

William  
H. McNeill  
In memoriam



International  
Big History  
Association

# Origins

The Bulletin of the International Big  
History Association *Volume VI Number 8*



Universiteit van Amsterdam

Oudemanhuispoort

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Origins. ISSN 2377-7729

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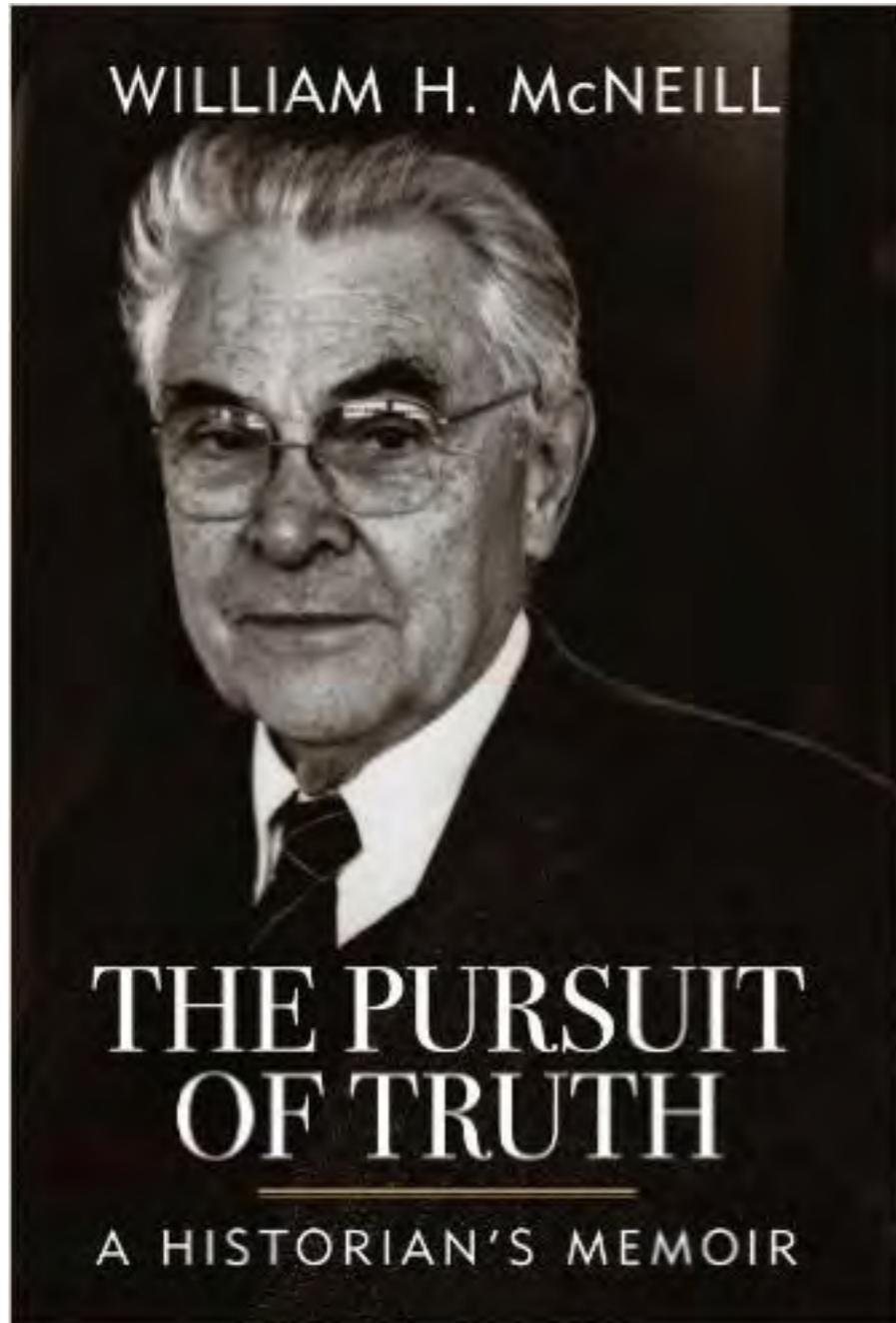
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**John McNeill**  
*Georgetown University*



William McNeill liked big ideas that made sense out of human history. He formulated a few himself. The one he liked best of all, however, was Big History, which he first encountered in the 1990s through David Christian and Fred Spier. He once told me he wished he'd thought of it himself.

William McNeill was born in October 1917 in Vancouver. He liked to joke that when word of his birth reached Russia, the Bolsheviks regarded it as the last straw and rose up in revolution. Both his parents, according to unverified family lore, were valedictorians at McGill University. Their paths to McGill began at opposite ends of Canada and took them to very different emotional and psychological places.

William McNeill's father, from a family of Scots Presbyterian potato farmers on Prince Edward Island in Atlantic Canada, won an island-wide schoolboy competition that led to a scholarship to McGill University, became a Presbyterian minister, and eventually a professor of church history. His family regarded this with deep satisfaction even if it took their son far from home, as ministers were often the most respected members of PEI communities. His mother, also from a Scots Presbyterian background and a coal-miner's granddaughter, hailed from the timberlands of Vancouver Island by the shores of the Pacific. She was the eldest of 9 children, and her parents expected her to stay home and help raise her siblings. But she had a mind of her own and acquired a love of literature. She caused an irreparable breach with her family by heading east to attend university. That was a most unusual path for a woman in British Columbia in those days, and to her parents it amounted to a betrayal. The breach with her family made her hunger for academic distinction to justify her choice, first for herself, then upon marriage for her husband (whom she convinced to seek a PhD), and soon for her children.

So William McNeill's parents both left home and kin, and the familiar routines of small communities such as farms or lumber camps, and both opted for the life of the mind. This route brought them together in marriage in January 1917, but left one of them, his mother, with a restless ambition for success and validation.

William McNeill grew up with two younger sisters in a highly literate and

intellectually competitive household. As good Presbyterians, they learned the Bible well. British literature, especially Victorian poetry, was also on the syllabus at home. The family moved from Vancouver to Kingston to Toronto and in 1927 to Chicago. Until 1944, his father taught church history at the University of Chicago, where McNeill studied as an undergraduate in the late 1930s.

Chicago in those days taught a core curriculum to undergraduates that included obligatory survey courses in natural science, social science, and the humanities. That experience, I think, helped make him receptive 60 years later to the idea of Big History. He acquired an overview understanding of astronomy, physics, chemistry, geology, and biology as they were taught in the 1930s, enough to appreciate the project of Big History but not so much as to become reflexively impatient with the high level of generalization that Big History involves. Those courses also invited him to think about how physics, chemistry, and biology fit together, and indeed how they fit with anthropology, economics, and history.

McNeill’s Chicago education included exposure to ideas that are woven throughout McNeill’s world histories. One influence was anthropologist Clark Wissler, from whose writings McNeill learned about the transformation of North American Plains Indian life that followed upon their acquisition of horses from Spanish New Mexico in the late 17<sup>th</sup> century. Wissler’s approach to cultural theory emphasized the impact of contact with strangers, which is one of the core ideas of McNeill’s *The Rise of the West*.

In his undergraduate days McNeill also encountered the philosophy and psychology of John Dewey, who decades before had taught at Chicago. From Dewey he took the notion that the most common wellspring of individual action is the gap between ambitions and realities: in a word, disappointment. This too figures as an explanation for social change in many of his works.

A third important influence upon the young McNeill was Robert Redfield, who was a professor and dean at Chicago, and one of the foremost anthropologists in the U.S. in the mid-20<sup>th</sup> century. Redfield did admired work on a peasant community in Yucatan, and formulated his ideas about the distinction, and relationship, between what he called the “little tradition” and the “great tradition.”

The former referred to local culture, usually on the village scale – the preferred domain of anthropologists in those days. The latter referred to the culture of states and cities, or ‘civilization’ as Redfield often put it. In the 1930s, after more than a decade of fieldwork in Mexico, Redfield was coming to two conclusions that became important to McNeill. First, along the same lines as Wissler, Redfield began to argue that even small rural settlements were not isolated, that influences from afar helped shape their cultures. Second, he came to see migration from village to city as a crucial source of cultural change. These ideas resonated with McNeill, partly because his own farming relatives in Prince Edward Island clearly took on cultural influences from afar even if they never left the island (as most did not). Later, in his army years, when McNeill found himself in rural Greece, Redfield’s ideas about the interplay between town and country helped him order



Photo by Fred Spier, 2005

his thoughts and impressions. But I’m getting ahead of the story.

Upon graduation from the University of Chicago in 1938, McNeill planned to write what he then called his “big book.” For his 21<sup>st</sup> birthday, his parents, aware of his ambitions, gave him an Underwood typewriter together with a poem encouraging him to write a “book of worth.”

At this stage he intended a history of the Western world, more or less a synthesis of the history of lands he had studied thus far, which included only Europe and North America. To prepare him better for this project, he decided to deepen his education in the history of the ancient Mediterranean, which was to be his starting point.

McNeill stayed at Chicago to complete an M.A., writing a thesis comparing the philosophy and structure of history in Herodotus and Thucydides. He learned a good bit about ancient Greece, especially political philosophy, which together with his informal education in scripture gave him the sort of foundation expected of an educated American at the time. Ever after he could easily adorn his conversation with allusions to the Bible or to ancient authors, although he did so sparingly.

In 1939 he went to Cornell to begin Ph.D. work under the mentorship of the intellectual and political historian Carl Becker. He found other professors at Cornell more stimulating than Becker (who was ill and nearing the end of his life), and wrote papers on medieval farming in Belgium. He found the work of Arnold Toynbee more stimulating still. Toynbee had recently published the first three volumes of *A Study of History*, which took seriously the history of places beyond Europe and North America – a revelation for McNeill. While reading Toynbee in the Cornell library, McNeill conceived the ambition to write a general history not just of the Western world, but of humankind. His big book got bigger thanks to Toynbee.

The Second World War delayed his progress in ways he found both irksome and fruitful. When drafted into the US Army in late 1941, McNeill quickly wrote a 50pp synopsis of his ideas for a PhD thesis. (In his prime he could write 5,000

serviceable words a day, which he attributed to the discipline of hammering out four editorials a week for the student newspaper as an undergraduate.) With his thesis synopsis entrusted to his parents, McNeill served in the U.S. Army until 1946, first in units of the coast artillery on Oahu (after Pearl Harbor), Puerto Rico, and Curaçao. Coast artillery duty in the Caribbean entailed many tedious months looking for U-boats that, happily, never came. In early 1944 he undertook an assignment as assistant military attaché to the Greek and Yugoslav governments in exile. That post, arranged by one of his Cornell professors, took him to Cairo and, a few days after the Germans left in late 1944, to Athens. After the ordeal of occupation, Greece was then slipping into Civil War. Hungry villagers were taking up arms in the name of ideologies explained to them by grade school teachers, and Redfield’s, Dewey’s, and Wissler’s ideas, mixed with a dose of Thucydides, helped McNeill to make sense of the situation. Despite its frequent tedium, McNeill found his army years educational, especially his exposure to peasant society and deadly politics in Greece in 1944-46.

Soon after returning to civilian life, McNeill completed his PhD at Cornell with a thesis on the importance of the potato in Irish history. He also wrote a book on contemporary Greece, *The Greek Dilemma*, in 14 days in his parents’ apartment in New York. He was about to accept a position as an assistant professor at what was then Randolph-Macon Women’s College in Virginia when he took the initiative of writing a letter to the president of the University of Chicago, whom he had come to know a decade before as editor of the student paper. Robert Hutchins promptly offered him a job at Chicago – university presidents could still do such things in those days. He started at the University of Chicago in 1947.

McNeill began by teaching Western Civ and European history. But he kept in mind his ambition to write a general history of humankind, and by the early 1950s was working to expand his horizons. When in 1952-53 he thought nuclear war was coming, he dashed off *Past and Future*, sketching out his ideas about the shape of human history. (He was the sort of person who reacted to the expectation of imminent annihilation by writing a book).

McNeill was inspired to attempt world history by reading Toynbee but he was also

suiting to it by both his strengths and his weaknesses as a historian. His ability to identify broad patterns and to assimilate information from all corners of history allowed him to write persuasive grand-scale narratives and analyses. However he struggled with foreign languages and never tried to write anything that required a firm grasp of anything but English. He never conducted archival research. That approach, although now routine among practitioners of world history and Big History, brought him criticism from specialists. If he had been able to learn ancient Greek well, he probably would have stayed with Classics. If he had learned Russian well, he probably would have focused on Eastern Europe. He made a virtue of his limitations by making himself into a world historian.

In the late 1950s and early 1960s he wrote *The Rise of the West*. The title was a poor choice, and led many to suppose it was a triumphalist and Eurocentric history, which was hardly his intent. Its subtitle, “A History of the Human Community,” more clearly reflected his aim. It examined the interactions among civilizations – a unit of analysis he felt comfortable with at the time, and borrowed mainly from Toynbee – mainly in Eurasia. It is particularly concerned with the influence of societies upon one another and what he sometimes called ‘cultural gradients.’ At certain times, certain civilizations exercised more influence upon their neighbors than others, and in the book he finds that those of the ancient Near East did so first. Then, between 500 BCE and 1500 CE, the civilizations of Eurasia were in rough balance as he saw it. After 1500, the civilization of the West came to stand atop the cultural gradient, influencing others more than they influenced it. The book systematically applies some of the ideas he learned from Redfield and Wissler in emphasizing cultural

diffusion. It succeeded brilliantly, which McNeill often attributed to a glowing review by Hugh Trevor-Roper in the *New York Times Book Review*. Published in 1963, it still sells a few hundred copies a year.



McNeill regarded his next most important books as *Plagues and Peoples* (1976), *The Pursuit of Power* (1982) and *The Human Web* (2003). In the first two books it is possible to see reasons why he would embrace Big History when he eventually encountered it. In *Plagues and Peoples*, a general study of the history of human disease and its historical consequences, he recognized that human societies serve as ecosystems in which pathogens and disease vectors make their livings. That work prepared him to appreciate the Big History argument that human history nestles inside the history of life on Earth in a patterned way. So too did *The Pursuit of Power*, in which he played with the concept of macro-parasitism, suggesting that rulers, militaries, and elites existed in relation to the toiling peasantry of most societies as microbes (micro-parasites) do to human bodies. In the 1980s and 1990s he was thinking about these relationships, about hierarchies of social and natural systems into which all human history might fit. He eventually abandoned the macro-parasitism concept, aware that the analogy was imperfect and distressed that some readers misunderstood it as a blanket condemnation of all rulers, militaries and elites.

In working with him on *The Human Web* (2003), a book we wrote together, I came to understand his historical thinking better than ever before. McNeill felt that his earlier work had failed to appreciate the distinctions of Song China, especially the sophistication of its market economy and its metallurgical technologies, and

wished to make amends for that, as he had begun to do in *The Pursuit of Power*. He also was prepared to relax his previous embrace of civilizations as suitable units of analysis, although not ready to abandon it entirely. At that point, roughly 1997-2002, he was in steady contact with several pioneers of Big History, particularly Christian, Spier, and Goudsblom. It shows in modest ways in *The Human Web*. That book has two conclusions – after years of compromises we both wanted to have our own say. To our mutual surprise, and mild disappointment, the two conclusions said very similar things. The reason is that both were strongly influenced by Big History -- as it stood circa 2002.

In his last 25 years or so, Big History was the thing that excited him most (aside from grandchildren). Most of the developments in professional history, such as the so-called cultural turn, left him unmoved. He admired the system-building ambitions of Wallerstein and other world-systems theorists, but considered them too narrowly focused on economic aspects of human existence for his taste. But Big History appealed to his fondness for simple organizing ideas, for synoptic portraits of complex matters, and for seeing the human experience with lenses crafted in both the social and natural sciences – the sort of lenses he had first donned as an undergraduate in the 1930s. He regarded Big History as a fuller development of ideas he had formulated. In his memoir, *The Pursuit of Truth*, McNeill incautiously refers to Big History as a “greater revelation,” and likens himself (and me) to John the Baptist and David Christian to Jesus Christ. While that likely makes David Christian uncomfortable (it certainly does me), it suggests the admiration that William McNeill felt for Big History. He saw it, I think it is fair to say, as a suitable culmination of the quest he and others had led to enlarge human understanding of the past, and by that endeavor, of the present as well.



## Bill McNeill: patron of big history

David Christian

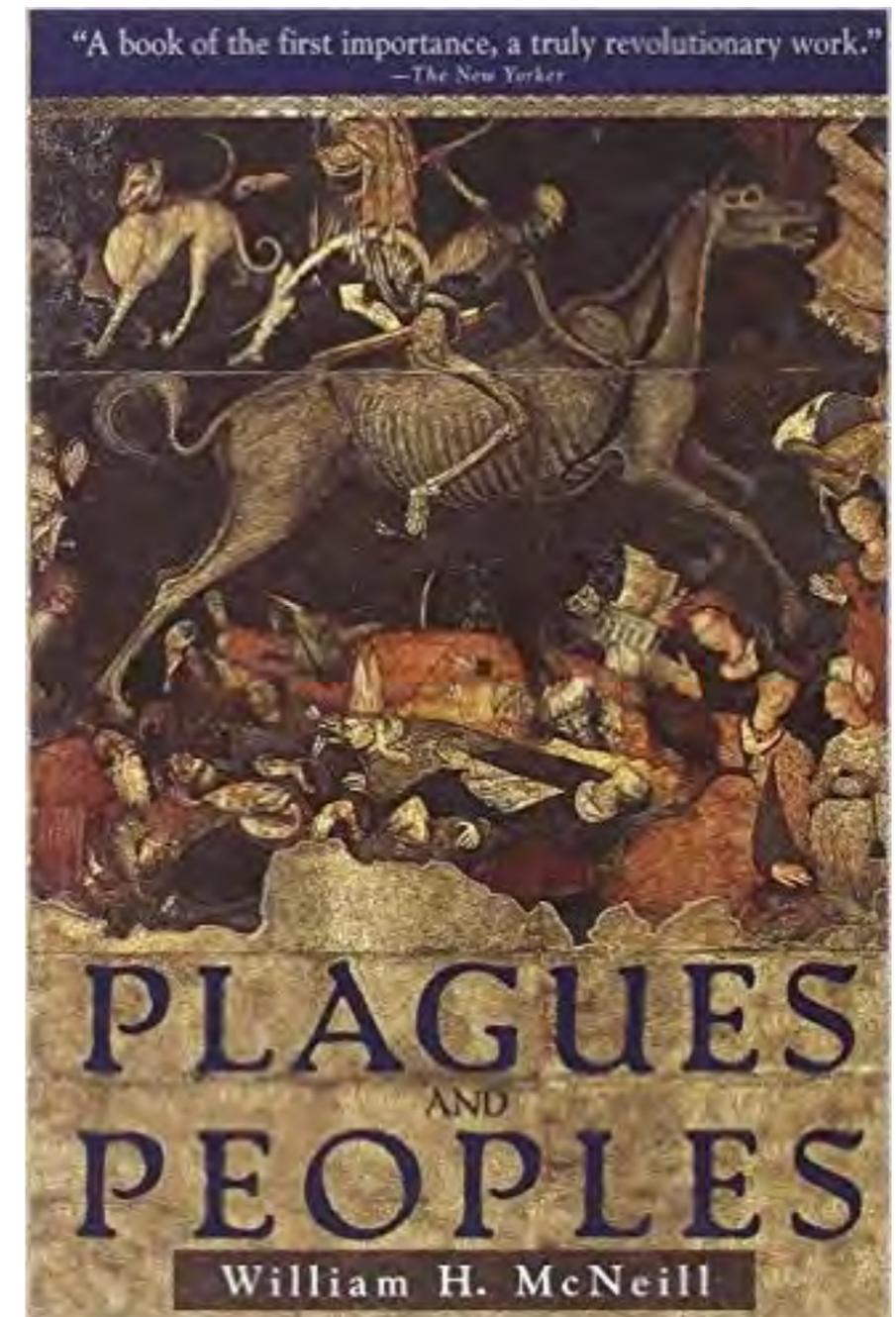
Bill McNeill was born in October 1917 in Vancouver, and died in Connecticut on July 8, 2016. He almost made it to the centenary of the Bolshevik revolution. I heard the sad news of his death just before the 3<sup>rd</sup> IBHA conference in Amsterdam and was glad that we were able to arrange a special session at the conference to commemorate his achievements in world history and his support for big history.

McNeill spent most of his career at the University of Chicago, where he was also an undergraduate. He served in the army between 1941 and 1946, including a period in Greece during its civil war. He worked, briefly, with Arnold Toynbee. But, though inspired by the breadth of Toynbee’s vision, his own work took a different direction as he rejected Toynbee’s somewhat essentialist view of distinct and separate civilizations. McNeill argued, in contrast, that the crucial forces in human history arose not within the distinctive cultures of distinct civilizations, but in the swapping of ideas and influences *among* different human communities. It was the sharing of ideas, technologies, even diseases that drove the most significant changes in human history.

His pioneering world history, *The Rise of the West: A History of the Human Community*, was published in 1963 and was an immediate success. The English historian, Trevor-Roper, who had written scathing reviews of Toynbee’s work, described McNeill’s book in a *New York Times* review as: “the most learned and the most intelligent [and also] the most stimulating and fascinating book that has ever set out to recount and explain the whole history of mankind.” *The Rise of the West* gave a new legitimacy to the young field of world history and remains one of world history’s founding documents. Several later books, including a pioneering history of the role of disease in human history, *Plagues and Peoples* (1976), and a history of power relations, *The Pursuit of Power* (1982), developed ideas first introduced in *The Rise of the West*. But they also embedded human history within the history

of the biosphere, showing the crucial role of bacteria and viruses in human history and exploring the idea of states as ‘macroparasites’. In 2003, with his son, the environmental historian, John McNeill, McNeill wrote *The Human Web*, a history of humanity that focused on the importance of evolving and expanding webs of connections among different human communities. In 1996 he received the Erasmus Prize in the Netherlands, and in 2010 he received the National Humanities Medal in the USA.

I should confess that I refused to read *The Rise of the West* for many years because its title suggested a profoundly Eurocentric approach to world history. McNeill himself admitted in the preface to a revised edition published in 1991, that the book was more Eurocentric than he would have wished, and in particular that it overlooked the fundamental historical role of China. Nevertheless, the book really was a history of humanity, and when I finally read it I was deeply impressed by its rigor, its breadth and the coherence and elegance of its core arguments. It was one of those books



that made me proud to be a historian. He managed something extraordinarily difficult: to keep sight of the underlying unity of human history without ever giving a sense that he was over-generalizing or ignoring the crucial details of particular histories and eras. Shaping his argument were theoretical ideas that combined simplicity with profundity and depth. The very simple idea that contacts between strangers created much of the synergy of human history was developed with delicacy, subtlety and power. McNeill’s combination of intellectual ambition, rich scholarship, and nuanced argumentation made him, for me as for many historians of my generation, something of an intellectual hero.

Many of his ideas have worked their way into accounts of big history, including my own. The idea that collective learning is what distinguishes humans from all other species was already prefigured in McNeill’s idea of the power of contacts among strangers. The idea that states represent a new trophic level was already present in *The Pursuit of Power*. And McNeill was one of the few historians who took seriously the idea that it is important to try to engage, somehow, with the *whole* of history.

When I began working on a manuscript on big history (which became *Maps of Time*), Heidi Roupp, then President of the World History Association, encouraged me to send it to McNeill. Though daunted, I took her advice, and was surprised to find that McNeill was interested and excited by the big history project of constructing a coherent history that placed human history within the history of the universe. He eventually wrote a preface to my book that conveyed that sense of excitement, arguing that big history could bring together disparate disciplines with something of the power of the great syntheses of Newton and Darwin.

Since then I have realized that McNeill always saw big history as a natural next step after his own attempts to construct a coherent history of humanity. In retrospect, I should not have been surprised by his enthusiasm for big history. He was a great

admirer of Fred Spier’s early work on big history, and in 1996, he donated half of the prize money from the Erasmus prize to the support of the University of Amsterdam’s Big History course, established by Joop Goudsblom. Indeed, McNeill’s own work already contained the seeds of big history. He had long argued that: “History has to look at the whole world.” And he had always understood the extent to which human history was embedded in the history of the biosphere. In a 1998 essay, ‘History and the Scientific Worldview’, published in *History and Theory*, he wrote:

“Human beings, it appears, do indeed belong in the universe and share its unstable, evolving character. ... [W]hat happens among human beings and what happens among the stars looks to be part of a grand, evolving story featuring spontaneous emergence of complexity that generates new sorts of behavior at every level of organization from the minutest quarks and leptons to the galaxies, from long carbon chains to living organisms and the biosphere, and from the biosphere to the symbolic universes of meaning within which human beings live and labor, ...”

His son, John McNeill, has told me that Big History was one of his major interests in his final years, and “he wished he’d thought of it himself ...” To another correspondent, Philip Day, McNeill wrote: “It [big history] is the wave of the future for history in general in my opinion and if I were younger I would teach it too.”

For all these reasons, Bill was generous in his support of the fledgling discipline of big history and of scholars such as myself and others in the big history community. Many of us made the pilgrimage to his home in Colebrook in his final years, and he was always a generous and welcoming host. I am immensely grateful to him for his support and feel that William McNeill must count as one of the founders and patrons of our young discipline. I’m sure all supporters of big history will remember him with admiration and gratitude.

## William H. McNeill: Some personal memories

Fred Spier

I became aware of William McNeill’s work through my Ph.D. supervisor, the Dutch sociologist, Joop Goudsblom. Around 1990, as part of his guidance at the Graduate School of Sociology in Amsterdam, he asked us to read McNeill’s article on migration in world history. I still remember my initial reaction: impressed by the big sweep but a little worried by the inevitable lack of detail. I started wondering, for instance, how my subject, religion and politics in Peru during all its known history, would fit into such a scheme.

Over time, however, these worries have been mitigated by my realization that it is always possible to go into smaller detail by further exploring certain themes, and that achieving such a large overview can be very helpful for exploring the details. In fact, the interplay between exploring smaller histories from such a larger point of view can improve our perceptions of both types of histories.

As part of his wide-ranging academic interests, Joop Goudsblom had invited leading scholars to come to Amsterdam, most notably, perhaps, the sociologist Norbert Elias, the cultural anthropologist Marvin Harris, and the sociologist Randal Collins. As I learned later, William McNeill had been visiting Amsterdam, too, starting in the mid 1980s. After having become exposed to McNeill’s work, I read *The Rise of the West* and *Plagues and Peoples* and incorporated some of that in my dissertation.

I was totally impressed by both the scope and the

depth of McNeill’s work, by all his fascinating insights, and perhaps most of all by the subtle language that he used: always very careful and sensitive; never stating more than he knew, including the degree of certainty of his knowledge; and weaving his narrative between little details that he brought alive in a most appealing way and the grand sweep of things that he elucidated using very simple principles that have so far stood the test of time.

My first personal encounter with William McNeill took place in the fall of 1992. Joop Goudsblom had just finished his book, *Fire and Civilization*. A discussion panel was organized in which McNeill would comment on the book, while I was asked to react to his comments. While preparing my comments, I obviously wanted



Photo by Karen Christensen, 2011

to know what he was going to say. So I decided to write him a letter (email did not yet exist for us at that time). His very polite reply came back swiftly: he had not yet seen the book, so he did not yet know what his comments were going to be.

When McNeill commented on *Fire and Civilization* during the panel (that, incidently, took place in the very hall where the VOC governors had held their regular meetings), his way of addressing the delicate issue of how to deal with commenting on a book just released by a prestigious British publisher and written by a good friend left an indelible impression on me. McNeill first praised the book lavishly (very much deserved, I think), and then, while buttoning up his jacket, said: “But, I am a professor, so inevitably I also have a few critical comments...” He then proceeded to explain his critique in his inimitable style, always gracious and always very much to the point. This left me with very little to say other than a few improvisations and some pre-prepared platitudes.

Fortunately, judging from a photo that was made at that time, McNeill seemed to enjoy my comments. I used that visit to do an interview with him, together with my colleague Jan-Willen Gerritsen. The interview was published in 1993 in the *Amsterdams Sociologisch Tijdschrift* 19, 3 (72-84). During a subsequent meeting at the our graduate school I took a few pictures of him, one of which was used a few years later when McNeill received the Erasmus Prize in Amsterdam. The picture can still be seen on: <http://erasmusprijs.org/Prijswinnaars?lang=en&itemid=D591475E-A43B-24EF-D1EAE9529671D6DA&mode=detail>

But now I am jumping ahead in the story. During his stay in Amsterdam in November of 1992, I also gave him a copy of my dissertation, which I had just finished. After the pictures had been developed and printed I mailed him a few of them. Very soon I received a letter from him, saying:

*“Thank you for the photos: they capture a moment very nicely and several of them are flattering to me as well. I was not aware that you were wielding a camera during our discussion; so the photos are indeed real and unposed.*

*I am pleased to know you have read my big book but doubt that I really came very*

*close to your incisive account of Peruvian religion. On the plane coming home I read your book and found it truly excellent; it most certainly should be published and if you should find a letter of recommendation to a publisher helpful I will be glad to provide one.”*

This was followed by a discussion of what he knew about the subject in Latin America, first of all based on the work done by Robert Redfield. He ended his letter by saying that he would watch my career with interest.

I could not believe what I read. I had virtually no academic reputation whatsoever at the time, and the generous support by such a prominent scholar came totally unexpected. I was even more stunned when I received his recommendation letter a little later, which indeed helped to get the book published. This led to a most open and fascinating exchange of letters between us, which ended in 2013 when he felt he was becoming too old to write letters anymore. We only wrote letters, and never exchanged even one single email.

All of this enhanced my already huge impression of him even more, while it also shored up my self-confidence in exploring unusual academic tracks that were often frowned upon by others. I am convinced that without his grand and most generous mental support it would not have been possible for me to do in big history what I have done, and I will always be extremely grateful to him for supporting me the way he did.

After having started, together with Joop Goudsblom, our big history course at the University of Amsterdam at the end of 1994, which was modeled on David Christian’s great initiative at Macquarie University in Sydney, I realized that by structuring the course I had also unwittingly been structuring big history itself. This was a challenging thought, which made me very nervous. But even though the claim seemed totally over the top, from an intellectual point of view, it could not be denied.

So I decided to write up my thoughts. Because Joop Goudsblom and I were going to present our ideas about big history at the WHA conference in Fiesole near

Florence, Italy, in June of 1995, we decided on a division of tasks. I would write the pre-human part, while Joop would take care of human history. In the spring of 1995 I wrote a draft of that first section, which was received very skeptically by all my Dutch colleagues. Very fortunately, right at that time William McNeill visited Amsterdam again for a few days. During his stay I gave him a copy of the draft. To my great surprise he read it immediately and made a special appointment with both Joop and me the next day for discussing it. He gave me both his praise and his frank comments, all of which I recorded on my little tape recorder (I still have this audio, now converted into mp3 format), and strongly urged me to write also the human history portion. Joop very graciously agreed with this proposal.

We jointly presented this draft at the WHA conference, where it received the praise from John Mears, the then WHA president. That was also totally unexpected. During a discussion afterwards, John told me that he had been a student of William McNeill's and that, very much inspired by McNeill's grand sweep of human history, he had started a big history course all by himself at Southern Methodist University, Dallas, around the same time and totally independent from David Christian's initiative.

Again supported by a fantastic recommendation from William McNeill, a revised version of that draft written by me was published as *The Structure of Big History*. This book appeared in print in 1996, right before McNeill was awarded the prestigious Erasmus Prize in the Palace on Dam Square in Amsterdam, which he received from the hands of the then crown prince Willem-Alexander. At the end of his acceptance speech I was totally stunned to hear him say that he was donating half of the prize money to our big history initiative. (The other half went to the work of the British archeologist, Andrew Sherratt.) His donation generated a considerable amount of publicity for big history in the Netherlands, which was exactly what William McNeill intended. The next day he gave a grand and well-attended lecture in our big history course, of which an audio tape and photos remain as cherished memories.

Ever since that time, William McNeill has stimulated me and others, perhaps most notably David Christian, to teach and advance big history. I think that in his heart

of hearts William McNeill would have loved to teach big history, but that he felt he had become too old to master all that new knowledge. As a result, he took on the role of supporting us and cheering us on. What a most generous stance!

On October 27, 2005, I had a chance to visit McNeill at his house in Colebrook, Connecticut. He invited me to arrive in the evening and stay overnight. This was another unforgettable experience. Bill, as he was known to his friends, had prepared dinner for the two of us that included potatoes and vegetables that he had grown himself (he was, among other things, the world's foremost expert on the history of potatoes). During that visit we discussed a great many things, ranging from intimate personal and family concerns to all sorts of academic views and exploits. He also showed me around the house, his vegetable garden, and the grounds in general, including the tennis court that was constructed a long time ago to teach his sons how to compete in civilized ways.

By that time, I had published the first outline of my current theoretical scheme for big history in the Russian journal, *Social Evolution & History*. During that visit, Bill strongly urged me to turn it into a book. I promised him that if I succeeded in doing so, I would dedicate it to him as a small token of my extraordinary gratitude.

In June of 2011 I had another chance to visit him in Colebrook. By that time he had become too old for me to stay overnight. In the meantime my book had been published, while we had just incorporated IBHA. Furthermore, David Christian's cooperation with Bill Gates in shaping the big history project for secondary schools was taking shape, while David's TED talk had made him famous (as both of us found out sitting at a Harvard café after my visit to Bill, when David was recognized by a total stranger as being the guy doing that TED talk).

As a result of these developments, the exposure and status of big history was rapidly changing, and Bill and I discussed all of that during our meeting. I also vividly remember him explaining to me his ideas about a world history of salt, fascinating thoughts that still occupy my mind.

That was the last time I saw Bill in person. Two years later, our exchange of letters

came to an end. I kept sending him birthday cards and letters, and also sent him a copy of the second edition of my book, which he looked at on his 98<sup>th</sup> birthday last November. And on July 10, 2016, the extraordinarily sad news reached me through David Christian that Bill had passed away in the presence of his son, Andrew. A most extraordinary and generous man and scholar, who inspired and supported

us and big history beyond belief, is no longer among us. His legacy must be, I feel, for all of us to carry the torch that he has lighted and, while doing so, seek to adhere to the highest possible human and academic standards.



Photo: The White House  
President Obama presents the National Humanities Medal to William McNeill, the Robert A. Millikan Distinguished Service Professor Emeritus in History, on February 25, 2009.  
Photo: Courtesy of Frasierphoto.com

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### Obituaries

#### [William H. McNeill, world historian and distinguished scholar, 1917-2016](#)

By William Harms and Mark Peters  
*UChicagoNews*

#### [William H. McNeill, Professor and Prolific Author, Dies at 98](#)

By Sam Roberts  
*New York Times*

# Announcing the first issue of the Journal of Big History

The International Big History Association is pleased to announce the publication of its *Journal of Big History*, the first issue of which will be available in January of 2017.

All members of the IBHA will receive the journal, which will present scholarship in the emerging field of big history. This is the most recent effort of the IBHA to promote, support, and sponsor the diffusion and improvement of academic and scholarly knowledge in the scientific field commonly known as Big History. Big History seeks to understand the integrated history of the Cosmos, Earth, Life, and Humanity, using the best available empirical evidence and scholarly methods.

This emerging field is characterized by a synthesis of disciplines. Geologists, astro-physicists, biologists, and others in the natural sciences have revolutionized our understanding of the entire known past. They learned how to read the historical narrative told by light, rocks, bones, blood, and genes. Humanists read written texts to develop new analytical syntheses. Together, professors and researchers in the sciences, social sciences, and humanities are augmenting and revitalizing knowledge in universities throughout the world.

Members of the IBHA have interests that go beyond our own planet and species. They may include the possibility of a multiverse, planets and astronomical bodies other than Earth, death and extinctions as well as life, and life forms other than humans. The big history of the past moves through the present into reasoned analyses of possible futures.

One practical value of big history research may be to nurture a cosmopolitan politics that seeks to help secure the environment from which we have evolved and which sustains us.

We invite your submission of original research to the *Journal of Big History*. You may format your article according to the Chicago Manual of Style. You may also use the format commonly used in your discipline. Manuscripts will normally be under 12,000 words, including endnotes and bibliography. Please attach high-resolution files of any images used for which you hold the copyright or legal permission to use. We use a double blind review process for research articles. Please submit your articles in a Word document to Lowell Gustafson, editor, at [ibhanet@gmail.com](mailto:ibhanet@gmail.com). Book reviews may be sent to Cynthia Brown or John Mears at the same address.

This will be the last regular issue of *Origins*. It will continue to appear periodically to present articles about the activities and reflections of members and interested parties.

We look forward to your contribution to our common effort to explore big history.



# BIG HISTORY, SMALL WORLD

CYNTHIA STOKES BROWN

**BERKSHIRE**

**B**ig history becomes engaging and personal in *Big History, Small World* by Cynthia Stokes Brown, the only guide in English to a new approach to history that has been specifically designed for high school students. It's also ideal for the general reader who shares Bill Gates's fascination with this new blend of history and science, and it fits neatly with the free curriculum available at the Big History Project, co-founded by Professor David Christian and Bill Gates, the founder of Microsoft. *Big History, Small World* is organized into twelve chapters. In the first chapter, Brown discusses the scientific method. In the last chapter she discusses the different ways people interpret big history and find meaning in it. The other ten chapters are based on eight major turning points, or thresholds, in the cosmic story. One threshold, the emergence of life, gets two chapters, while a discussion of the future fills chapter eleven. This book is not formatted as a traditional textbook, although it can easily be used as one. Each chapter has questions on the frontier of knowledge, as well as suggestions of how the content applies directly to the reader, to answer the perennial question: "Why do I have to learn this?" There are illustrations, charts, diagrams, a glossary and timeline, and short biographies of scientists and historians who have been influential in developing big history.

**Cynthia Stokes Brown** has taught world history in high-school and trained high-school teachers at Dominican University of California, where she piloted big history courses and helped initiate the big history program now required for all freshmen. She is the author of the general-interest book on big history, *Big History: From the Big Bang to the Present* (New York: New Press, 2nd ed. 2012) and also wrote a university-level textbook with David Christian and Craig Benjamin, *Big History: Between Nothing and Everything* (New York: McGraw-Hill, 2014). She is a founding member of the International Big History Association and associate editor of its forthcoming *Journal of Big History*.

9781614720317

June 2016

Ebook editions available via all major distributors, and at the [Berkshire website](#).

# Preface to *The Patterning Instinct: A Cultural History of Humanity's Search for Meaning*

**Jeremy R. Lent**

Liology Institute

Prometheus Books (May 2017)



## **A Cognitive History of Humanity**

This book takes an approach to history that recognizes the power of the human mind to construct its own reality. It offers a simple thesis: culture shapes values, and those values shape history. While this might appear self-evident to some, it's an approach at odds with some widely accepted principles of modern historical interpretation. There are good reasons why contemporary historians have denied the importance of culture in shaping history, but this has led to an unnecessarily limited understanding of our past. In today's world, reeling from global crises and transfixed by the dazzle of technology, it has never been more important to understand how values have shaped history, and consequently how they might also shape our future.

The book introduces an approach that I call cognitive history. In the broadest terms, cognitive science is the analytical study of the human mind. It is an interdisciplinary tradition that began in the decades following the Second World War and has since expanded in many directions, leading to important insights in fields as diverse as neuroscience, linguistics, and anthropology. Like these other fields, cognitive history analyzes its subject with reference to the cognitive structures of the human mind. In this case it attempts to interpret historical phenomena such as the rise of agriculture, the scientific revolution, and our current world system, from a cognitive perspective. In doing so, it recognizes the enormous complexity of human culture, and draws from recent advances in systems thinking to develop an interpretative framework.

For those interested in the book's methodological underpinnings, this preface places it in the context of modern interpretations of history, and shows how the systems approach to understanding complexity can be usefully applied to the field of history.

## **Truth and Reason . . . or geography and greed?**

As a teenager growing up in London, I remember sitting in the living room and watching TV with my father as we avidly soaked up *The Ascent of Man*: an award-winning BBC documentary series produced by Dr. Jacob Bronowski. For

my father, it was a splendid exposition of how “Man” (there were no qualms in those days about giving humanity a male gender) climbed from peak to peak in his ascent to the pinnacle of modern scientific achievement. In contrast to animals who merely adapt to their environment, Bronowski explained triumphantly, Man is “not a figure in the landscape; he is the shaper of the landscape.”<sup>1</sup>

I didn’t know it at the time, but I was watching a view of history that fit snugly within the cultural metaphor of CONQUEST OF NATURE. Inspired by the discoveries of Europe’s scientific revolution, historians had spent centuries extolling the inexorable march of progress that, in their view, culminated in the glorious achievements of Western civilization. The conquest of nature was paralleled by an equally ambitious conquest of the rest of the world by European powers, leading to the decimation of indigenous populations and the rise of empires that spanned the globe. By the early twentieth century, the supremacy of the “white man” galvanized a pseudo-scientific, racist interpretation of history with a grand narrative describing the evolutionary progress of humanity from its origins (which, it was thought, could still be seen in the “brutal Hottentot” of Africa) to its culmination in modern European culture. By the time Jacob Bronowski took the stage, the aftermath of the totalitarian horrors of the mid-twentieth century had muted some of the overt racism of this narrative and added some ambivalence to the triumphalist storyline, but the core thesis remained the same.<sup>2\*</sup>

In the postwar generation, the West had the magnanimity to invite the “Third World” to a seat at its table, as long as they learned to play by its rules. Underlying these rules was a cognitive framework that went something like this: the Truth has been discovered by Science, which leads to continual Progress as a result of Man using his unique faculty of Reason for the benefit of all. While other cultures might have something to offer, they were generally viewed as complementing the rule of Reason as defined by Western civilization. In 1946, American philosopher F. S. C. Northrop kicked off a new globalist era with his book *The Meeting of East and West*, envisaging a world civilization combining the “theoretically scientific philosophy” of the West with the “aesthetic component which the Orient has mastered.” In the following decades, countless visionaries offered their own versions of this synthesis of East and West, generally with the West playing the role of rational investigator of

scientific truth and the “Orient” offering various complementary perspectives based on some form of mysticism or spiritual insight deemed more difficult for the logical, scientific mind of the Westerner to access.<sup>3</sup>

However, in the 1970s, while Bronowski was eulogizing the Ascent of Man, a new generation of intellectuals set out to challenge the assumptions underlying this narrative. In his book *Orientalism*, Edward Said showed how centuries of cultural prejudice had shaped the West’s romanticized image of Oriental mystique. A series of critiques by a school of French philosophers coalesced into a movement known as Postmodernism, which attacked the notion that objective truths could be applied universally under the rubric of such capitalized abstractions as Truth, Science, Reason, and Man. Included in this attack was the tradition of “cultural essentialism” by which Northrop, and those who followed him, had sought to ascribe a particular set of universal characteristics to the Orient, the West, or for that matter any racial or cultural stereotype.<sup>4\*</sup>

In contrast to the “modernist” view of the world which had emerged with the scientific revolution, the postmodernists proposed that reality is something constructed by the mind, and can never therefore be described objectively. Each culture, they argued, develops its own version of reality that arises from its specific physical and environmental context. If you try to “essentialize” a culture’s frame of reality and compare it with that of another culture, you risk decontextualizing it and therefore invalidating its unique attributes. The postmodernists accused Westerners who had attempted to do so of engaging in a form of cultural imperialism, seeking to appropriate what seemed valuable in other cultures for their own use while ignoring its historical context. A more useful investigation, according to the postmodernist critique, would be to recognize the multiplicity of discourses created by various cultures, and rather than try to distill some essential meaning from them, to trace how certain social and political groups used these discourses to maintain or enhance their own power relative to others.<sup>5</sup>

The postmodernist critique has had a profound effect on the social sciences, and even when it hasn’t been fully accepted, some of its principles have helped shape the current norms of many academic disciplines, including history. A major step

in establishing this new standard was the publication by Jared Diamond of *Guns, Germs, and Steel* in 1997. This book, which has deservedly become a modern classic, investigated one of the crucial questions of history: why have the Eurasian civilizations been so successful in establishing hegemony over the people of other continents? Diamond claimed the reasons could be found, not in genes or culture, but in geography. For example, the broad east-west axis of Eurasia meant that newly domesticated crops could easily spread across zones with similar climates, whereas the north-south axis of the Americas prevented it. Similarly, new infectious diseases that arose in humans from animal domestication spread in waves across Eurasia, leaving survivors with immunity. All this led to the Eurasian population developing the tools of civilization before the rest of the world, resulting in the guns, germs, and steel that permitted them to dominate other continents.<sup>6</sup>

Eurasia, however, includes not just Europe but China, Russia, and India. If geography caused Eurasia’s rise, why was it Europe that eventually established empires throughout the world? There are no end of different explanations offered to this conundrum, but a prominent one again fingered geography as the cause. Historian Kenneth Pomeranz argued in his acclaimed book, *The Great Divergence*, that it was England’s easily accessible coal deposits and the proximity of Europe to the New World that gave it the impetus to achieve an industrial revolution and thereby dominate the rest of the globe.<sup>7</sup>

Something these, and other influential modern histories, have in common is a rejection of cultural essentialism. It’s assumed there are no intrinsic behavioral differences between the people of various parts of the world, and therefore we need to look to environmental factors to explain how each developed in different ways. This approach is an admirable improvement over the racist assumptions of Western superiority that previously infused theories of history, but it inevitably creates its own form of cultural imperialism by implicitly assuming a new set of human universals. The distinctive values and beliefs about human nature that form the bedrock of Western thought are silently assumed to be those that drive people all over the world and throughout history. When investigating, for example, why Europe rather than China experienced an industrial revolution, most historians take it for granted that this was a wholly desirable goal that China “failed” to achieve

before Europe. Similarly, when asking why Europe, not China, conquered the New World, it’s generally assumed that, if Chinese navigators had reached the Americas before the Europeans, they would have plundered the continents in the same way that the Europeans did. The underlying values that drove Europeans into these historical pathways are simply taken to be universal human norms, leaving the only remaining question as: who got there first?<sup>8</sup>

This reductionist approach to history—arguing that all the reasons for the direction of history can ultimately be reduced to material causes—reached a kind of nadir in a book published in 2010 by Ian Morris entitled *Why the West Rules—For Now*, where the author offers his own Morris Theorem to summarize the universal cause of social change in history: “Change is caused by lazy, greedy, frightened people looking for easier, more profitable, and safer ways to do things.” For Morris, “culture, values and beliefs were unimportant” in explaining the great currents of history, and instead we need to look for “brute, material forces,” specifically those arising from geography.<sup>9</sup>

### **A cognitive approach to history**

This book takes an entirely different approach from historical reductionism. Instead, it offers a cognitive approach to history, arguing that the cognitive frames through which different cultures perceive reality have had a profound effect on their historical direction. The worldview of a given civilization—the implicit beliefs and values that create a pattern of meaning in people’s lives—has, in my opinion, been a significant driver of the historical path each civilization has taken. But at the same time, I disavow any affinity with the old triumphalist view of history, which posits some characteristic of the Western mindset that made it somehow superior to that of other cultures, and therefore led to the West’s “success” over the rest of the world. Instead, as the book unfolds, it reveals an underlying pattern to Western cognition that is responsible both for its scientific and industrial revolutions, as well as its devastating destruction of indigenous cultures around the world, and our current global rush towards possible catastrophe. In this respect, the book shares much with the postmodern critique of Western civilization, recognizing those capitalized,

universal abstractions such as Reason, Progress, and Truth to be culture-specific constructions. In fact, a significant portion of the book is devoted to tracing how these patterns of thought first arose and then infused themselves so deeply into the Western mindset as to become virtually invisible to those who use them.

An obvious question arises to challenge this point of view: If Western cognition was responsible for the scientific and industrial revolutions, how come the rest of the world (especially Asia) has been so adept at catching up with, and now in many ways, surpassing Western achievements? And aren’t China, India, and other so-called “developing” countries partly responsible for the world’s impending environmental catastrophe? My answer is based on the premise that cognitive frames, while deeply influencing the direction of a society, are not permanently fixed. When drastic change occurs to a given society, its cognitive structures—and ultimately its entire worldview—can change equally drastically within a generation or two. When the Western powers installed their empires throughout the globe, humiliating traditional leaders and undermining established hierarchies, they overwhelmed the old cognitive patterns with new values and measures of success which people in the conquered societies aspired to achieve. Through this process, I would argue that—especially since the mid-twentieth century—what had once been the “Western” worldview has now become the dominant worldview of those in positions of wealth and power who drive our global civilization from Bangkok to Beijing, and from Mumbai to Mexico City.

For cognitive history, there’s an important lesson to learn from this, which applies to the entire sweep of human experience from the evolution of *homo sapiens* to the present: the relationship between cognition and history is not one-way but reciprocal. The cognitive patterns of humans living their day-to-day existence are continually affected by what goes on around them, and the consequent actions they take are continually affecting whatever is around them. It’s a perpetual, bidirectional feedback loop. From this perspective, the currently fashionable reductionist view of history is half right: it captures a one-way causative flow from environment to cognition, but misses the reciprocal causative flow in the other direction.<sup>10\*</sup>

### Creating our own reality (without really trying)

The thought of tracing feedback loops winding back on themselves can feel intimidating, and it’s easy to see the attraction of a simpler view, such as historical reductionism, that just focuses on one direction of causality. However, I’ve written this book in the belief that important insights can be gained by investigating how these reciprocal loops can transform societies and ultimately shape the course of history. Fortunately, some valuable research in recent decades has shed light on how these feedback loops work. Their findings inform this book’s methodology and merit a brief overview.

A good place to begin is the theory of evolution. Like the reductionist view of history, the traditional approach to evolution was based on a one-way flow: an environment poses a set of “problems” to organisms, and the organisms best adapted to “solve” the problems leave the most offspring, leading to the process of natural selection. The particular way in which an organism finds its own survival strategy, whether it’s spiders weaving webs, or bees turning pollen into honey, is called an evolutionary “niche.” However, in recent years, researchers have suggested there’s really a two-way flow going on, which they call “niche construction.” As organisms adapt to their environment, they are not just finding their niche but actively constructing it, and by doing so, they are shaping the environment for themselves, their offspring, and the other organisms around them. As they shape their environment, these organisms also take an active role in eventually shaping their own genome, as their descendants evolve specialized attributes to thrive in the niche they’ve constructed. As spiders, for example, became expert at constructing their webs, they also evolved an array of camouflage, protection, and communication techniques that work specifically for their web niche.<sup>11</sup>

What was the niche that humans constructed for themselves as they evolved? Many evolutionary biologists have come to agree that it was an entirely different kind: it was a cognitive niche, a result of using their unique cognitive powers to learn to cooperate with others, and collectively discover new ways to manipulate their environment. Gradually, hominids began to invent tools to hunt animals stronger or faster than them, and process foods that would otherwise be inedible.

A crucial outcome of this cognitive niche was the power it unleashed by allowing them to work together as a group. While some might use teamwork to hunt prey, others could forage for plant food, all of which would later be shared within the community, enabling everyone to enjoy a more nutritious diet. The importance of this social aspect of human evolution has led some researchers to argue that the human niche might instead be called a socio-cognitive or cultural niche.<sup>12</sup>

From this cognitive niche, human culture emerged as a set of shared symbols and practices that ties a group together and is passed down from one generation to the next. And here we have a new feedback loop to consider: in a process known as gene-culture coevolution, culture has shaped the human niche so profoundly that it’s caused changes within the human genome, affecting the very direction of human evolution. This may have begun as far back as two million years ago, when our prehuman ancestors first figured out how to use fire to cook their food. Because cooking frees up more energy from food for our bodies to digest, new generations relied increasingly on cooked food, leading eventually to physiological changes that caused their descendants to depend on cooking in much the same way that spiders depend on their webs. Much later in history, when cattle were first domesticated, a few lucky people had genes that allowed them to drink milk as adults, known as lactose tolerance. With the extra nutrition available to them, they flourished, leaving more offspring, until their genes spread through virtually the entire population of Europe, making dairy farming even more important than it was before.<sup>13</sup>

And the feedback loops kept turning. From culture to genes to livelihood. And then, from livelihood back to culture. As various populations developed different forms of agriculture, the requirements of their work influenced the cultural patterning of each society. Social psychologists have discovered, for example, that people who herd animals for a living tend to lead more independent and mobile lives, resulting in more individualistic values. Farmers, on the other hand, who lead more settled lives and rely on each other to help with planting and harvesting, develop more collectivist cultures. Even within farming, important cultural variations have been shown to arise from the kind of crops that are cultivated. A recent study, for example, has found that Chinese provinces that rely on rice, which requires a great deal of mutual cooperation within the community, have a more holistic outlook

than those provinces that rely on wheat, where farmers can manage more easily by themselves.<sup>14</sup>

How do these cultural differences get passed on from one generation to the next? There are some who speculate it’s through genetic changes, even in the more recent past.<sup>15</sup> However, a more convincing explanation—and one that forms a foundation of this book—is that each society shapes the cognitive structure of individuals growing up in its culture through imprinting its own pattern of meaning on the infant’s developing mind.

The most important way in which a growing infant’s mind is molded by her culture is through language. Anthropologists in the early twentieth century became so entranced by the power of language to shape cognitive structures that they sometimes overstated the case, implying that our native language forces us to think in certain ways and prevents us thinking in other ways. This theory, the Sapir-Whorf hypothesis, was witheringly attacked in the later twentieth century, as researchers showed how people from a particular culture were able to adapt their cognition to culturally different ways of thinking even as adults. More recently, however, a plethora of new evidence has convincingly demonstrated a more refined version of the Sapir-Whorf hypothesis: that the language we speak from birth—although it doesn’t prevent us thinking in different ways—establishes structures of cognition that influence us to perceive, understand, and think about the world according to certain patterns. Or, in its simplest terms: language has a patterning effect on cognition.<sup>16\*</sup>

And in yet another feedback loop, the patterning each person uses to impose meaning on the world ultimately affects the actions and choices they make in the world. When aggregated to an entire civilization, these patterns of meaning shape history and fundamentally alter the world around us. In the words of cognitive linguist George Lakoff, “metaphorical concepts. . . structure our present reality. New metaphors have the power to create a new reality.” When, for example, European thinkers began to conceive of the natural world as a complex machine, this inspired them to discover how the machine worked in order to manipulate it more effectively for their benefit, leading ultimately to our present era of genetic

engineering and synthetic biology.<sup>17\*</sup>

### **Making sense of complexity**

These reciprocal feedback loops are not just complicated. They’re also complex. In everyday language, we tend to use these two words interchangeably, but in the world of systems theory they’re very different. A system can be complicated, but not complex, no matter how large, if each of its components and the way they relate to each other can be completely analyzed and given an exact description. A jumbo jet, an offshore oil rig, and a snowflake are all examples of complicated systems. A complex system, on the other hand, arises from a large number of nonlinear relationships between its components with feedback loops that can never be precisely described. Any living thing, or system comprising living things, is complex: a bacterium, a brain, an ecosystem, a financial market, a language, or a social system.<sup>18</sup>

In this book, I’ve taken the view that human culture itself can be viewed as a certain type of complex system. Thinking about culture in this way makes it easier to understand some of the critical transitions that have taken place in history. With this in mind, it helps to consider how systems theorists try to make sense of complexity.

Complex systems have some indicative characteristics. They have a large number of elements, each of which interacts with and influences other elements within the system through nonlinear feedback loops. They constantly interact with their environment, and frequently they contain smaller systems within them, while themselves being nested within bigger systems. They are never in equilibrium, but are continually in flux, evolving through time as a result of both their previous conditions and the environment around them.<sup>19</sup>

One important attribute of a complex system is a special type of reciprocal causality: each part of the system has an effect on the whole, while the system as a whole affects each part. Because of this, a complex system can never be fully understood by reducing it to its component parts. An example of this kind of reciprocal causality

can be seen in a tropical rainforest. As a forest becomes dense and large, the roots of its trees interconnect to create a healthy network of root fungus in the soil, the foliage creates more shade which keeps the undergrowth moist, and the evaporation from its leaves creates its own cloud system, increasing the rainfall. The forest system as a whole thus affects each tree, while each tree affects the entire system.<sup>20</sup> The reciprocal causality of complex systems has a profound impact on the nature of change in the system. Within certain parameters, a complex system can be highly resilient, adapting to and accommodating changes both within itself and in its external environment. However, at a certain point, the cohesive set of reciprocal causal relationships that form the system can rapidly become unraveled, and when that happens, the system undergoes what’s known as a critical transition, leading to a new stable state which can either be more or less complex than the previous one. When this happens, it’s very difficult for the system to shift back to the state it was in previously, a characteristic known as hysteresis. For example, in the case of the tropical forest, once the system forms its root network, its shady foliage and its own rainclouds, it’s likely to remain in that stable state for millennia. If however, something drastic happens to it, such as humans cutting down trees and thinning out the forest, at a certain point it reaches a critical threshold. There’s no longer enough foliage to keep the ground cover moist, and not enough evaporation to form rain clouds. In a relatively short time, the tropical forest turns into a new stable state of arid scrubland, and it’s now very difficult for the system to shift back to its previous state.<sup>21</sup>

The entire four billion year history of life on earth can be understood in terms of these critical transitions with hysteresis. The emergence of life itself, in the form of single-celled organisms such as bacteria, was the first such critical transition. Another occurred when cells developed a nucleus, leading to all other forms of life. Other transitions include the emergence of multicellular organisms such as animals and plants; colonies of organisms such as ants or bees; and the evolution of humans with language. In each case, once the newly complex stable system emerged, the earth’s ecosystem never reverted to its previous state.<sup>22</sup>

Given that human societies are themselves complex systems, can we use this framework to understand the great critical transitions in our history? I believe we

can, with the caveat that when we apply this framework to human society, there is yet another crucial feedback loop to consider. Because of our unique cognitive capacity, human social systems need to be understood as a pair of two tightly interconnected, coexisting complex systems: a tangible system and a cognitive system. The tangible system refers to everything that can be seen and touched: a society’s tools, its physical infrastructure, its agriculture, terrain, and climate, to name just some of its components. The cognitive system refers to what can’t be touched but exists in the cognitive network of the society’s culture: its language, myths, core metaphors, knowhow, hierarchy of values, and worldview. These coupled systems interact dynamically, creating their own feedback loops which can profoundly affect each other and, consequently, the direction of the society. Sometimes the cognitive system might act to inhibit change in the tangible system, leading to a long period of stability. At other times, the cognitive and tangible systems might each catalyze change in the other system, leading to a powerful positive feedback loop causing dramatic societal transformation.<sup>23\*</sup>

Much of this book is devoted to tracing these complex feedback loops. In some of the most significant transitions of human history—the appearance of language, the rise of agriculture, and the scientific/industrial revolutions—we’ll see how the cognitive and tangible systems of the period interacted with each other, causing a newly coherent system to emerge and usurp what had gone before. I think it’s a fascinating story in its own right, but this approach gains extra relevance when we turn to our present era. There seems little doubt that we are currently in the midst of one of the great critical transitions of the human journey, and yet it is not at all clear where we will end up once our current system resolves into a newly stable state. The final chapter uses this systems framework to explore some of the possibilities we face. My hope in writing this book is that it can offer a valuable framework for readers to come to their own assessment of humanity’s future path, and their own potential role in shaping it.

(Endnotes)

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- 3 F. S. C. Northrop, *The Meeting of East and West: An Inquiry Concerning World Understanding* (Woodbridge, CT: Ox Bow Press, 1979), p. 375–6.
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Jeremy Lent is an author whose writings investigate the patterns of thought that have led our civilization to its current crisis of sustainability. His book, *The Patterning Instinct: A Cultural History of Humanity’s Search for Meaning* (Prometheus Books, May 2017), traces the deep historical foundations of our modern worldview. His award-winning novel, *Requiem of the Human Soul*, was published in 2009. Jeremy is founder of the nonprofit [Liology Institute](#), dedicated to fostering an integrated worldview that could enable humanity to flourish sustainably on the earth. He blogs at [Patterns of Meaning](#), and can be contacted at: [jeremylent@gmail.com](mailto:jeremylent@gmail.com)



## WHAT IS LIOLOGY?

**Liology is a practice of experiencing life in an integrated, embodied and connected manner.**



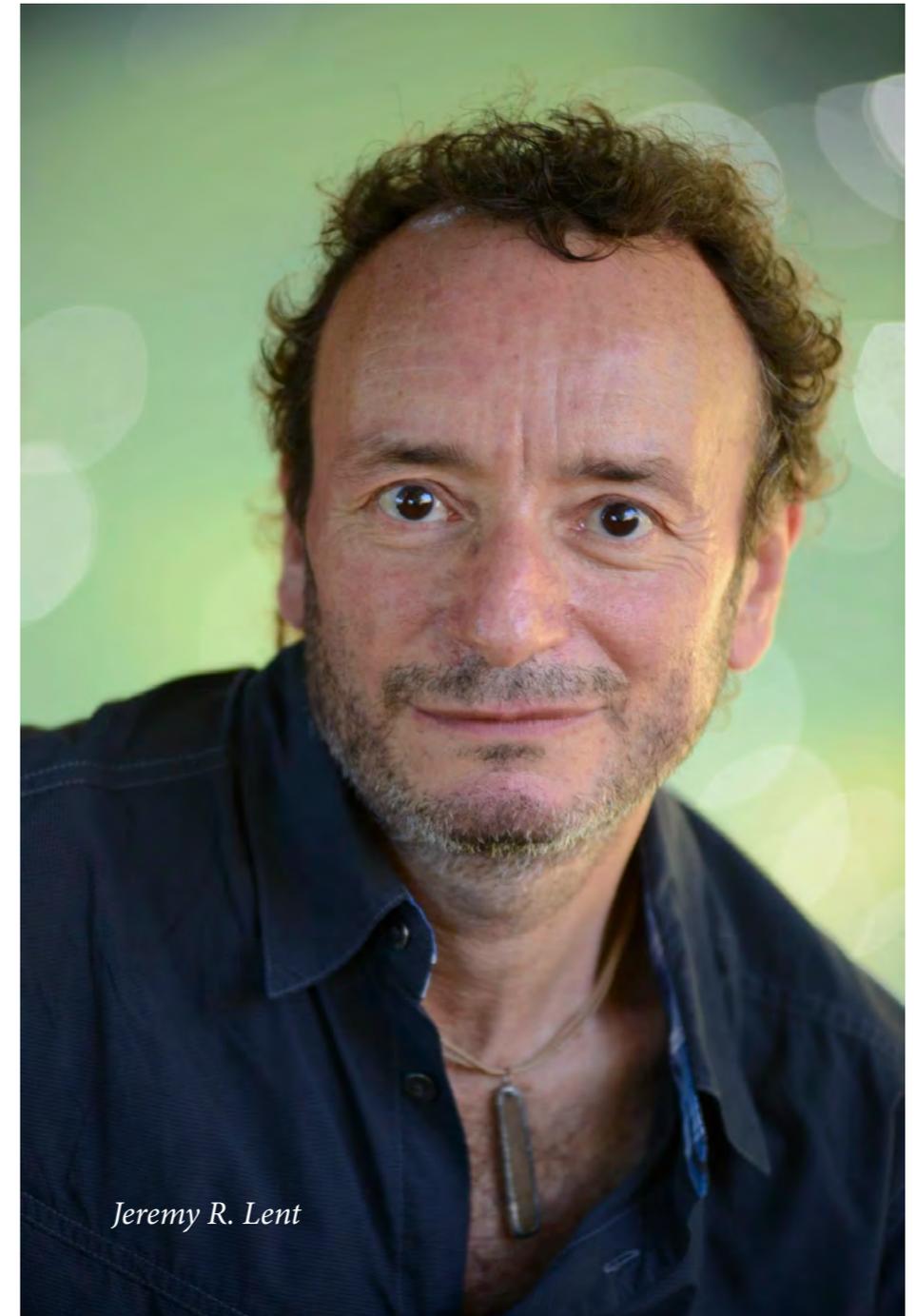
Instead of the conventional view that our human existence is split between mind and body, liology sees our **human organism as an integrated whole**, where our thoughts are embodied and our bodies possess an intrinsic intelligence.

Liology sees **no fundamental split between rigorous science and the source of meaning in life**. Instead, it sees current findings in systems biology and complexity science as pointing the way to understanding our place within the infinitely complex and mysterious natural world in which we have evolved.

Instead of the conventional search for a transcendent source of meaning, liology finds **the most profound meaning in life arising from our intrinsic connectedness** with every cell and integrated system within our own bodies and with every living entity in the natural world in which we are embedded.

Liology offers a new form of understanding our place in the cosmos with **embodied knowledge** - knowledge that arises not just from the intellect but from our felt experience that harmonizes intellection and intuition.

Liology recognizes no distinction between embodied knowledge and action, leading to an understanding that our **ethics arise ultimately from our intrinsic connectivity with the natural world**.



Jeremy R. Lent

[For more on Liology, please click here.](#)

# American Responses to Big History

By Robert H. Moore

PMR Communications Group,  
contributing member of IBHA,  
and coauthor of two award-winning books,

*School for Soldiers: West Point  
and the Profession of Arms*

and

*Spreading the Risks: Insuring the American Experience*

Over the last several years, as I conducted a variation of Big History “field work,” hundreds of Americans were asked to share their responses to Big History.

The focus was on educators and private sector professionals, especially those who are parents and grandparents concerned about American education.

While most had never heard of our work, many were intrigued to learn more. A representative sampling of their responses follows:

“The attempt to frame the Big History message in a way that is accessible to the public is a worthy pursuit. I imagine progress will be slow, incremental, and frustrating to those who already ‘see the light.’ But that fact, of course, doesn’t negate the worthiness of the cause or our hope that a saner world view will eventually come to the fore.”

*-Third year medical student  
at Vanderbilt*

“Upon reflection, I am wondering if the title ‘Big History’ is a turnoff to the scientific community or to those academics for whom history speaks only of the past. I think the title, ‘Big Story,’ might be more inviting for the academic cooperation needed to frame learning and teaching in this larger context.”

*-University of Chicago graduate  
and former CEO*

“As a non-scientific person this makes so much sense to me. I remember as a kid in school trying to figure out the difference between geography and history. I was confused about how to tell the difference, except that my geography book showed more pictures about the land than the people, and my history book showed more pictures of people than the land. I had not yet been introduced to biology, so I didn’t have that to confuse me even further. Now I can see how a more integrated approach to teaching about the Earth and humanity might have reduced my confusion.”

*-Federal Government official*

“I have been disappointed with various school systems since I was a kid. Once I was older, I learned that we were not even taught a lot of basic FACTS. There were many gaps that created big holes in our knowledge base. Big History merges science and humanities. The chronological timeline of our evolving universe and lives helps us fill in the gaps.”

*-Community College student  
& parent in Virginia*

“You have provided a very helpful overview. I know there is some consternation about how the very idea of Big History is seen as adding another burden to high school teachers.”

*-National Board Member  
Friends of the Libraries, USA*

“I sent the material on to my son who is a historian. We are very encouraged by this effort to bring Cosmology together with history/science in this way.”

*-California University Administrator*

“An important, progressive effort. We must work to help students feel a part of their own history and own it.”

*-Senior Partner  
Washington D.C. law firm*

“Thanks for alerting me to this project. I’ve started viewing the course and I’m sure to enjoy it – and recommend it to family and friends.”

*-Chief Actuary  
U.S. government agency*

“Thanks for sharing. I enjoyed traveling through time. I viewed the website

and think it is fantastic. Look forward to going through it and learning.”

*-New Jersey physician*

“I especially like the brave notion that we can’t understand where we are if we don’t know *the full story of where we came from*. And we can’t know that ‘full story’ unless we start at the very beginning.”

*-Retired business executive  
& grandparent in Maine*

“Interesting, but it does not acknowledge that we are spiritual beings – that is the very essence of who we are. Jesus made that pretty clear.”

*-North Carolina church leader  
& grandmother*

“Thanks for introducing me to this material. It has enabled me to BACK WAY OFF and get our place in the universe in perspective in a fresh way.”

*-Yale Divinity School graduate*

“Big History is terrific. It could help us appreciate that we all share the human condition. Unfortunately, our country may not be headed in a more open and inclusive direction.”

*-Afghan Muslim doctor  
& American citizen*

\* \* \* \* \*

The vocational and geographic diversity of the respondents confirms the merit of making Big History accessible to a general audience.

Such efforts help develop understanding and support for our work. However, in an age of texts, tweets and other social media phenomena, many born since 1970

have short attention spans for information outside of their immediate interest.

I frequently get a response along the lines of: “Can you give me a two minute intro. to Big History? If I’m interested, I will check it out.”

“**So What’s Big History?**” is my response to those requests. Although I am drawing on talking points Cynthia Stokes Brown and I wrote for **Origins** (October 2014), this summary is my personal statement:

### SO WHAT’S BIG HISTORY?

Big History is a global & universal story that highlights our common humanity and our connection to the Cosmos & the Earth. Unlike traditional approaches to history, it does not focus on differences among people and countries.

It draws on scientific discoveries to offer an integrated account of the Cosmos, Earth, Life and Humanity. This integration was not possible until relatively recently.

In recent decades, we have learned much more about the basic facts of our existence – from the Big Bang through the formation of stars & planets to life on Earth and its evolution over billions of years.

Big History helps us appreciate the 13.5 billion year sequence of events that have lead to us. (The beginning of the beginning, “the Big Bang,” happened about 13.8 billion years ago.)

We cannot adequately understand who we are unless we honestly engage what is known about this sequence of events.

Basic information about our journey to the present day:

- *About 13.8 billion years ago, the universe burst into existence.*
- *“ 4.6 “ “ , the Earth’s formation began.*
- *“ 3.8 “ “ , life on Earth appeared in the form of single-cellular organisms (bacteria).*
- *About 600 million years ago, multi-cellular organisms began to emerge.*
- *“ 6 “ “ , humans began to evolve; 12-to-18 different species appeared on the line that has led to us.*
- *About 200,000 years ago, modern humans (Homo sapiens) began to emerge.*
- *“ 10,000 “ “ , we began to domesticate certain plants & animals and live in cities. We also developed specialized occupations, states, hierarchies, writing, art, etc. – characteristics of civilization.*

Our lives today are built on the industrial revolution and the massive burning of fossil fuel. But, this has only been going on for some 250 years.

During this short time, we have increased our population from about 800 million to 7 billion individuals. The impact we are having on our 4.6 billion year old Earth is highly problematic.

Big History can help us better understand that we are unlikely to survive long as a species without caring for each other and for our planet.

For a substantive introduction to “the sequence of events” which is our shared history, link to [www.bighistoryproject.com](http://www.bighistoryproject.com).

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# 67th International Astronautical Conference

September 26 - 30, 2016  
Guadalajara, Mexico

# A Universe Story

we are part of an immense universe  
...and this changes everything



## Yale University

New Online Classes Open to the Public

### “Journey of the Universe: A Story for Our Times”

In the fall of 2016 Mary Evelyn Tucker and John Grim, Senior Lecturers and Research Scholars at Yale School of Forestry and Environmental Studies will offer four six-week online courses. These will be featured as a specialization under the theme of “Journey of the Universe: A Story for our Times.” This will include two courses on *Journey of the Universe* and a course on the *Worldview of Thomas Berry*. Each of these courses can be taken independently followed by an *Integrating Capstone* course.

These are MOOCs (Massive Open Online Courses) available on Coursera to anyone, anywhere on the planet. These will be the first MOOC specialization for Yale and the first MOOCs for the Yale School of Forestry and Environmental Studies.

**These courses will be launched on September 21, 2016. A sign up will be available in early September with a JOIN button on a landing page for these courses on the Coursera website. <https://www.coursera.org/yale>**

## Course Descriptions

### Journey of the Universe

*Journey of the Universe* weaves together the discoveries of the evolutionary sciences with the humanities such as history, philosophy, art, and religion. The courses draw on the Emmy-award winning film, *Journey of the Universe*, the book from Yale University Press, and a series of 20 interviews with scientists and environmentalists, titled *Journey Conversations*.

*Journey* explores cosmic evolution as a creative process based on connection, interdependence, and emergence. It examines a range of dynamic interactions in the unfolding of galaxies, Earth, life, and human communities. It investigates ways in which we understand evolutionary processes and the implications for humans and our ecological future.

The *Journey* courses are based on a new integration that is emerging from the dialogue of the sciences and humanities. *Journey* tells the story of evolution as an epic narrative, rather than as a series of facts separated by scientific disciplines. This changes our perception so that we begin to see ourselves as an integral part of this narrative. By situating ourselves within this story we can better appreciate the complexity and beauty of processes such as self-organizing

dynamics, natural selection, emergence, symbiosis, and co-evolution. As we discover these intricate processes of evolution, we awaken to the beauty and complexity of our natural environment at this critical juncture in our planetary history.

**Journey of the Universe: The Unfolding of Life** draws on the *Journey* film and book written by Brian Thomas Swimme and Mary Evelyn Tucker.

**Journey Conversations: Weaving Knowledge and Action** explores 20 engaging interviews with renowned scientists, historians, and environmentalists.

See: [www.journeyoftheuniverse.org](http://www.journeyoftheuniverse.org)

### **The Worldview of Thomas Berry: The Flourishing of the Earth Community**

Thomas Berry (1914-2009) was a historian of world religions and an early voice awakening moral sensibilities to the environmental crisis. He is known for articulating a “new story” of the universe that explores the implications of the evolutionary sciences and cultural traditions for creating a flourishing future. This course investigates Berry’s life and thought in relation to the *Journey of the Universe* project. It draws on his books, articles, and recorded lectures to examine such ideas as: the New Story, the Great Work, and the emerging Ecozoic era. The course explores Berry’s insights into cosmology as a context for locating the human in a dynamic unfolding universe and thus participating in the creative work of our times. In particular, we will examine Berry’s reflections on renewal and reform in the areas of ecology, economics, education, spirituality, and the arts.

See: [www.thomasberry.org](http://www.thomasberry.org)

### **Integrating Capstone: Living Cosmology**

The ecological and social challenges we are facing as a human species are multiple, complex, and vexing. The difficulty in finding viable solutions can lead to a sense of disempowerment. In this capstone we offer a venue to respond by exploring ways in which human creativity may be more deeply aligned with the creativity of universe and Earth processes. This is what is intended by “living cosmology”.

The capstone course will give participants an opportunity to integrate their learning from the other courses with an individual or group project. Both original thought and practical applications are encouraged. Interdisciplinary thinking and fresh solutions will be fostered. Community mentors will assist the process.

Participants choose one of three concentrations: education, arts, or transformative change.

**Education** concentration – students will create projects or develop curriculum designed to reach diverse learners, in schools or colleges and beyond.

**Arts** concentration – participants may synthesize their learning through literature, poetry, painting, or music.

**Transformative change** concentration – learners will analyze or create models of efficacious ecological, social, political, economic, or spiritual change.

**Specialization Certificate:** While participants do not earn Yale credit for MOOCs, learners are offered an opportunity to pay for a Specialization Certificate for completing and passing the courses with a qualifying score. Students who choose that option can share these certificates with prospective employers and others.



## CALL FOR PAPERS



Following an excellent response to our earlier Call for Panels, with over 120 proposals submitted, we now cordially invite proposals for individual papers.

Under the congress’s general theme “Ruptures, Empires, Revolutions” and on the occasion of the centennial of the Russian Revolution, we seek to discuss the global context and repercussions of the revolution in particular while debating the role of revolutions in global history in general. In recent global history scholarship, the relationship between empire and revolution has been less explored than many other topics that became “globalised” over the past two decades. Furthermore, revolutionary upheavals have mostly been interpreted as caesuras in national histories and much less as being situated in global dynamics. Considering still influential narratives that give revolutions its rank primarily within national histories of nation building and social transformation, we encourage such views to be challenged through a comparative and global perspective on empires and imperial societies as well as on their revolutionary crisis. The chosen focus also has the potential to place centre stage as well as compare and explore the interconnectedness of uneven social and political change around the world, including both colonial as well as post- colonial settings.

Since the congress will be organised in panels of two or two and a half hours length, the steering committee of ENIUGH will choose paper proposals with a particular focus on their capacity to allow for fruitful discussions among

the panelists. We specifically look for paper proposals that complement and fill slots in already existing panels while also expanding the intellectual range of the conference’s programme. We particularly welcome proposals addressing the following topics:

- Pre-1500 cross-cultural developments, ruptures and changes
- Wars, violent transformation, and radical interventions in the distribution of ownership, in their connections to new orders
- Comparative military history and the destructive effects of international and global connectivity
- Connected histories of the South-East Europe
- Revolution and empire in conceptualisations and methodologies of world and global history, for both teaching and research
- Revolutions and the reordering of spatial configurations

from the late 18th to the beginning of the 21st century

- Connected histories of the Eastern Mediterranean and Arab world at large
- Gendered perspectives on the theme of the conference
- Internal peripheries between imperial arrangements and global markets
- Colonial agricultural policies, African farmers and the development of the cooperative movement in Ghana and Sierra Leone (1920s-1950s)

This is only a selection of topics for papers presented at the congress. We are very much welcoming topics beyond this list as well.

**Proposals:** In addition to providing a name, affiliation and email, the proposal should include the title of the paper and an abstract (100 words).

**Submission:** All proposals must be received by 15 November 2016 and submitted electronically through the congress website: <http://eniugh.org/congress>

### Dates and deadlines

**November 2016:** Call for papers closes

**January 2017:** Authors of individual paper proposals will be notified of the outcome.

**March 2017:** Conference registration announcement; publishing of programme, and opening of conference registration and accommodation reservation (through the ENIUGH Congress website).



Night view of The Széchenyi Chain Bridge from Buda Castle in Budapest, Hungary

[https://commons.wikimedia.org/wiki/File:Sz%C3%A9chenyi\\_Chain\\_Bridge\\_in\\_Budapest\\_at\\_night.jpg](https://commons.wikimedia.org/wiki/File:Sz%C3%A9chenyi_Chain_Bridge_in_Budapest_at_night.jpg)