No brief review can possibly do even minimal justice to an author and his summa cum laude opus whose foreword by the father of modern world history, William H. McNeill, invites us “to have a great experience, read on, wonder, admire . . . this extraordinary book, a historical and intellectual masterpiece [of] truly astounding dimension” (p. xvi). This “great achievement, analogous to [how] Isaac Newton united the heavens and earth is even more closely comparable to Darwin’s uniting the human species and other forms of life within a single evolutionary process [and] is also a creation of the twentieth century [uniting] the efforts of physicists, cosmologists, geologists, and biologists, anthropologists, historians, and sociologists” (pp. xv, xvi). Significantly, Christian not only melds their accounts into his own but also stresses when and how—and often why as part of evolution itself—those who came before him made their own discoveries. For McNeill, “the supreme achievement of this work [is] Christian’s discovery of order amid chaos and complexity” (p. xvii) since the Big Bang in the universe, in the formation of our solar system and this planet Earth, in
the formation here of life and its evolution through natural selection
to human kind and its social organization from over one hundred
thousand years ago in family and tribe, to the neolithic revolution of
agriculture over ten thousand years ago and state formation about five
thousand years ago to the present—and onward to the future. I have
two reasons to believe that McNeill did not choose his terms of praise
gratuitously: one is that he did not use the same in his foreword to my
own book on only the last of these periods, and the other is that I
agree with him on both counts.

Christian devotes eighty pages of Big History to the modern creation
myth from the Big Bang through the history of the Earth, sixty pages
to the evolution of life thereon, another sixty pages to the evolution
of humanity and its early history, 120 pages to its history before the
modern world and another 120 pages since then, and thirty pages to
visions of the future. It would be fruitless even to attempt an endless
task of cataloguing five hundred pages of text, and about fifty pages
each of notes, bibliography, index, and fifty maps and illustrations as
well as two technical appendices on dating techniques and timelines
as well as on the transformation of chaos into order.

Among the dating techniques and timelines, Christian offers the
following perspective for our recent—one second!—history within the
13.6 billion years age of our planet Earth, by converting each billion
years to a scale of one year:

History of the Universe before Our Sun: From 13 to ca. 4.5 Years Ago

The big bang occurs ca. 13 years ago.
The first stars and galaxies appear by about 12 years ago.
The sun and solar system form about 4.5 years ago.

History of Earth and Life on Earth: From 4 Years to ca. 3 Weeks Ago

The first living organisms appear about 4 years ago.
The first multicelled organisms appear about 7 months ago.
Dinosaurs are driven to extinction after a meteor impact about
3 weeks ago; mammals flourish.

The Paleolithic Era of Human History: From 3 Days Ago to
6 Minutes Ago

First hominids evolve in Africa about 3 days ago.
First Homo sapiens evolves in Africa about 50 minutes ago.
First humans reach Papua New Guinea and Australia about
26 minutes ago.
First humans reach the Americas about 6 minutes ago.
The Holocene Era of Human History: From 6 Minutes Ago to 15 Seconds Ago

First agricultural communities flourish about 5 minutes ago. First literate urban civilizations appear about 3 minutes ago. Classical civilizations of China, Persia, India, and the Mediterranean and the first agrarian civilizations in the Americas emerge about 1 minute ago.

The Modern Era: The Past 15 Seconds

Human communities are linked into a single “world system” about 15 seconds ago. The Industrial Revolution occurs about 6 seconds ago. The First World War is fought about 2 seconds ago. Human populations reach 5, then 6 billion; the first atomic weapons are used; humans walk on the moon; and the electronic revolution occurs, all within the last second. (pp. 502–503)

Instead of fruitlessly trying to summarize or review the course of all this history, this reviewer will try to let the author himself speak about some of his principal and especially novel procedures and findings. Perhaps the most important, as already evoked by Christian’s title, are to use the analogy of a universal and global map of time to map out “the whole [that is] more than the sum of its parts” (p. 4), to discover an “underlying unity and coherence of how we were created and fit into the scheme of things” (p. 5), and, as already stressed by McNeill, to recognize that “we desperately need to see humanity as a whole” (p. 8). As an Australian, however, David Christian also includes on his map Australia—and also its aboriginal peoples who say “nothing is nothing” (p. 17)—which can teach us much more than some others for whom Australia simply remains down under. For Christian, the principal organizing force that converts chaos into order and that has made our physical, natural, and social history is gravity—both physical and social. That is what organized the pregalactic and still intergalactic dust of hydrogen and helium into galaxies and stars, including our own sun and the planetary system around it and of course many other stars and their ordered galaxies as well. Every day, five new stars are still born, and gravitational force is so great that it seems temporarily even to outbalance the second law of thermodynamics, whose forces disorder the universe and render it less complex.

However, evolution has no preplanned direction, Christian tells us, while also reminding us, for instance, that if that meteor had been a couple minutes off and had not hit Yucatan, we would not be here—
because the extinction of the dinosaurs would not have opened the niche in which those preexisting mammals that were already able to do so became evolutionarily survivalist. Much later—and several possible time lines are discussed—*Homo sapiens* evolved, adapted, and changed the world more than any other known species except bacteria, which are likely to outlive us. But this also means, the author reminds us, that evolution beyond single cellular organisms was not necessary, much less necessarily progressive, since they have done quite well in this world, thank you. Christian reviews many different stages or theories of when to use Ashley Montague’s (1951) old term “on being human” (pp. 165–184): a million years ago, which he doubts is a meaningful date from which to derive a single species; a half million years with the shift to symbolic language and adaptive creativity, and that or a bit longer in evolutionary time to separate us from Neanderthals; a quarter to a tenth of a million years of genetic change that distinguishes us from neighboring species; and an Upper Paleolithic “remarkably sudden” revolution (p. 178) only fifty thousand years ago that “marks the true beginning of human history” (p. 178)—all of them in Africa. Still, what most distinguishes us, Christian believes, is symbolic language that evolved about a half a million years ago and since then has afforded us the capacity to learn collectively. Like compounding interest, a sort of process of social evolution means new generations and individuals do not have to learn everything anew and makes them partially independent of their genetic inheritance through biological evolution. However, that may also be turning out to be a Faustian bargain with the Devil as my late best friend Thacher Robinson (1994) warned in his *Conversations with a Colorful Composter*, as the speed of our technological change outruns that of our evolutionary capacity to adapt to the changes we bring about—for example in the ozone layer or possibly with the atomic bomb.

More than to agriculture itself in the neolithic revolution in varying parts of the world some five thousand years ago, Christian lends greater importance and attention to domestication of plants and animals in even more regions beginning some thirteen thousand years ago. The “prime movers” (p. 224) for these developments were cultural preadaptation and ecological know-how, the local existence (or not) of suitable genetic preadaptations and potential domesticates, and climatic change and population pressure. Christian accepts received explanations of the well-known Neolithic agricultural “revolution” in the Fertile Crescent near the eastern Mediterranean. For the development of agriculture—again beginning with horticulture—he accepts the “best recent survey of the problems” by Bruce Smith (1995: 213):
In many regions of the world, experiments leading to seed plant domestication and, eventually, agriculture were carried out in a common set of conditions. The experimenters were hunter-gatherer [forager] societies that had settled by lakes, marshes, or rivers—locales so rich in wild resources that these societies could establish permanent settlements and rely to a considerable extent on local plant and animal communities. Thus a sedentary way of life, supported by the plentiful resources of an aquatic zone, seems to have been an important element in early experiments with domestication. (p. 238, quoting Smith)

But, Christian observes, “famine is a paradoxical by-product of the agricultural revolution . . . [large sedentary communities] are also more subject to [also new] diseases carried by rats, mice, bacteria, and viruses that flourish [there] . . . and new forms of stress” (p. 223).

Another “development” was intensification and specialization—a sort of de-skilling of human activities and impoverishment of biodiversity. (There are hundreds of kinds of potatoes from the Andes of which we use only a dozen.) And in a reinforcing circle, another “development” was settlement of human populations accompanied by intersettlement exchanges through trade that generated horticulture using human—especially female—labor and not animal draft or plow power. More controlled domestication, selection, and replanting of seeds—an early form of genetic engineering—then becomes agriculture but itself spread only slowly.

Again, Christian finds a now only “imaginary” social law of gravity operating “in a surprisingly close analogy to Newton’s law,” in which “the magnitude of the gravitational pull between communities is directly proportional to the size of the communities and inversely proportional to the distance between them” (p. 291). So

as larger communities emerged, some exchanged goods and information more briskly and over greater distances . . . . They sucked in people, ideas, and produce from huge hinterlands [and became] centers of gravity . . . . Einsteinian forms of gravity, in which large bodies deform the space-time surrounding them, and tilting and twisting it so as to alter the behaviors and motion of smaller objects within their gravitational field . . . . [and became] hub regions . . . . situated between regional centers of gravity in [whose] “gravitational corridors” . . . . at the intersection of different gravitational fields, they felt the pull of several different centers. (Christian’s emphasis, pp. 291–292)

Here and elsewhere the theme of unity and structure reappears in the observation that the wider the gravitational area and the more
diverse the center or hub of population of frequent contact and interchange, the higher the probability of innovation. Christian devotes his tenth chapter to identifying, analyzing, and exemplifying several of these geographical and social formations in terms of source and scale of innovation, greater population growth, sources and locus of capital accumulation, births of major religions, locus of exchange, commerce and urbanization—but also as loci of disease and epidemics. These do not accidentally occur in areas of geographical connectivity as between Southwest Asia and North Africa, or the Kraal Peninsula and Straits of Malacca in Southeast Asia, or the numerous other instances of “logistic nexus” identified by Gills and Frank (1992). Nor is it remarkable for Christian or the aforementioned that the first of these was the birthplace of Zoroastrianism and Manichaeism in Persia; Buddhism in India; Judaism, Christianity, and Islam in the Levant; and simultaneously with the first ones of Confucianism and Daoism in China, when Christian observes and others have empirically confirmed (Frank 1993, Chase-Dunn and Hall 1997, Frank and Thompson 2004) that East and West Asia became a single “world system.”

Nonetheless, it is not altogether clear whether social gravity, like physical gravity, is also an existing force, or whether it is Christian’s organizing principle. Either way after introducing and attributing the above to it, he does not actually often again refer to or use gravity either as force or as explanation in his march through history. For me, the question arises whether organizing social gravity is a sort of negative social entropy and to what extent it counteracts a sort of social entropy that disorganizes social relations as a counterpart of social evolution through effort at social “development.” If both are forces and they countervail each other, which is the stronger? (Entropy and especially its dissipation from developing center to underdeveloping periphery are examined by Frank 2002.)

Energy consumption has increased from two thousand calories per day before agriculture to twelve thousand with early agriculture five millennia ago, doubling that by one millennium ago, and tripling that by the mid eighteenth century, to 220,000 today—while reducing the time in which world population doubles from ten thousand years down to five thousand in the first period, a bit more than fifteen hundred years in the second period to five hundred a millennium ago and seventy-five years since the Industrial Revolution, declining still more to a couple of generations since then and now slowly growing again. So total human energy consumption multiplied some fifty thousand times over the past ten millennia from thirty thousand calories then to 1,380,000 today and now monopolizes 25–40 percent of the energy
supplied to this planet from the sun alone, not counting fossil fuels (pp. 140–141). If that is not a literally remarkable human impact, what else is—unless it is humans’ even greater absolute and proportionate use and destruction of the sources of energy, and according to John McNeill’s *Something New under the Sun* (2002), fully half of that was in only one century: the last one—so far. But again, totals and averages mask the distribution of population and energy consumption, in which roughly 20 percent of the population consumes 80 percent of the energy, and 80 percent of the population must make do with the remaining 20 percent, which the penury imposed on the poor obliges them to use wastefully.

In short and to put it mildly, in this human history the Neolithic revolution of agriculture and the state over the past five millennia “replaced freedom by slavery” (p. xx) and “agriculture did more to depress standards of human welfare than to raise them” (p. 224). Paradoxically to us perhaps but obviously in the nature of things, agriculture and livestock as well as cities created cesspools of germs, and rats, mice, insects, and other agents bore disease transfers and epidemics. From agriculture there followed a decline in nutritional standards and recurrent famine, pastoral/agricultural conflicts over the same land as evoked in but not only in American and spaghetti Western movies, competition for and armed conflict over other resources between settler cultivators and nomadic pastoralists, military specialists, war, stress. Industrialization and nineteenth-century deindustrialization continued urbanization but only accelerated and multiplied the same, leading to the American way of life for some and death for others.

Christian discusses top-down oppression and exploitation vs. bottom-up demand for protection as alternative or complementary “internal” factors in state formation. But he does not give equal or possibly deservedly more weight to “interpolity” relations for the formation of each state and policy as Cohen (1978) and Frank (1993) do. And that is so despite devoting ample space to empire building (also tracing the increase in geographical size of empires from 1 megameter [1 mgm = 100,000 km2] at the mid first millennium B.C.E. to 4–6 mgm in the Han and Roman empires, 10 mgm for Islam, and the exceptional 25 mgm of the Mongol empires), and to migration, invasion, and war as well as trade over long distances. He cites Taagepera’s various studies of the rise and decline of empires, but he does not note that they also all deal with “internal” factors except for barbarian invasions such as those to which Gibbon famously attributed the fall of the Roman empire. Instead he lists the following as defining characteristics of agrarian civilizations: communities, gender and other hierarchies, cities and towns,
division of labor, armies, literate bureaucracies, religion and ideology, and wider hinterlands (p. 289). There is no suggestion here that, as I argue (Frank 2001) there have never been any pristine civilizations, that the very term should be abandoned as scientifically fallacious, since the interaction among their peoples has forever made it impossible to delimit or define them, which now renders the very term ideologically and politically vicious (consider the uses of the “clash of civilizations” and “ethnic cleansing” today). Moreover, as a student and author on Central and Inner Eurasia, Christian agrees with me when I wrote that the Centrality of Central Asia (Frank 1992) has vitally interacted with and thereby shaped all of its outlying “civilizations” in East, Southeast, South, and Southwest Asia, not to mention Africa and Europe.

Christian’s review then of the past two millennia of global history is more or less standard, including for this reviewer lamentably the nonsense concept of “modernity,” although it is also exceptionally competent and up to the minute, including for instance the new findings of the only recently emerging “California school” of world and East Asian history. However, I do wish to comment on a couple of developments in this history. One is the rise of the West and the Industrial Revolution. Christian’s “frustrating” (p. 401) contingent (p. 390) explanation—that it need not have been so—rightly rejects most Eurocentric European exceptionalisms from Weber and Marx to Braudel and Jones’s European Miracle (1981). But he still retains—in my opinion, wrongly—the (not so exceptional) European state system and aspects of a (nonexistent) scientific revolution as “preconditions” (p. 404) that enabled Europe to strike while the contingent world iron was hot. But at least he recognizes that “no single man was ‘father of the steam engine,’ no single civilization either” (p. 423) and that until at least 1800 “Asia remained the heartland of the world system—a fact that historians have only recently understood clearly” (p. 404). My ReORIENT (Frank 1998a) demonstrates precisely that, but also that hardly anybody had previously thought so, at least in the West. Nor would they have, I can only say, even with his contribution thereto. But then Christian affirmatively quotes Patrick O’Brien to the effect that “pronounced discontinuity still seems unmistakable” between 1750 and 1850. On the contrary, as my forthcoming sequel ReORIENT the Nineteenth Century will show, precisely that is a mistake. Indeed much of Christian’s own review and its very good statistical tables (13.1–13.3) of that century show what Kenneth Pomeranz (2001) has called the Great Divergence only took place after 1850 and mostly after 1870 (pp. 432–437). Since Christian also recognizes the
recent resurgence of Asia, that reduces the period of Western dominance to about only one century, and not one or even a half of the Eurocentric millennium.

The twentieth century Christian regards as “an utterly new stage in human history and in the history of human relations with other species and with the earth” (p. 440). The human population that since the beginning of time had reached 1.6 billion in 1900 suddenly jumped to 6.1 billion in 2000. Nonetheless, deaths from war escalated to over 100 million, or three times as many as in all of the previous millennia. Yet human life expectancy at birth nearly doubled. In the first half of the century, the global economy grew from US$2 trillion to US$5 trillion, and in the second half to US$39 trillion (pp. 443–446). And technological (under?)development has transformed the world. But probably the most important (under)development was the human impact on the earth’s biosphere and even atmosphere, for example, the ozone ring, and global warming. Christian reproduces estimates by Robert Kates et al. (1990), according to which among ten different measures of environmental change in the last ten to twelve millennia, half the change occurred in the last half century; and in the other three—deforestation, carbon release, and extinction of vertebrate species—half the deterioration has been in the last 150 years (p. 462).

As for the future, “quantum physics shows that it is in the nature of reality to be unpredictable” (p. 467). Paradoxically, however, the farther away in time and space it is, the less unpredictable it is—though we still do not know if the universe will continue to expand forever or rather will collapse into a black hole of nothingness and timelessless. In the meantime, Christian thinks we must try our best to foresee at least the next century, because then we might be able to influence part of its course. But his own foresight is little more than an extrapolation of the change in the rate of change of the past century, especially through technology.

Herein Christian differs from fellow Australian, big historian, political economist, and sociologist Graeme Snooks, who however does not even appear in Christian’s index though he does in his bibliography. Snooks’s trilogy begins with The Dynamics of Society: Exploring the Dynamics of Social Change (1996) and ends with Laws of History (1998), though he has published further related books since then. Snooks also begins with the Big Bang, which he dates at fifteen billion years ago. Snooks proposes an interpretation of Darwinism in which economic systemwide competition for survival repeatedly and endogenously obliges species and especially humans to invent and develop “dynamic strategies” to overcome bottlenecks and impasses of previous strategies
as they run out of steam. So Snooks finds, explains, and uses an endoge-
nous dynamic to follow the same passages from one past evolutionary
stage to another as does Christian, in whose hands evolution appears
much more contingent and open ended—it need not have been so!
Moreover, Christian’s “social gravity” may organize society, but it does
not necessarily propel it. However, Snooks does place much faith in a
continuing dynamic strategy through which humanity’s “invention is
the mother of necessity” will find and develop technological solutions
to the same looming ecological impasse, instead of just extrapolating
that possibility as Christian does. (For my review essay of Snooks, see
Frank 1998b.) Correspondence with both about my draft of this review
led to the following private correspondence, part of which I dare here
to make public. Snooks writes:

As you know, the main methodological difference between David
Christian and I is that I have developed (inductively) a general
dynamic theory (the “dynamic-strategy” theory) to explain the vari-
ous transformations of life and to predict further transformations over
the next century or so. David has adopted the old historicist approach
of describing and extrapolating past trends into the future.

And Christian comments:

As for Snooks’ work, I should say that I’m immensely impressed by
what I read, but am not yet persuaded by his model of human moti-
vation. Still, I think it’s wonderful to see someone trying to theorise
world history more rigorously than I have, and the breadth of his read-
ing is quite awe-inspiring!

I emphatically agree with both.

Another missing colleague in Christian’s account is Steven K. San-
derson’s Social Transformation: A General Theory of Historical Develop-
ment (1995). Sanderson also identifies and develops an endogenous
“Theoretical Strategy of Evolutionary Materialism and World History”
over at least the last ten millennia, which reviews many of the same
developments as Christian does.

Sanderson’s also historical materialist (not to be confused with
Marxist) approach rests on a Darwinian conflict theory of an inbuilt
structural complexity/hierarchy mechanism of social evolution or
development that he uses in particular to explain recurrent war, which
is a dimension largely missing in Christian. (For my notes on San-
derson, see Frank 2001.) Both Snooks and Sanderson consider Stephen
Jay Gould’s influential notion of the “selfish gene” and Snooks—I
think correctly—destroys Gould’s essentially microeconomic argument, to which Christian devotes a mere three isolated references. All three give rather short shift to Jared Diamond’s influential *Guns, Germs, and Steel* (1998), legitimately so, I think, and not only because it appeared after two of them. Not so for the materialist evolutionism of *Cultural Materialism* (1980) and other works by Marvin Harris, who receives the attention I think he deserves from Sanderson but not from Christian. Regarding the important issue of the Industrial Revolution and the rise of the West, I regret to say that all three—and Diamond as well—abandon their own big historical and Darwinian perspectives and simply revert to the quite inadequate received Eurocentric wisdom that I have criticized and, I hope, destroyed elsewhere (Frank 1998).

On the other hand, at least two or three overlaps between Christian and others deserve to be noted. One is the astronomer Eric Chaisson (2001), whom Christian cites extensively (pp. 79–82) regarding rules of complexity, energy differentials that sustain complex galactic and earthly entities and whose “ultimate source is gravity.” And yet “In Schrödinger’s famous phrase, each living organism seems to have an astonishing capacity for ‘continually sucking orderliness from its environment.’” (p. 80). That is tantamount to Prigogine’s *Order out of Chaos* (1984).

The most important overlap is with Fred Spier. His colleague Johan Goudsblom visited Christian in Australia and was so impressed that he went home to Holland and asked Spier jointly to develop a course that then led the latter also to write his own one-hundred-page book *The Structure of Big History: From the Big Bang until Today* (1996). He makes “a rather big jump to advance one single, uncomplicated, conceptual scheme for all history, of which human history is only a tiny part,” and which he derives essentially from chaos theory (Spier 1996: 2). He also bases himself on Schrödinger and participates in the search for “a ‘theory of everything’ fusing the basic forces into one single paradigm,” which he calls structurally and functionally similar macro and micro “regimes” and defines as “a more or less regular but ultimately unstable pattern that has a certain temporal permanence . . . of nonlinear processes, which are omnipresent in nature, as chaos theorists emphasize” (Spier 1996: 14, 9, also citing Gleick 1988). Spier writes that “in my parlance, the term regime is identical to David Christian’s ‘equilibrium systems,’ [which] he describes as ‘the fragile equilibrium systems include galaxies, stars, the earth, the biosphere [. . . Gaia], social structures of various kinds, living things and human beings . . . [all of which] eventually succumb to . . . “entropy”’” (Spier
1996: 3, citing Christian 1991: 237). “For an adequate analysis of fuzzy reality, we need fuzzy yet versatile concepts” Spier writes (p. 9), though it is of paramount importance to see that in contrast to human cultural regimes, all inanimate regimes, and perhaps the great majority of biological regimes as well, are formed by and maintained through unconscious, unintentional interactions” (p. 14). Regarding the latter, such as Christian, as well, Spier also takes off from his mentors Norbert Elias and especially Goudsblom, more specifically the latter’s Fire and Civilization (1992). I personally agree with Spier (Frank 1958–59, 1963–64) about fuzziness on “Goal Ambiguity and Conflicting Standards . . . and Social Change,” which argue for the flexibility of overdetermination even more than underdetermination, but not about the alleged contrasting difference of human interactions. The World System: Five Hundred Years or Five Thousand? (Frank and Gills 1993) demonstrates the organizational and transformational importance of unconscious, unintentional human interaction. In this regard, Christian seems de facto to hold with Spier that the dynamic of decisions and events is quite open-endedly contingent before they happen, but then results in path dependency that precludes alternative future paths that were not previously taken. Sanderson also seems to agree and emphasizes additionally that evolution is not necessarily progressive, but as often as not regressive. For Snooks, in contrast, the dynamic of “both nature and human society is much more structurally dependent and determined through the endogenous and myopic interaction between the decision-maker and its social environment, thereby generating outcomes that can be either successful or unsuccessful” (in the terms of his e-mailed rewrite of my original formulation).

Now, since a review is supposed to be critical as well as expository, I will also add a critique. Christian drives his observatory and analytical vehicle through a sort of tunnel of time that begins with the wide universe and becomes ever narrower as he proceeds through the galaxy to the solar system to the sun to Earth to life to evolution to humanity. After each stop, he leaves that topic behind until in his final chapter on the future he returns to space beyond our Earth. But in so doing, he devotes scarce attention to life and evolution while he was not looking since his last visit there eons ago, and none to their possible future. However, evolutionary competition for survival continues for other forms of life as well. So it is quite possible—indeed I would say probable—that this earth may all too soon belong to the insects and/or single cellular microbes and viruses or others. Christian himself observes that in their past, which is much longer than ours, and still in the present they have been doing quite well, thank you. Why
should they not—despite or indeed also because of his and our non-
consideration thereof—flourish even more so in the future? Christian
responds to this question by e-mail suggesting that (especially in the
twentieth century that he regards as unique) we have been outrunning
evolution. That is precisely the major point of Thacher Robinson
(1994) cited above, though for the latter that is precisely the crisis
that we have ourselves created. For him, in the Chinese meaning of
the term “crisis” as the combination of danger and opportunity, it is a
situation that poses imminent danger, while for Snooks it is opportu-
nity. Hereon, Christian himself seems to be agnostic.

Finally, and returning to what Christian does do in conclusion, he
emphasizes that indeed the popular confusion of evolution with prog-
ress is a confusion. There is nothing “better” or more “ethical” about
it, except perhaps survival of the fittest, and who is to say that is any
better? Moreover, most species evolved and later died out, perhaps 85
percent of them 250 million years ago, not only the dinosaurs 65 mil-
lion years ago, Neanderthal humans perhaps twenty-five thousand
years ago, and literally countless others along the map of time are
dearer than the dodo, for they left not even a trace or memory of
themselves. Also, although “all knowledge arises from a relationship
between the knower and the object of knowledge” and “all accounts of
reality are provisional” in this case “from a perspective of the early twenty-
fifth century” (Christian’s emphasis, p. 11) of “a story that deserves
telling even if the telling is imperfect” (p. 5). Well even if so, and
though the whole is more than the sum of its parts, there is so much
to be learned from even any one of this book’s many parts to make that
alone worth the purchase price of the whole. But could/should he
have called it Universal (!) History?

Works Cited

Cambridge, Mass.: Harvard University Press.
Chase-Dunn, Christopher, and Thomas Hall. 1997. Rise and Demise: Com-
2.2:223–238.
Cohen, Ronald. 1978. “State Origins: A Reappraisal.” In The Early State,
edited by Henri J. M. Claessen and Peter Skalnik. The Hague: Moun-
ton.
New York: Norton.


Spier, Fred. 1996. *The Structure of Big History: From the Big Bang until Today*. Amsterdam: Amsterdam University Press.