴

Yet, while these ideals are admirable, it is difficult to read *Maps of Time* and not question whether history is the most appropriate discipline for this ‘larger project’ to be carried out in, which is a great weakness of the work.²⁵

Maps of Time raises questions about the nature of history, ranging from what sources help create history and the role of narrative within history. However, before these questions can be answered in relation to *Maps of Time*, a more fundamental question must be asked: Is *Maps of Time*, and by extension Big History, a work or a form of history? In order to judge whether *Maps of Time* and Big History is history, the question, What is History?, must be answered.

Many historians and writers have answered this question and, while there are differences, a collection of answers allows the formation of clearer picture of history. At the end of his first lecture in ‘What is History?’, E.H. Carr defines history as ‘a continuous process of interaction between the historian and his facts, an unending dialogue between the present and the past’.²⁶ He adds to this definition in the second lecture, noting, ‘we are entitled to by convention ... to reserve the word “history” for the process of enquiring into the past of man in society’.²⁷ In his essay ‘The Question of Narrative in Contemporary Historical Theory’, Hayden White posits that ‘the term history refers both to

24 Christian, *Maps of Time: An Introduction to Big History*, pp. 2, 5.

25 Ibid., p. 5.

26 E.H. Carr. 2001. ‘The Historian and His Facts.’ In *What is History?* by E.H. Carr. New York: Palgrave Macmillan, p. 24.

27 E.H. Carr. 2001. ‘Society and The Individual.’ In *What is History?* by E.H. Carr. New York: Palgrave Macmillan, p. 42.

an object of study and to an account of this object'.²⁸ Finally, in *In Defence of History*, Richard J. Evans notes that 'history clearly includes the study of individual people, events and structures as well as groups and collectives'.²⁹ He also notes G.R. Elton's perspective on historical facts being 'something that happened in the past, which had left traces in documents which could be used by the historian to reconstruct it in the present'.³⁰

From these definitions, we can summarise that history is a reconstruction created in the present by interrogating documents from the past. The word history can be used to describe both the act of history and the subject of history, but 'convention' suggests that it should be used primarily for the act.³¹ Further, there is a great emphasis placed on people, not only in the idea of the individual constructing history, but what the individual is constructing is at the very least in part constructed about humans by sources left behind that are often created by humans. Therefore this 'line' John Green previously referred to as the 'arbitrary' start of history wasn't created by historians, it was determined by the sources left behind by members of previous societies.³²

Does *Maps of Time* fit this definition? In looking at the terminology Christian uses throughout his book, it is easy to form the impression the entire book is history, even from the title. However, Christian's terminology misleads the reader and aids the creation of the idea of Big History being history. Christian consistently conflates the words 'history' and 'the past' and uses them interchangeably, even though they are referring to two different ideas. As established, history is the act of reconstructing the past using historical method, whereas the past is events that occurred before the present. Christian uses the term 'history' to refer to what ultimately is best described as a chronology of the past, where he simply lists events that occurred devoid of

28 Hayden White. 1987. 'The Question of Narrative in Contemporary Historical Theory.' In *Content of the Form* by Hayden White. Baltimore: Johns Hopkins University Press, p. 55.

29 Evans, 'History, Science and Morality', p. 57.

30 G.R. Elton in Richard J. Evans. 1997. 'Historians and their Facts.' In *In Defence of History* by Richard J. Evans. London: Granta Books, p. 75.

31 Carr, 'Society and The Individual', p. 42.

32 CrashCourse. 2014. 'The Big Bang: Crash Course Big History #1.' YouTube video, 14.24, 17 September, www.youtube.com/watch?v=tq6be-CZJ3w.

historical method and analysis. As Sam Wineburg notes, ‘At certain points, it becomes less history and more of a kind of evolutionary biology or quantum physics. It loses the compelling aspect that is at the heart of the word ‘history’.³³

If the version of history that Christian puts forward in the first half of his book amounts to a basic chronology of the past, it then transitions into what is arguably very broad World History in the second half. If the second half of *Maps of Time* was expanded to contain more analytical depth and engagement with traditional historical sources, or simply published on its own, the question of whether it is history or not would not be raised. Indeed, it would be considered a piece of World History, albeit still a broad piece. However, the book is being judged as a whole, and one cannot pick and choose the parts that are history. The entire book is written under the title of ‘history’ and, as a whole, the book fails that definition.

Additionally, the sources that Christian is interested in are primarily scientific or based on data. It is difficult to find many traditional historical sources in *Maps of Time*, ones that are written by humans that allow for individual interpretation. Wineburg asks: ‘When we think about history, what are the primary sources of Big History? The original scientific reports of the Big Bang?’³⁴ These questions tie into the criticism of Big History from Frank Furedi as being ‘anti-humanist’.³⁵ This focus on these forms of sources are excellent for drawing broader conclusions about different time periods, but does little to further its cause as history.

Further, *Maps of Time* concludes with the highly unhistorical practice of ‘predicting the future’.³⁶ While these predictions lie in analysis of where broader cycles and events, such as climate change, will evolve to, history is concerned with constructing the past from documents and records left from that time, not with constructing a hypothetical future.³⁷ As Evans notes, ‘history has proved a very bad predictor of future events. This is because history never repeats itself’.³⁸ Additionally, White notes that chronologies ‘typically promises

33 Sorkin, ‘So Bill Gates Has This Idea for a History Class ...’.

34 Ibid.

35 Furedi, ‘Big History: The Annihilation of Human Agency’.

36 Christian, *Maps of Time: An Introduction to Big History*, p. 490.

37 Ibid., pp. 478–479.

38 Evans, ‘History, Science and Morality’, p. 60.

closure but does not provide it'.³⁹ When the historian establishes their own timeframe, they can bring their narrative to its natural conclusion. In order to fulfil his aims, Christian must look to the future, resulting in a narrative that doesn't end with a unified conclusion and highlights the unhistorical nature of the text.

If *Maps of Time* isn't history, then what has been its influence? Surveying the ramifications of *Maps of Time*, its influence has been notable and not confined to the academic discipline of history. Big History projects have emerged, most notably with the establishment of the International Big History Association (IBHA) in 2010.⁴⁰ Here, individual works aren't necessarily carried out on the entirety of Big History, such as *Maps of Time*. Instead, individuals write on their particular fields under the paradigm of Big History, contributing to the expansion of detail within these Big History projects, something *Maps of Time* fails to cover.⁴¹ Further works about Big History have been published, including Eric Chaisson's *Epic of Evolution: Seven ages of the cosmos* in 2006, Cynthia Stokes Brown's *Big History: From the Big Bang to the present* in 2007 and Fred Spier's *Big History and the Future of Humanity* in 2010.⁴² While the IBHA aimed to start an academic journal dedicated to Big History, this is yet to occur. However, Ian Hesketh notes that more journal articles on Big History have been published particularly in the *Journal of World History*.⁴³ Additionally, universities have developed and taught courses on Big History. In Australia, Big History courses are taught institutions including Macquarie University and the University of Tasmania.⁴⁴

39 Hayden White. 1987. 'The Value of Narrativity in the Representation of Reality.' In *Content of the Form* by Hayden White. Baltimore: The Johns Hopkins University Press, p. 16.

40 International Big History Association. 'Origins and Purpose of the IBHA.' Accessed 3 June 2016: www.ibhanet.org/page-1252419.

41 International Big History Association. 'Links.' Accessed 3 June 2016: www.ibhanet.org/page-1362386.

42 Ibid.

43 Ian Hesketh. 2014. 'The Story of Big History.' *History of the Present* 4(2): 177. Accessed 3 June 2016: www.jstor.org/stable/10.5406/historypresent.4.2.0171.

44 Paul Turnbull. 2015. 'The Aims of Big History.' *History Compass* 13(7): 355. Accessed 3 June 2016: doi: 10.1111/hic3.12242; 'Big History,' University of Tasmania. Accessed 3 June 2016: www.utas.edu.au/courses/art/units/xbr203-big-history; 'Big History Institute,' Macquarie University, last modified 30 March 2016: bighistory.mq.edu.au/.

The influence of *Maps of Time* has been enhanced by the involvement of Microsoft founder Bill Gates, who became interested in the field after seeing Christian's early lectures.⁴⁵ In 2008, he approached Christian with his proposal to bring Big History into classrooms. Three years later, the Big History Project was established and 'debuted in five high schools'.⁴⁶ Today, the Big History Project lists 120 schools in six different countries as 'Big History Schools', including 29 high schools in Australia.⁴⁷ Further, in 2014, the Big History Project gave a grant to the YouTube channel 'Crash Course', an educational channel founded by brothers John and Hank Green, to create a mini-series on Big History.⁴⁸ This 10-part mini-series debuted on 17 September 2014 and concluded on 9 January 2015.⁴⁹ At the time of writing, this mini-series has over 7,379,600 views.⁵⁰

45 Sorkin, 'So Bill Gates Has This Idea for a History Class ...'.

46 Ibid.

47 Big History Project. 'Schools.' Accessed 3 June 2016: www.bighistoryproject.com/pages/schools.

48 vlogbrothers. 2014. 'Deserving.' YouTube video, 3.38, 20 May: www.youtube.com/watch?v=-VgLOAxq9xw; Big History Project. 'Big History Project FAQ 2014–15.' Accessed 3 June 2016: www.bighistoryproject.com/media/bhp-assets/BHP-FAQ-2014.pdf.

49 CrashCourse, 'The Big Bang: Crash Course Big History #1'; CrashCourse. 2015. 'The Deep Future: Crash Course Big History #10.' YouTube video, 13.30, 9 January: www.youtube.com/watch?v=kq1HUTLtNW4.

50 Number derived from view totals on the following videos: CrashCourse. 2014. 'Exploring the Universe: Crash Course Big History #2.' YouTube video, 14.36, 24 September: www.youtube.com/watch?v=Fi30zjQhtWY; CrashCourse. 2014. 'Human Evolution: Crash Course Big History #6.' YouTube video, 16.12, 5 November: www.youtube.com/watch?v=UPggkvB9_dc; CrashCourse. 2014. 'Life Begins: Crash Course Big History #4.' YouTube video, 13.28, 9 October: www.youtube.com/watch?v=1WS712DHfmg; CrashCourse. 2014. 'Migrations and Intensifications: Crash Course Big History #7.' YouTube video, 13.40, 26 November: www.youtube.com/watch?v=Oy2XJMczUNc; CrashCourse. 2014. 'The Anthropocene and the Near Future: Crash Course Big History #9.' YouTube video, 12.19, 11 December: www.youtube.com/watch?v=3WpaLt_Blr4; CrashCourse, 'The Big Bang: Crash Course Big History #1'; CrashCourse, 'The Deep Future: Crash Course Big History #10'; CrashCourse. 2014. 'The Evolutionary Epic: Crash Course Big History #5.' YouTube video, 15.04, 29 October 29: www.youtube.com/watch?v=92oHNd8vFwo; CrashCourse. 2014. 'The Modern Revolution: Crash Course Big History #8.' YouTube video, 13.57, 4 December: www.youtube.com/watch?v=Q4Zdmd4J7TI; CrashCourse. 2014. 'The Sun & The Earth: Crash Course Big History #3.' YouTube video, 14.32, 2 October: www.youtube.com/watch?v=By6CKtN4wkl.

The expansion of Big History into high schools is not a surprising turn of events. The Big History Project describes Christian as ‘the “father” of Big History’, which would make *Maps of Time* the ‘constitution’ of Big History.⁵¹ *Maps of Time* does read like a guidebook to how Big History should be taught in schools – with the six parts of *Maps of Time* forming different units within the course. Further, the lack of historical depth could provide room for teachers to explore in more detail the components of history that Christian fails to do in *Maps of Time*. These courses encourage students to think on a grander scale than they would normally be encouraged to, and provides a new paradigm for them to think through. Further, as noted in the *New York Times Magazine* article, Big History in schools is taught as a ‘hybrid course’, with an emphasis on its multidisciplinary nature, and not specifically as history.⁵²

The utilisation of Big History and *Maps of Time* as the beginning of a new way of thinking about knowledge and not history is the greatest strength of *Maps of Time*. It is difficult to categorise *Maps of Time*, and it is not difficult to see how the multidisciplinary book would be grouped under the interdisciplinary nature of history. As Christian himself notes, he sees *Maps of Time* as part of a ‘larger project’, and this project is best summarised as a new attitude towards collecting the entirety of human knowledge, and a new paradigm towards interpreting this knowledge.⁵³ Ultimately, *Maps of Time* presents a compelling narrative to encourage the exploration of knowledge on a grander scale, which was one of Christian’s aims. However, he does not write an account of the entire past and he does not consistently write using historical method, therefore not achieving some of his aims and producing a text that cannot be classified as history. However, part of the book uses historical method and, in the process, raises questions about the practice and discipline of history.

51 Big History Project. ‘Big History Project FAQ 2014–15.’ Accessed 3 June 2016: www.bighistoryproject.com/media/bhp-assets/BHP-FAQ-2014.pdf.

52 Sorkin, ‘So Bill Gates Has This Idea for a History Class ...’; Big History Project, ‘Big History Project FAQ 2014–15’.

53 Christian, *Maps of Time: An Introduction to Big History*, p. 5.

References

- Big History Project. 'About.' Accessed 3 June 2016: www.bighistoryproject.com/about.
- Big History Project. 'Big History Project FAQ 2014–15.' Accessed 3 June 2016: www.bighistoryproject.com/media/bhp-assets/BHP-FAQ-2014.pdf.
- Big History Project. 'Schools.' Accessed 3 June 2016: www.bighistoryproject.com/pages/schools.
- Braudel, Fernand. 1980. *On History*. Translated by Sarah Matthews. London: George Weidenfeld and Nicolson Limited.
- Brewster, Kerry. 2013. 'Australian academic wins over Bill Gates on Big History course.' ABC, 10 September. Accessed 3 June 2016: www.abc.net.au/lateline/content/2013/s3845872.htm.
- Brewster, Kerry. 2013. 'Bill Gates plans to teach Australian man's history course in schools worldwide.' ABC, 11 September. Accessed 3 June 2016: www.abc.net.au/news/2013-09-10/bill-gates-big-history/4946140.
- Carr, E.H. 2001. *What is History?* New York: Palgrave Macmillan.
- Christian, David. 1991. 'The Case for Big History.' *Journal of World History* 2(2): 223–238.
- Christian, David. 2004. *Maps of Time: An Introduction to Big History*. Los Angeles: University of California Press.
- Christian, David. 2011. 'The history of our world in 18 minutes,' TED, April. Accessed 3 June 2016: www.ted.com/talks/david_christian_big_history/transcript?language=en.
- CrashCourse. 2014. 'The Big Bang: Crash Course Big History #1.' YouTube video, 14.24, 17 September, www.youtube.com/watch?v=tq6be-CZJ3w.
- CrashCourse. 2014. 'Exploring the Universe: Crash Course Big History #2.' YouTube video, 14.36, 24 September: www.youtube.com/watch?v=Fi30zjQhtWY.

- CrashCourse. 2014. 'The Sun & The Earth: Crash Course Big History #3.' YouTube video, 14.32, 2 October: www.youtube.com/watch?v=By6CkTN4wkI.
- CrashCourse. 2014. 'Life Begins: Crash Course Big History #4.' YouTube video, 13.28, 9 October: www.youtube.com/watch?v=1WS712DHFmg.
- CrashCourse. 2014. 'The Evolutionary Epic: Crash Course Big History #5.' YouTube video, 15.04, 29 October: www.youtube.com/watch?v=92oHNd8vFwo.
- CrashCourse. 2014. 'Human Evolution: Crash Course Big History #6.' YouTube video, 16.12, 5 November: www.youtube.com/watch?v=UPggkvB9_dc.
- CrashCourse. 2014. 'Migrations and Intensifications: Crash Course Big History #7.' YouTube video, 13.40, 26 November: www.youtube.com/watch?v=Oy2XJMczUNc.
- CrashCourse. 2014. 'The Modern Revolution: Crash Course Big History #8.' YouTube video, 13.57, 4 December: www.youtube.com/watch?v=Q4Zdmd4J7TI.
- CrashCourse. 2014. 'The Anthropocene and the Near Future: Crash Course Big History #9.' YouTube video, 12.19, 11 December: www.youtube.com/watch?v=3WpaLt_Blr4.
- CrashCourse. 2015. 'The Deep Future: Crash Course Big History #10.' YouTube video, 13.30, 9 January: www.youtube.com/watch?v=kq1HUTLtNW4.
- Edwards, Katherine. 2014. 'Why the Big History project funded by Bill Gates is alarming.' *The Guardian*, 10 September. Accessed 3 June 2016: www.theguardian.com/commentisfree/2014/sep/10/big-history-bill-gates-uk-state-schools-education.
- Evans, Richard J. 1997. *In Defence of History*. London: Granta Books.
- Fernlund, Kevin J. 2009. 'To Think like a Star: The American West, Modern Cosmology, and Big History.' *Montana: The Magazine of Western History* 59(2): 23–44, 93–95.

- Frank, Andre Gunder. 2005. 'Universal History: Sizing up Humanity in Big History.' Review of *Maps of Time: An Introduction to Big History* by David Christian. *Journal of World History* 16(1): 83–97. doi.org/10.1353/jwh.2005.0136.
- Furedi, Frank. 2013. 'Big History: The Annihilation of Human Agency.' Spiked, 24 July. Accessed 3 June 2016: www.spiked-online.com/newsite/article/frank_furedi_on_history/13844.
- Gates Notes. 'Big History Project is Getting Bigger.' Accessed 3 June 2016: www.gatesnotes.com/Education/Big-History-Project-is-Getting-Bigger.
- Grafton, Anthony. 2004. 'Life, the Universe and Everything.' Review of *Maps of Time: An Introduction to Big History* by David Christian. *American Scientist* 92(4): 379–381.
- Gustafson, Lowell. 2014. 'Big History.' *The International Schools Journal* 33(2): 35–46.
- Gustafson, Lowell S. 2014. 'Big History, part two.' *The International Schools Journal* 34(2): 50–60.
- Hesketh, Ian. 2014. 'The Story of Big History.' *History of the Present* 4(2): 171–202. doi.org/10.5406/historypresent.4.2.0171.
- International Big History Association. 'Links.' Accessed 3 June 2016: www.ibhanet.org/page-1362386.
- International Big History Association. 'Origins and Purpose of the IBHA.' Accessed 3 June 2016: www.ibhanet.org/page-1252419.
- Macquarie University. 'Big History Institute.' Last modified 30 March 2016: bighistory.mq.edu.au/.
- Mazlish, Bruce. 1999. 'Big Questions? Big History?' Review of *Guns, Germs, and Steel: The Fates of Human Societies* by Jared Diamond and *The Structure of Big History: From the Big Bang until Today* by Fred Spier. *History and Theory* 38(2): 232–248. doi.org/10.1111/0018-2656.00088.
- Mears, John A. 2015. 'Big History: Between Nothing and Everything by David Christian, Cynthia Stokes Brown, and Craig Benjamin (review).' *Journal of World History* 26(2): 402–405. doi.org/10.1353/jwh.2016.0029.

- Nerdfighteria Wiki. 'The Big Bang: Crash Course Big History #1.' Accessed 3 June 2016: nerdfighteria.info/video/265/tq6be-CZJ3w.
- Nerdfighteria Wiki. 'Exploring the Universe: Crash Course Big History #2.' Accessed 3 June 2016: nerdfighteria.info/video/265/Fi30zjQhtWY.
- Nerdfighteria Wiki. 'The Sun & The Earth: Crash Course Big History #3.' Accessed 3 June 2016: nerdfighteria.info/video/265/By6CkTN4wkI.
- Nerdfighteria Wiki. 'Life Begins: Crash Course Big History #4.' Accessed 3 June 2016: nerdfighteria.info/video/265/1WS712DHFmg.
- Nerdfighteria Wiki. 'The Evolutionary Epic: Crash Course Big History #5.' Accessed 3 June 2016: nerdfighteria.info/video/265/92oHNd8vFwo.
- Nerdfighteria Wiki. 'Human Evolution: Crash Course Big History #6.' Accessed 3 June 2016: nerdfighteria.info/video/265/UPggkvB9_dc.
- Nerdfighteria Wiki. 'Migrations and Intensifications: Crash Course Big History #7.' Accessed 3 June 2016: nerdfighteria.info/video/265/Oy2XJMcZUNC.
- Nerdfighteria Wiki. 'The Modern Revolution: Crash Course Big History #8.' Accessed 3 June 2016: nerdfighteria.info/video/265/Q4Zdmd4J7TI.
- Nerdfighteria Wiki. 'The Anthropocene and the Near Future: Crash Course Big History #9.' Accessed 3 June 2016: nerdfighteria.info/video/265/3WpaLt_Bl4.
- Nerdfighteria Wiki. 'The Deep Future: Crash Course Big History #10.' Accessed 3 June 2016: nerdfighteria.info/video/265/kq1HUTLtnW4.
- PBS Idea Channel. 2016. 'What's The Difference Between History and The Past?' YouTube video, 12:51, 4 May: www.youtube.com/watch?v=5N5zfBzzTvs.
- Public History Weekly. 'Big History: Can life go on without a meta-narrative?' Accessed 3 June 2016: public-history-weekly.oldenbourg-verlag.de/2014-35/big-history-can-life-go-without-meta-narrative/.
- Schwartz, Kraig. 2010. 'Big History and the Future of Humanity by Fred Spier (review).' *Journal of World History* 23(1): 147–149. doi.org/10.1353/jwh.2012.0001.

- Sorkin, Andrew Ross. 2014. 'So Bill Gates Has This Idea for a History Class' *New York Times Magazine*, 5 September. Accessed June 3, 2016. www.nytimes.com/2014/09/07/magazine/so-bill-gates-has-this-idea-for-a-history-class.html.
- Spier, Fred. 2012. 'Interpreting the history of "big history".' *Teaching History* 146(March): 50–51.
- Stearns, Peter N. 2005. 'Maps of Time: An Introduction to Big History by David Christian (review).' *The Journal of Interdisciplinary History* 35(4): 615–616. doi.org/10.1162/0022195043327390.
- Turnbull, Paul. 2015. 'The Aims of Big History.' *History Compass* 13(7): 349–358. doi.org/10.1111/hic3.12242.
- University of California Press. 'Journals.' Accessed 3 June 2016: www.ucpress.edu/journals.php.
- University of Tasmania. 'Big History.' Accessed 3 June 2016: www.utas.edu.au/courses/art/units/xbr203-big-history.
- vlogbrothers. 2014. 'Deserving.' YouTube video, 3:38, 20 May: www.youtube.com/watch?v=-VgLOAxq9xw.
- Von Laue, Theodore H. 1950. 'Historicism and the Writing of History.' In *Leopold Ranke The Formative Years* by Theodore H. Von Laue. London: Oxford University Press, pp. 109–138.
- von Ranke, Leopold. 2011. *The Theory and Practice of History*. Edited by Georg G. Iggers and new translations by Wilma A. Iggers. New York: Routledge.
- White, Hayden. 1978. *Tropics of Discourse*. Baltimore: Johns Hopkins University Press.
- White, Hayden. 1987. *Content of the Form*. Baltimore: Johns Hopkins University Press.
- Wikipedia. 'Big History.' Last modified 23 April 2016: en.wikipedia.org/wiki/Big_History.
- Wikipedia. 'Crash Course (YouTube).' Last modified 31 May 2016: [en.wikipedia.org/wiki/Crash_Course_\(YouTube\)](http://en.wikipedia.org/wiki/Crash_Course_(YouTube)).

This text is taken from *Merici, Volume 2, 2016*, edited by Matthew Rogers,
published 2017 by ANU eView, The Australian National University,
Canberra, Australia.