



# Journal of Big History

Integrating Cosmos, Earth, Life,  
and Humanity

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# From the Editor

This year marks the tenth anniversary of the International Big History Association, and it has been more than thirty years now since the first big history courses were offered by John Mears at Southern Methodist University in Dallas and David Christian at Macquarie University in Sydney. By now the justifications for doing scientific and humanistic analyses at large time scales have been well established. If anything, they are even *more* relevant today than they were thirty years ago. This comes through clearly in the contributions to this edition.

At the scale of 4 billion years, the scale of life on Earth, Tyler Volk, Professor of Biology and Environmental Studies, New York University, looks for new models and draws links across various disciplines. Author of *Quarks to Culture: How We Came to Be* (2017) and *Metapatterns: Across, Space, Time, and Mind* (1995), here Volk, a self-described “patternologist,” compares his tripartite system of dynamic realms with the working conceptual structures currently deployed in the field of big history. While noting the commonalities, especially the metapattern of generalized evolutionary dynamics, between his work and big history, he argues that another metapattern for evolution, PVS (propagation, variation, and selection), could be used profitably in big history both in terms of biological, and especially cultural evolution, suggesting that PVS dynamics could be used in big history to establish a better model of collective learning.

Moving back and forth between the scale of the Anthropocene and the present, Tatiana de Freitas Massuno, Pontifical Catholic University of Rio de Janeiro, and Daniel Barreiros, Federal University of Rio de Janeiro, explore the ways in which big history can respond to what David Christian calls the “intellectual apartheid between the ‘two cultures’ of science and the humanities.” Using the lens of literary theory, they examine Ian McEwan’s *Solar* (2010), wherein the main character, one Michael Beard, Nobel laureate for research on clean energy, is so caught up in his own personal problems that he utterly fails to recognize the global implications of his own work. It is a fascinating character study and entirely à propos to our current circumstances. “Beard’s epistemological disjunction,” the authors warn us, “is a collective, societal, civilizational matter. If it were a disease, it would be a widespread endemic one.”

Another benefit of doing analyses at large time scales is that it allows scholars to do some thinking about the future, an exercise that becomes all the more critical as our population and our technological capabilities continue to grow at exponential rates. In “Crossing the Threshold of Cyborgization,” Anton Grinin, Moscow

State University, and Leonid Grinin, The Institute of Oriental Studies of the Russian Academy of Sciences, Moscow, examine technological evolution. Looking at trends in cyborgization, the process of replacing parts of the human body with cybernetic implants, the authors review its origins in collective learning and ask questions about problems and risks associated with future scientific and technological progress.

At the scale of 500 years, that is, in the context of the emergence of modernity, Kevin Fernlund, University of Missouri, St. Louis, explores debates surrounding the idea of the universal evolutionism of the Enlightenment. Addressing cultural critics who see modernity as yet another form of western cultural imperialism, Fernlund makes the case that this is in fact a global change. Central to the question—and integral to investigations of the past at large time scales—is the notion of progress. Along the way, Fernlund opens a new trail of big history scholarship that extends back to the mid-eighteenth century, arguably even to the sixteenth century, thereby adding significantly to the big history genealogy.

Finally, in keeping with the journal’s commitment to pedagogy and at the core of our investigations since the first big history courses were offered in the 1980s, historical analyses at large time scales provide a vital vantage point for purposes of education. All else flows from this: questions of progress and meaning, interdisciplinarity, overcoming the two cultures divide, concerns for the future, stewardship of the Earth, global citizenship. Paolo Vismara, Scuola Secondaria di Primo Grado “Segantini,” Nova Milanese, Italy, elicits all these ideas in a creative exposition of his forays into teaching big history in Italian middle schools. Vismara has recently published a big history novel entitled *Storia interiore dell’Universo*. Here in this essay, steeped in the Montessori tradition, he seeks to overcome the fragmentation of knowledge, and to create new experiences for teachers and students alike, that will allow them to enter the “pools of mystery” of each big history threshold so as to approach “common themes studied from the different points of view offered by the various disciplines.”



David R. Blanks, Editor

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