

The Study of All Existence: Big History, Universal Studies and the Global Conjunction

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*What meaning can we derive from the vast panorama of the universe,
life on Earth, human progress, and our current global challenges?*

Humans have asked such questions whenever they have tried to understand existence. This happened when family bands used their deep territorial knowledge to craft worldviews reflecting their keen observations, when Palaeolithic artists painted images on rock walls, as agriculturists developed landscape calendars, and as Pre-Socratic philosophers in Greece, Mauryan sages in India and Zhou scholars in China advanced holistic cosmologies. Rational answers gradually replaced myth in a fact-based understanding of the world. This led to refinement of the scientific method, scholarly research and a unity of knowledge transcending national, religious and ethnic boundaries.¹

As trade and contact made people aware of each other's ideas during the process of globalization, scholars began to knit together a universal knowledge about all of humanity and nature. It was in this milieu that the German naturalist, Alexander von Humboldt, developed his five-volume work, *Kosmos*, between 1845 and 1862, which is regarded as a founding event in macro-studies.² Ironically, just as this synthesis came together, its diffusion was interrupted by the advent of the modern university system, with its programme of specialization and departments.³ This partitioning of knowledge led not only to new silos that divided all walks of life but also led to a pervasive distrust of attempts to synthesize concepts into large narratives.

From Departmentalism to Cross-Disciplinary Studies

Despite institutional resistance, the need for holistic frameworks never died away. Scholars continued in the earlier tradition of wide, inclusive thinking, as with von Humboldt's fellow geographers, Peter Kropotkin in *Mutual Aid* (1902) and Alfred Russel

Wallace in *Man's Place in the Universe* (1903).⁴ Society also saw the rise of bio/chemistry and electrical/engineering as new industrial connections were needed. Such pragmatic blending widened scholarly efforts, as when ecologist Kinji Imanishi's study of mayflies led him to compose *The World of Living Things* (1941) and then later, as an anthropologist, to develop *shizengaku* (whole nature studies), a synthesis based on experiential learning to seek fully integrated understanding.⁵

In this search for reconciliation between science and meaning, Hindu scholar and Nobel Prize winner Rabindranath Tagore encouraged global networking of science and philosophy, as in *Visva Parichay* (1937), while Christian scholars, like palaeontologist Pierre Teilhard de Chardin, not only advanced science but sought to incorporate it into new thinking about the human condition, as laid out in his post-humous synthesis, *Le phénomène humain* (1955). Expansive worldviews persisted in popular culture, such as H.G. Well's *Outline of History* (1920) and Hiram Percy Maxim's *Life's Place in the Cosmos* (1933). Universal history had even entered English primary education by the 1930s and then came to be incorporated into the Montessori system as *cosmic education*.⁶

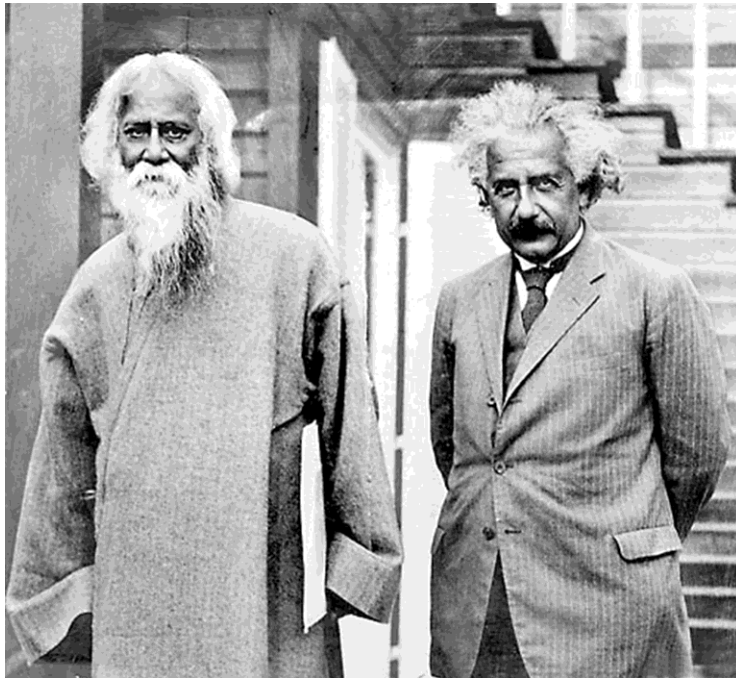


Image 1: Rabindranath Tagore and Albert Einstein in Caputh, Germany, 14 July 1930. Source: UNESCO.

As a result of the scientific and technological ferment of the World War and Cold War eras, a vast assemblage of new data soon led to the need for larger frames of reference. In 1949, the United Nations Educational, Scientific and Cultural Organization (UNESCO) established an international commission to assemble a history of all humankind. A six-volume series, *The History of Humanity – Scientific and Cultural Development*, came out in 1966.⁷ The Space Race further galvanized efforts to foster new interdisciplinary discoveries, while socio-historical scholarship that had sought to understand the post-colonial world underwent similar revitalization.

Soviet scholars began to develop an integrated pedagogy that spanned the natural and social sciences.⁸ One of the first books to embody this new view was by astrophysicist Iosif Shklovsky in *Вселенная. Жизнь. Разум.* (Universe, Life, Intelligence) in 1962. Four years later, an expanded English-language adaptation of this work was produced with astrophysicist Carl Sagan as *Intelligent Life in the Universe*. This international co-operation was not accidental, as a similar form of macro-study had also developed in the United States.

From the 1920s through the 1950s, Harlow Shapley promoted *cosmography* at the Harvard College Observatory, a study that examined the interlinked nature of stars, Earth, life and humanity. In the 1960s, Carl Sagan offered his rendition of it, and, in 1974, astrophysicists George Field and Eric Chaisson gave a course and produced materials on what they termed *cosmic evolution*.⁹ Other scientists also had independently moved in this direction, including astrophysicist G. Siegfried Kutter at Evergreen State College, astronomer Tom Bania at Boston University, and biologist Michael Rampino at New York University.¹⁰

This progress towards assembling a big picture of our place in the scheme of things also emerged in other parts of the world. Chinese scholars, including celebrated rocket scientist Qian Xuesen, began to research complexity and published a paper on what they called 开放的复杂巨系统 (Open Complex Giant System), which paralleled cosmic evolution as a meta-synthesis of scientific knowledge.¹¹

Scholars began to produce a wealth of books that were formulations of this expanded worldview, such as bio-geologist Preston Cloud's *Cosmos, Earth and Man* (1978) and

astrophysicist Erich Jantsch's *The Self-Organizing Universe* (1980). Mathematician Antonio Vález in Colombia began a trilogy on universal history with *Del Big Bang al Homo sapiens* (1984).¹² Some of these works became very popular. The television series, *Cosmos*, with Carl Sagan (1980) was viewed by over 500 million people in 60 countries, while the book, *A Brief History of Time* (1988), by English astrophysicist Stephen Hawking, sold over 9 million copies.¹³

Parallel to this activity in the natural sciences, social and economic studies coalesced with international relations in an effort to comprehend the many faces of global development. Economic historian Andre Gunder Frank attempted to move global studies outside of Cold War frameworks and to describe a one-world system, while sociologist Immanuel Wallerstein envisioned interlocking global subsystems.¹⁴ This socio-historical work expanded and merged with larger paradigms, as when economist Graeme Snooks moved his Theory of Global Dynamic Systems beyond the modern era to encompass all of Earth's history, including its physical interactions.¹⁵

These scholarly activities reflected a ferment in holistic thinking that was taking place in popular culture around the world. Humanity's search for meaning stretched beyond traditional and regional confines to embrace wider horizons, finding expression through individual activities, faith traditions, and secular engagement.

Philosopher Jiddu Krishnamurti sought to generate an all-encompassing expression of understanding that embraced humanity, nature and the cosmos, as with his *Beginnings of Learning* (1975). In the tradition of Jesuit philosopher Teilhard de Chardin, cultural historian Thomas Berry developed a 'new story' that integrated a global narrative of humanity and nature in works like *The Dream of the Earth* (1988).¹⁶ Both Krishnamurti and Berry left behind active organizations that developed educational programs, multi-media productions, and a legacy that converged with the new science and scholarship in a global articulation of holistic thinking.

The Merging of Cross-Disciplinary Studies

Another manifestation of these cross-disciplinary connections appeared in calls for reform of the university system. In 1985, historian John Mears advocated for an

integrated curriculum of general education organized around a theme of universal history.¹⁷ Four years later, he began a course that spanned all existence, in the context of history, at Southern Methodist University in Dallas, Texas (USA), as did David Christian at Macquarie University in Sydney (Australia). As Christian explains, he began asking scholars the question: ‘When does history begin?’ Receiving different answers, he realized that students were getting confused fragments about our origins:

The astronomer talking of ‘galaxy and star formation’, the geologist discussing ‘plate tectonics and erosion’, and the biologist describing ‘life and evolution’ were all referring in different ways to what historians might describe simply as historical change or change through time.¹⁸

So, Christian sought to ‘erase’ the ‘jagged edges’ between these studies and design a course that was more unified. In 1991, he coined the term, ‘big history’ in a moment of whimsy, when asked what such a perspective was called, and the name stuck, at least for many social scientists.¹⁹ Physical scientists tend to retain the cognomen, ‘cosmic evolution’, while other terms are in vogue elsewhere. While this trajectory developed in American and Australian classrooms, it continued to spread in Russia and China, and sprang up elsewhere.

Historical psychologist Akop Nazaretyan codified his research in the Russian Academy of Sciences to develop an integrated pedagogy under the Education Ministry’s category of ‘conceptions of modern sciences,’ which he called Универсальная история (universal history). In 1991, he produced *Intelligence in the Universe: Sources, Evolution, Prospects*, which served as a bridge between Shklovsky’s work and his own work in social psychology and conflict resolution. He joined with global historians and scientists in this effort, such as biologist Alexander Markov, anthropologist Andrey Korotayev, and astrophysicist Alexander Panov.

Japan has had a strong peace movement, especially so in the aftermath of the Second World War. In 1983, the Regan Administration announced its Strategic Defence Initiative, including the development of an orbital weapons system. In response to this ‘Star Wars’ program, Osamu Nakanishi, an international relations professor and dean at Soka University in Tokyo, founded the Institute for Global and Cosmic Peace, in order to

advocate for cooperation in space. From this social movement, work led to the establishment of publications in what they call *universal studies*, which incorporates big history, and then led to the first university courses on big history in Japan.²⁰

In China, historians continued the synthesis begun by colleagues in the physical sciences. Historians Qi Tao (1991) and Cheng Ming (1994) argued for interdisciplinary, holistic and materialist interpretations of ancient history, which led to some striking insights, such as Qi's interpretation of 'echoes of the Palaeolithic' in ancient Chinese narrative.²¹ In 1996, science historians Dong Guangbi and Tian Kunyu published their synthesis, *The Origin of Heaven and Earth – Natural Evolution and the Birth of Life*. Three years later, historian Ma Shili, at Nankai University, extended his text on world history to include cosmic origins and evolution of life. And, in 2000, historian Huang Liuzhu called for uniting natural and human histories in China, urging his colleagues at Northwest University (Xi'an in Shaanxi) to initiate such a program.²²

After sociologist Johan Goudsblom encountered big history on a visit to Australia in 1992, he began a similar course with anthropologist Fred Spier in the Netherlands two years later.²³ Spier then produced, *The Structure of Big History: From the Big Bang until Today* (1996), in which he outlined some of the parameters of the new field.

Cosmologist Brian Swimme worked with Roman Catholic philosopher Thomas Berry to produce *The Universe Story* in 1992. This led them into deeper collaboration with Mary Evelyn Tucker and John Grimm, who had also worked with Berry and had begun a conference series on ecology and religion at Harvard University in 1996, which then migrated to Yale University as the Forum on Religion and Ecology ten years later. This in turn resulted in their joint collaboration to produce *The Journey of the Universe*, a multimedia synthesis of Berry and others' views of meaning in the cosmos.²⁴

Eric Chaisson's works serve as standard texts for physical scientists, as with *Cosmic Evolution: The Rise of Complexity in Nature* (2001) and *Epic of Evolution: Seven Ages of the Cosmos* (2005). Akop Nazaretyan synthesized the principles of universal history in *Civilization Crises within the Context of Big (Universal) History* (2001). David Christian developed his *Maps of Time: An Introduction to Big History* (2004), while Cynthia Stokes Brown produced *Big History: From the Big Bang to the Present* (2007), which

she honed into a continuum of world history. These and other volumes have been translated into world languages and are regularly produced in new editions. Thus, a solid core of literature came into service of the field.

The first world conference on such macro-studies took place at the International University of Nature, Society and Humanity in Dubna, Russia in November 2005 on the topic of *Big History and Synergetics*. As a result of this gathering, an edition of the journal, *Social Evolution and History*, was devoted to big history the same year, edited by Graeme Snooks and including many of the field's innovators.²⁵

Several historical associations encouraged the development of big history, including the World History Association and The Historical Society, while big historians helped form the Network of Global and World History Organizations. Senior historians like William McNeill provided advice and support, as did global historian Leonid Grinin at Uchitel Publishing in Russia and the Berkshire Publishing Group in the United States.²⁶ As information technology and computer networks expanded, websites articulating a macro approach also developed. Eric Chaisson and his colleagues brought online, *The Arrow of Time* (2007) and *Cosmic Evolution: From Big Bang to Humankind* (2008), while Walter Alvarez and Roland Saekow developed *Chronozoom* (2010).

As it stands today, big history is an integrated study that seeks to comprehend existence. To do this, it engages a variety of disciplines and multiple forms of creative expression. Although a review of the literature might give an impression it being 'science focused' or only concerned with the big picture, that impression would be inaccurate. The interdisciplinary combination of ideas, tools and technologies also informs traditional and more focused studies. As a result, we see rich analysis and newly informed research about the development and persistence of Jericho in Palestine as the oldest city in the world, on the building of Tiananmen in Beijing as an expression of natural behaviour, as well as new assessment of the decline of the Western Roman Empire.²⁷

Scholars identify the processes that come together in big history in various ways. Biologist E.O. Wilson refers to the cross-disciplinary unification of knowledge as *consilience*. Fred Spier breaks it down into a series of nested *regimes*, while David Christian and others focus on *thresholds*. Barry Rodrigue calls the social implementation

of universal studies *mutualization*. The field employs concepts like collective learning, energy rate density, and a concern for the present Anthropocene epoch.²⁸ Being a young nexus of people and information, other new conceptions will certainly appear.

The Consolidation of a Movement

It is easy to look backwards now and see this trend, but, as recently as 2009, the leading advocates for the field were unsure about how widespread this movement was or would become. So, Barry Rodrigue began assembling a global directory and a bibliography, and expanded his correspondence network, in an attempt to determine who was doing this kind of work.²⁹ The shared belief was that there were only perhaps a handful of active scholars. To everyone's surprise, they found dozens of people teaching and researching different forms of big history around the world. Most had independently developed their own perspective because 'it just made sense' – in other words, a global *conjuncture* had taken place over the previous fifty years.

As a result of discovering this global ferment, Rodrigue proposed the formation of a global association of big history in August 2010, during a workshop at the Coldigioco Geological Observatory in the Apennine Mountains of Italy. Discussion of forming such a professional society had gone on for years, but the documentation of big history practitioners made it apparent that there was indeed a critical mass sufficient to make such an association viable. Thus, the International Big History Association (IBHA) was launched.³⁰ The working definition that they adopted is:

Big history seeks to understand the integrated history of the cosmos, Earth, life and humanity, using the best available empirical evidence and scholarly methods.

The Eurasian Centre for Megahistory and System Forecasting formed soon afterwards and is part of the Russian Academy of Sciences. Big history is being established at various levels of education in South Korea as part of *convergence education*. In Japan, it is taught at J.F. Oberlin University in Tokyo and is spreading to other institutions.³¹ Macquarie University in Sydney, Australia has established a Big History Institute. The Big History Association of India has been established at Symbiosis International

University in Pune, as has the Asian Big History Association. In Beijing, CITIC Press Corporation has begun publishing a series of books in Chinese on big history, which, as their editor, Ma Xiaoling writes: ‘gives us all a broader vision, more possibilities and more attention to our common human future’.³²

Each of these efforts in turn emphasize different aspects of the field. In Russia, there is a focus on society and cliodynamics, which has led to an effort at systems forecasting. In Japan, universal studies has become integrated with issues of world peace, while, in South Asia, philosophical meaning is important. These efforts lead to an enrichment of how we engage with our understanding of the world around us.

Big history also has received endorsements from public figures like Microsoft founder Bill Gates, Nixon White House counsel John Dean, and American vice-president Al Gore.³³ This led to some positive productions, as when Bill Gates engaged with David Christian to develop a free, online secondary and continuing education curriculum, which began as the ‘Big History Project’ in 2011. Two years later, Sun Yue, editor of the *Global History Review*, produced, with his colleagues, the first edition of a journal devoted to big history and universal studies in China.³⁴ The first college-level textbook, *Big History: Between Nothing and Everything* came out in 2014. And, in 2015–2017, the first comprehensive anthology of big history, *From Big Bang to Galactic Civilizations*, appeared in a three-volume series.³⁵ Other big history productions are in the works.

So, the question arises, what does this all portend? If this were just an obscure micro-discipline that a handful of specialists were advocating, then it would not necessarily be of significance. But, since the movement, as well as its area of scholarship, reflects a human trend of wider, more inclusive awareness of natural phenomena, we see big history as a field of cooperative, scientific and scholarly endeavour that will continue to expand with exciting possibilities and will lead to a deeper understanding of our existence.



Image 2: Barry Rodrigue [罗柏安] and Sun Yue [孙岳] at the International Congress of Historical Sciences, Jinan, Shandong, People's Republic of China, August 2015. Photograph by Hannah Okediji.

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¹ This essay is an on-going effort to describe the fast-moving field known as cosmic evolution, big history, evolutionary history, and universal studies. By whatever name it is known, it is a transdisciplinary attempt to come to a comprehensive understanding of humanity's place in the universe. The field has had and continues to have multiple origins and inputs, which makes it a challenge to synthesize a narrative in a brief but balanced style. In my role as international coordinator for several of its organizations, I continually discover and am informed of past traditions and new activities that can be considered to be expressions of these macro-studies. I encourage people to share information and ideas that could help this effort. My webportal is at <rodrigue-global.org> and my e-mail is <rodrigue@archinets.org>.

² Fred Spier 2010: 10.

³ Immanuel Wallerstein 1991.

⁴ See Barry Rodrigue, 'An Emergent Future', 2017: 1.

⁵ Kinji Imanishi 1941. See the article by Nobuo Tsujimura and Hirofumi Katayama in our journal. I would like to thank Nobuo Tsujimura for sharing his insights about Imanishi. Nobuo Tsujimura, personal communications (e-mail), to Barry Rodrigue, 4 June 2017.

⁶ Maria Montessori had encountered the teaching of what she developed as cosmic education in the 1930s, when visiting a school in England, perhaps Summerhill School or a similar academy. Jos and Anne-Marie Werkhoven, private communication, 26 May 2015; Maria Montessori 1998: 15.

⁷ A second edition of the *History of Humanity* came out in 2009.

⁸ Akop Nazaretyan 2005.

⁹ Eric Chaisson, personal communications, to Barry Rodrigue, 29–30 June 2010; idem, to Barry Rodrigue, Joseph Voros and David Baker, 22 January 2015; idem, 4 February 2015.

¹⁰ G. Siegfried Kutter 1987; idem 2011: 102–103; Thomas Bania, personal communications (e-mail), to Barry Rodrigue, 12 February; ibid. 31 March 2014; Michael Rampino, entry in Barry Rodrigue 2011: 15–16.

¹¹ Yue Sun 2015; Xuesen Qian, Jingyuan Yu, Ruwei Dai 1990.

¹² For a description of Antonio Vález' work, see Carlos Londoño Sulkin 2015.

¹³ Wikipedia 2010: 'Carl Sagan'; 'A Brief History of Time'.

¹⁴ Andre Gunder Frank 1978; Immanuel Wallerstein 1984.

¹⁵ Institute of Global Dynamic Systems. Graeme Snooks, personal communication (e-mail), to Barry Rodrigue, 7 June 2017.

¹⁶ Jiddu Krishnamurti 1975; Thomas Berry 1988. On some of these on-going initiatives, see Orla Hazra 2016.

¹⁷ John Mears 1986; personal communication, to Barry Rodrigue, Western History Association, Conference, Incline Village, Nevada, 14 October 2010.

¹⁸ David Christian, personal communication, to G. Siegfried Kutter, 2011.

¹⁹ David Christian 1991, 2010; David Christian, William McNeill 2008.

²⁰ Osamu Nakanishi and Nobuo Tsujimura 2016. See the article by Nobuo Tsujimura and Hirofumi Katayama in our journal.

²¹ Qi Tao 2017.

²² Shili Ma 1999. Huang Liuzhu's proposal for uniting natural and human history at Northwest University in China was not adopted. Sun Yue, personal communication, to Barry Rodrigue, 2013–2014. Sun Yue at Capitol Normal University in Beijing is the leading big historian in China and has been engaged in a study of Chinese traditions of macrohistory. Sun Chao at Shandong Normal University in Jinan was a student of Ma Shili. I appreciate their insights into the development of Big History in East Asia. Ph.D. students Li Qingcheng at Sun Yat-sen University in Guangzhou and Zhao Beiping at Beijing Normal University assisted with translation.

²³ Fred Spier, 'The Small History of the Big History Course', 2005: 1.

²⁴ Brian Thomas Swimme 2016.

²⁵ See also Fred Spier, 'The Ghost of Big History is Roaming the Earth' 2005.

²⁶ David Christian, William McNeill 2008.

²⁷ Craig Benjamin 2015; Esther Quaedackers 2015; David Baker 2012.

²⁸ Edward (E.O.) Wilson 1998; Fred Spier 1996; David Christian, Cynthia Stokes Brown, Craig Benjamin 2013; Barry Rodrigue, 'An Emergent Future', 2017; David Baker 2016; Eric Chaisson 2010; idem., 2011.

²⁹ Barry Rodrigue, 'A Big History Directory,' 2011; idem, 'A Big History Bibliography,' 2011; Daniel Stasko and Barry Rodrigue 2010.

³⁰ The Big Historians who met at Coldigioco and founded the International Big History Association on 20 August 2010 were David Christian of Macquarie University in Sydney (Australia), Walter Alvarez of the University of California at Berkeley (USA), Craig Benjamin of Grand Valley State University in Michigan (USA), Cynthia Brown of Dominican University in California (USA), Fred Spier of the University of Amsterdam (Netherlands), Lowell Gustafson of

Villanova University in Pennsylvania (USA), and Barry Rodrigue of the University of Southern Maine (USA). Other participants who were instrumental at this session were Alessandro Montanari and Paula Metallo (directors of the Coldigioco Geological Observatory), Milly Alvarez, Pamela Benjamin, Gina Giandomenico, Penelope Markle, Daron Green and Michael Dix. Barry Rodrigue chaired this first meeting.

³¹ Osamu Nakanishi, Nobuo Tsujimura 2015; Seohyung Kim 2015. See the article by Nobuo Tsujimura and Hirofumi Katayama in this journal.

³² Ma Xiaoling, personal communication (e-mail), to Barry Rodrigue, 6 June 2017.

³³ Bill Gates and Charlie Rose 2009; John Dean 2009; Albert Gore 2013.

³⁴ Xincheng Liu, Yue Sun 2013.

³⁵ Andrew Sorkin 2014; Big History Project <bighistoryproject.com>.