Art and Museum Review / Compte rendu d'exposition

Evolving Planet: Constructing the Culture of Science at Chicago's Field Museum

Reviewer: *M.A. Lelièvre*
University of Chicago

The recent resurgence of the debate in the United States and northern Québec between evolutionists and creationists reminds us that there is still disagreement on *who* or *what* is the prime mover of life on Earth. I propose to explore a specific site of production for evolutionary discourse—that of the public museum. Long understood as instruments in the creation of nations and citizens, museums are sites for the creation of culture. With *Evolving Planet,* the Field Museum reinforces a particular culture of modern, Western science as the only epistemology for understanding life on Earth.

In early March 2006, the Field Museum in Chicago opened its newly renovated permanent exhibit on evolution entitled *Evolving Planet.* Planning for the $17 million exhibit began in 2001 when in-house evaluations revealed that *Life Over Time,* the exhibit that *Evolving Planet* replaces, was failing to communicate the message that all life on Earth is connected through the cumulative processes of evolution (Tubutis 2005: 18). In preparing for the renovations, the Museum had several objectives, which included reporting recent advances in evolutionary theory, highlighting its fossil collections and providing a context for Sue, the recently acquired *Tyrannosaurus rex* that resides in the Stanley Field Hall on the ground floor. The Field Museum tells the story of evolution through the tried-and-true walk-through-time design, unlike some institutions that present evolution more thematically—for example, the recent *Darwin* exhibit at the American Museum of Natural History (see also Rufolo, 1999). But not to be restricted by the geologic time-scale, *Evolving Planet* divides the journey into six colour-coded phases that cross-cut and combine some geologic divisions.

If, as L.P. Hartley claims, the past is a foreign country, then the geologic past presented in *Evolving Planet* is a different world. Indeed, we might more readily identify the volcanic terrain and 50°C temperatures of the Precambrian eon with Mars than with the ancient history of Earth. When presenting the Earth's deep history, one challenge for museum professionals is to make its foreignness familiar to visitors. With *Evolving Planet,* the Field Museum takes this challenge one step further in attempting to allow visitors to experience the unexperienceable. Through a combination of fossil specimens, digital animations, artistic illustrations, three-dimensional models and video presentations, *Evolving Planet* creates spaces in which visitors are meant, not only to observe, but also to experience 4.5 billion years of life on planet Earth.

Walking into the first phase, which is devoted to the Precambrian, it becomes clear that *Evolving Planet* will be a multisensory experience. The Precambrian is cast in the orange-red of Paleozoic lava. Visitors see an illustration of, what appears to be, a typical landscape for this eon—a sea of indeterminate liquid punctuated by steaming volcanoes. Sinusoidal light effects cast shimmering ripples on the exhibit walls. We hear the ambient sounds of harsh winds, presumably whipping down through the scattered landforms. The accompanying text panel warns visitors that the atmospheric cocktail of carbon dioxide, nitrogen and water vapour would have made the Precambrian air unbreathable. Yet the artistic interpretation of the landscape implies a human perspective. We, the visitors, could be standing atop a distant volcano taking in the literally breathtaking view of the Precambrian ooze.

The "you-are-here" provocations continue with other audio-visual features of *Evolving Planet.* Each phase has its own particular colour scheme and soundscape, allowing visitors to sense sights, sounds and even some of the textures that have been extinct for millennia. Visitors entering the Cambrian period, for example, face three large screens that display the digital animation of a sea teeming with awe-inspiring life (photo 1). Sunlight streams through the shallow waters in which seemingly alien, pastel-coloured creatures swim, scurry, crawl and float before our eyes as if we were snorklers hovering just below the surface. As visitors hike through the Carboniferous coal forest, we encounter three-dimensional constructions of towering trees and uncomfortably large ferns and insects (photo 2). A low, lawn mower-like hum drones in the background evoking an eerie feeling of very large wings flapping very rapidly toward our ears.

Photo 1: Eric Manabat © The Field Museum

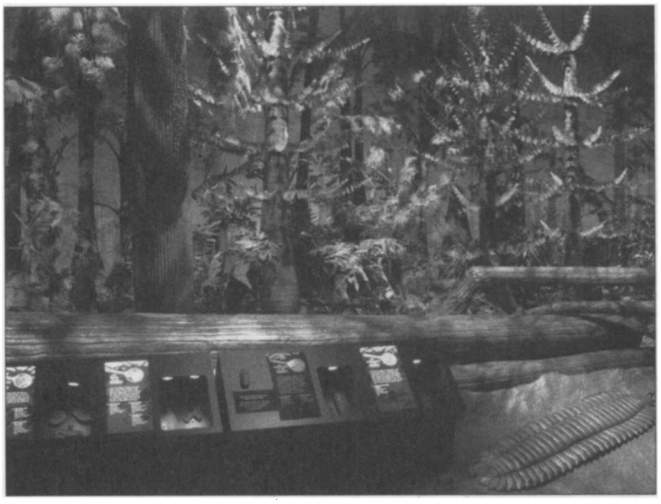

Photo 2: Eric Manabat © The Field Museum

These sensory stimulations work through *Evolving Planet* to put into perspective the spatial and temporal scale of life's evolution. Humans appear quite insignificant when compared to the reconstructed skeleton of a giant sloth (photo 3) and the impressive variety of dinosaurs (photo 4) featured in *Evolving Planet.* These specimens are remarkable not only for their scale but also for the details that have been preserved of their ancient lives. The impressions of *Orodus greggi*'s scales, for example, almost glisten in the massive fossil that dominates one wall of the Silurian/Devonian phase (photo 5). While *Evolving Planet's* walk-through-time design may seem staid for a twenty-first century exhibit on evolution, it works to convey the vast temporal depth of life on Earth. Visitors walk through most of our planet's history, including five mass extinctions before encountering our hominid ancestors. Human presence represents only 0.2% of the 4.5 billion years of organic life on Earth—a figure that only reinforces the destructive power of our relatively brief existence.

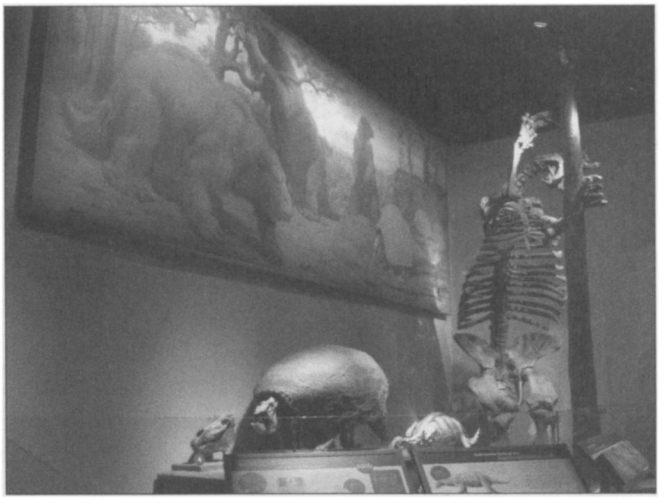

Photo 3: Eric Manabat © The Field Museum

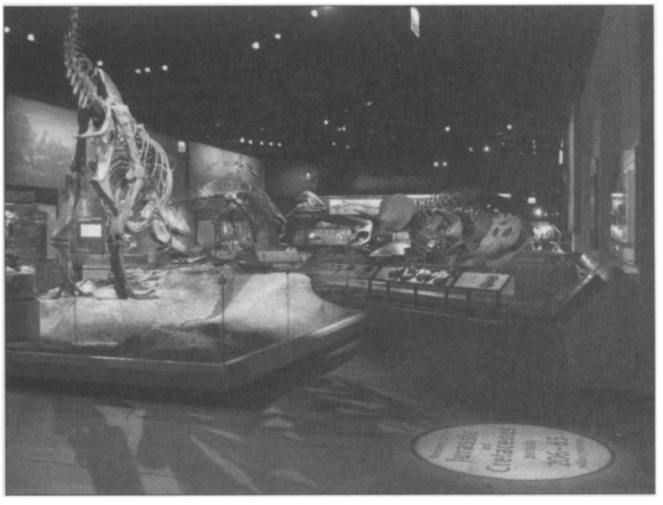

Photo 4: Eric Manabat © The Field Museum

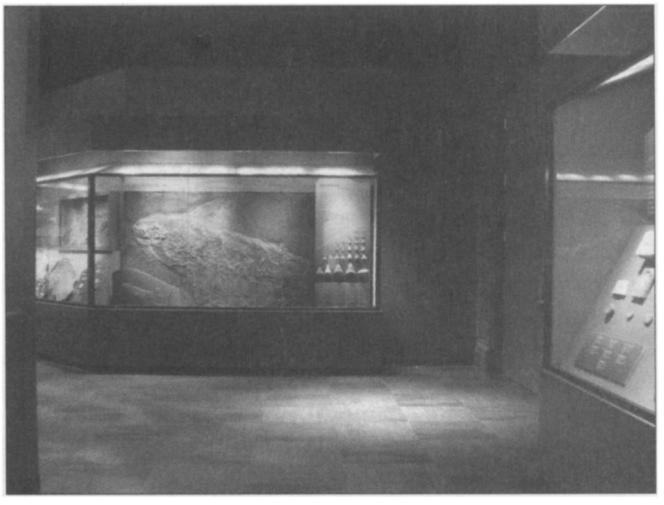

Photo 5: Eric Manabat © The Field Museum

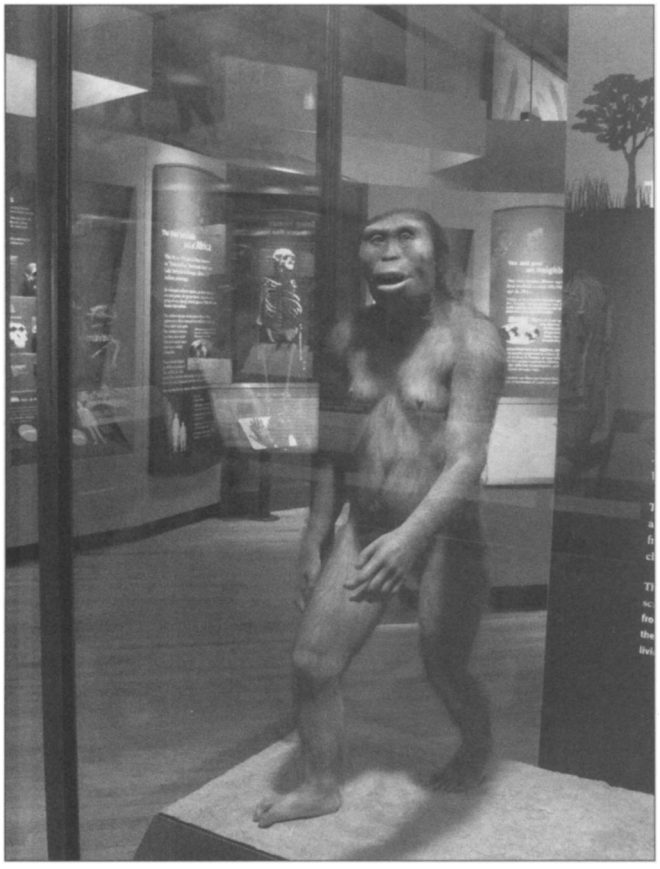

Photo 6: Eric Manabat © The Field Museum

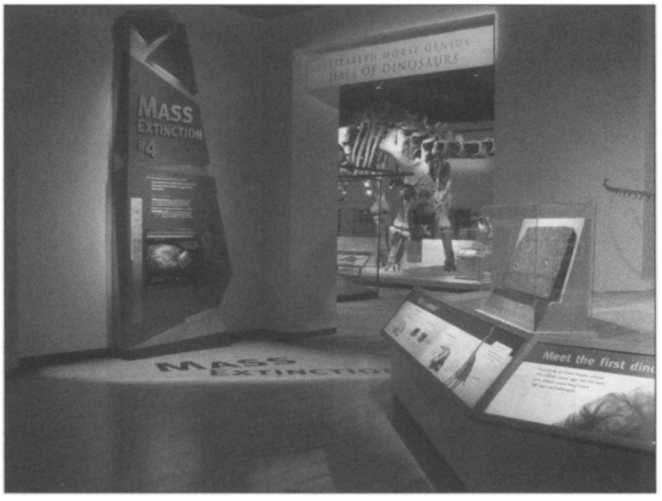

Photo 7: Eric Manabat © The Field Museum

Consequently, *Evolving Planet* offers comparatively little, but proportionally accurate, attention to the human role in evolution. Breaking with traditional museological interpretations of evolution, the Field chose to remove the hominid room from the end of the *Life Over Time* exhibit, with all of the connotations of superiority that that ultimate position implies. Instead, *Evolving Planet* greets the first hominids about three quarters of the way into its walk-through-time, somewhere in the middle of the Tertiary period. The hominid specimens are showcased in one room, the highlights of which include a specially commissioned model of Lucy by Elisabeth Daynes (photo 6). Lucy stands frozen in mid-stride as she walks across the Cenozoic mud that immortalized her footprints. Although encased in glass, visitors are able to touch casts of her hands, feet and cranium, adding a further experience to *Evolving Planet*'s sensory palette.

As impressive as the hominid room is, it appears almost as a tangent in *Evolving Planet's* narrative. There is little demonstration of *Homo sapiens*' primate roots. According to the exhibit's Senior Project Manager, Todd Tubutis, the Museum's lack of primate specimens prevented the exhibit developers from including many of our direct ancestors as a lead-in to the hominid room (personal communication). Instead, *Evolving Planet* introduces hominids in the context of the environmental conditions that allowed for the development of mammalian life in the Tertiary period. Some mention is made of hunters during the Quaternary period, but the real human impact on planet Earth is saved for the end. Throughout *Evolving Planet* the narrative is interrupted by kiosks that demonstrate the mass extinctions the Earth has survived (photo 7). We are in the midst of the Earth's sixth mass extinction, which has been triggered by human exploitation. *Evolving Planet* leaves open the question of whether humans will survive. Here, there is an abrupt shift in the role of the visitor—from that of adventure tourist in a foreign past to destroyers of the life that emerged from that past and habitats that humans require for survival. But, ultimately, *Evolving Planet* places responsibility for saving the planet in the discoveries and innovations of humans, especially those that inspire the conservation projects currently undertaken by The Field Museum's own researchers.

The work of these researchers and scientific research more broadly, is featured prominently throughout *Evolving Planet.* Museum staff collected many of the 1300 specimens on exhibit. These researchers are featured in eight video kiosks or "Scientist Stops," stationed throughout the exhibit. They appear in both office and laboratory settings, explaining and actively conducting their work. Their indirect observations of events and processes that occurred in the past provide the data necessary to simulate periods of the Earth's history that human bodies were never meant to experience directly. *Evolving Planet* goes to great lengths to espouse the authority of Western scientific epistemology when it comes to observing and understanding so-called natural phenomena. Even from the introductory text panel, visitors are schooled on the meaning of evolutionary *theory:*

> For an explanation to be a valid scientific theory, it has to be supported by evidence. Any new evidence puts the theory to the test. If the evidence does not support it, the theory is modified or rejected. All available evidence, which includes fossils, comparative anatomy, and

DNA, supports the theory of evolution as the scientific explanation for the rich diversity of life on Earth.

Natural selection is the operative explanatory theme that weaves itself through *Evolving Planet.* In the training materials that it provided for docents working in the exhibit, the Field Museum describes natural selection as "the Darwinian explanation for what drives evolution. The basic principle is that organisms that are better adapted to their environment are more likely to survive" (The Field Museum, 2005). Each phase of *Evolving Planet* is introduced in the context of the climatic and geological changes in the Earth to which organic life had to adapt. In the hominid room, for example, natural selection explains why *Homo neanderthalensis* was not the favoured species. Referring to the diets most suitable for "gracile" and "robust" hominids, the accompanying text reads: "looking at Neanderthals, we start to see how climate can shape evolution" and "evolution favors bodies that fare well in their environments." The environment as prime mover leaves little room for interpretations of human evolution that would include the sometimes irrational and inefficient sets of practices that anthropologists associate with societies and cultures, although the hominid room gestures toward the cultural with a section entitled "Being human is more than biology." Projectile points, cave paintings, goddess figurines and stone tools are meant to illustrate this assertion (photo 8). In walking the natural selection line so closely, *Evolving Planet* leaves little room for discussion of the complexities and debates of evolutionary theory. Indeed, as Rufolo argues, "It is becoming more commonplace to construe natural selection as one component in a complex of distinct factors resulting in the observed and theorised nature of evolution" (1999: 24).

The Field Museum may have simplified its message on evolution to satisfy the museum audiences who were overwhelmed by *Life Over Time.* But the simplified explanation of evolution's mechanisms might also reflect the Field's desire to present a clear message to combat recent challenges to the authority of evolutionary theory. The exhibit planners are quick to point out that planning for *Evolving Planet* was underway well in advance of the recent controversies regarding intelligent design at school boards in Pennsylvania, Kansas and Québec. But there is an implicit dialogue with critics of evolution detectable in the exhibit's promotion of Western science. From the promotional materials and training documents, to the opening reception and the exhibit text, the Field's discourse on evolution relies on dichotomies between science and religion, the natural and the supernatural. The ethnographic

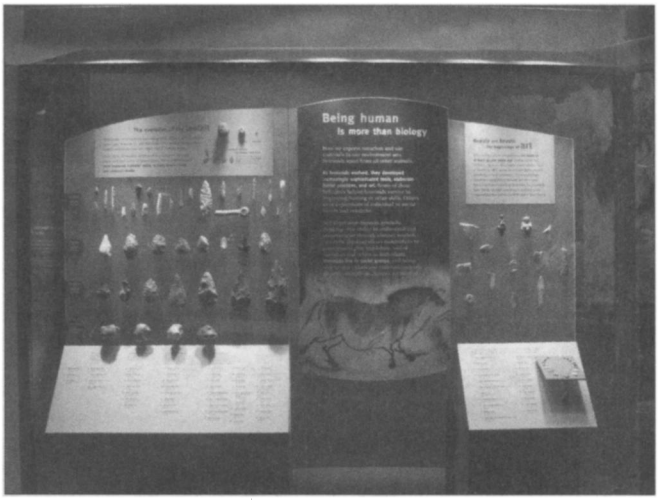

Photo 8: Eric Manabat © The Field Museum

study of how such knowledge is produced is ideally placed in the museum setting. As the product of the Field Museum's geology department, *Evolving Planet* has few outlets for exploring the role that culture and society play in effecting, not only the development of life on earth, but also *how* that development is observed, analyzed and shared. When the Creation Museum opens in 2007 we will have the opportunity for a comparative study. The creationist sponsors of the 4600m^2 museum declare that it "will be a wonderful alternative to the evolutionary natural history museums that are turning countless minds against the gospel of Christ and the authority of the Scripture" (see www.answersingenesis.org/museum). It appears as though museums are becoming a front in America's culture wars, and visitors are welcome.

References

Field Museum, The
2005 Revised and expanded Q & A for staff on The Field Museum's Evolution Position Statement. Unpublished training materials provided to The Field Museum docents.

Rufolo, Scott
1999 An Analysis of Evolution as Presented in Museums through a Select Example of British and French Exhibits. M.Phil. dissertation, Department of Archaeology, University of Cambridge.

Tubutis, Todd J.
2005 Revitalizing *Life Over Time:* A New Look for a Very Old Topic. In the Field 76(2):18.