

How Can We Interject Human Evolution Into More Museums?

By Jonathan Marks

WITH very few exceptions, it is hard to find exhibits on human evolution and variation in America's scientific museums these days. Such exhibits are needed, though, to show the public the work done in biological anthropology, the field that studies who and what we are, as natural objects. Biological anthropology is sometimes called "physical anthropology," to emphasize the physical phenomena that scholars in the field study.

The reasons for the lack of exhibits on biological anthropology include museums' reluctance to offend creationists, and concerns about addressing issues of human diversity, such as skin color.

To understand this, we have to look at the very heart of what biological anthropology thinks it is, and how it represents itself to the public. Many scholars in the field think of biological anthropology as more biological than anthropological. As biological anthropology developed in the 19th and early-20th centuries, it tried to cast itself in the image of modern biology, claiming to study humans "simply" as organisms, and to produce value-free judgments about nature. This contention has had major consequences.

Most of the small number of exhibits on human evolution that do exist focus on supposedly hard facts, which inevitably makes them obsolete as those facts are replaced by newer hard facts. The classic bio-anthropological exhibit is centered on data from skeletons—a house-of-horrors approach that may do a better job of frightening small children than communicating anthropological knowledge.

How can we take biological anthropology into more museums? One possibility is to show the public not just what we think we know about human ancestry, but how we create scientific explanations about it. Scarcely a generation ago, some scholars used fossils to "prove," for example, that blacks were 200,000 years behind whites in evolution—a supposedly scientific argument seized upon with glee by segregationists. Today, certain fossils tell some scientists that modern Asians evolved from prehistoric Asians, and basically the same fossils tell other scientists that modern

Asians evolved from prehistoric Africans. Perhaps what we need to explain to the public is how the same data tell competent scholars such conflicting stories.

Instead of merely showing skeletons and explaining what the authorities currently think about them, why can't we show people where scientific facts come from? Why can't we, for example, display different possible reconstructions of the same fossil hominids? After all, those reconstructions situate fossils within contemporary ideas about race, gender, and the differences between humans and animals. One need only compare the early *National Geographic* reconstruction of *Zinjanthropus* (southern and apparently Caucasian) with more recent ones (bestial and generally not human enough to resemble any currently existing group of people) to see the difference between scientific facts and factoids.

Rather than being intimidated by creationists, why not show the public how scientific explanations are built, and what constitutes a good explanation? Rather than be stuck trying to prove that evolution occurred, why not show how to differentiate data from interpretations—and, more specifically, highlight the responsibilities borne by scientists when they propose prehistoric origins and identities for humans based on those interpretations?

It is even more important to explain to the public that any system of classification is affected by culture. We impose meaning on nature by partitioning it, and the categories that we use are imbued with cultural values.

One of the most interesting recent books on the history of biology is *Nature's Body: Gender in the Making of Modern Science*, by Londa Schiebinger, a professor of women's studies and the history of science at Pennsylvania State University. It addresses classic anthropological themes, including the relationship between natural and constructed categories, from the standpoint of the history of European science.

Schiebinger notes, for instance, that the natural category "mammal" could be defined by the presence of body hair or other traits, instead of by breast-feeding. But a debate about the importance of mothers'

feeding their own children, instead of relying on wet nurses, was raging when Linnaeus devised his classification system for plants and animals in the 18th century. Linnaeus's participation in that debate led him to attach the name *mammalia* instead of *quadrupedia* to the group in question—thus making breast-feeding the defining characteristic of the group and at the same time making a statement about the "natural" role of women.

THE DEMONSTRATION that apparently natural categories are, in fact, the constructions of social history is a classic lesson of anthropology and is at the heart of the problem of race in biological anthropology. Just as the definition of mammals is a political statement imposed on nature, so is the idea (also formalized by Linnaeus as science) that there are a few different kinds of people, distinguished taxonomically by physical and cultural characteristics, and even color-coded for our convenience.

Biological variation does exist within the human species, of course. But although we commonly identify certain groups as "races," human beings are not actually divisible into discrete subspecies. The distinctions that we make in these cases are based not on biology, but on our cultural interpretations of nature. This is not the same as saying that race "doesn't exist" or "has no meaning." Race has plenty of meaning, simply because we use it to confer identity on ourselves and others.

But few American museum exhibits reflect this understanding. If you can find any exhibit at all on human variation, it generally follows the 18th-century scientific view that humans come packaged as a few types. The Musée de l'Homme in Paris had a wonderful exhibit a few years ago called "Six Billion People," which successfully presented human biological variation without using race as a structuring principle. Rather, it showed that biological variation among the peoples of the world is continuous—for instance, skin tones range from white to light brown to dark black—and that the boundaries imposed among peoples are social constructions.

Not long ago, while at Yale University, I

floated the idea of an exhibit with my colleagues at the university's Peabody Museum of Natural History. It would have been on the eugenics movement, which was popular in the 1920s, and which attributed what it saw as the impending decline of civilization to the genes of "lower" classes. Eugenics advocates managed to get involuntary-sterilization laws passed in some states and upheld in the Supreme Court. They also managed to curtail the immigration of people with bad "germplasm"—Italians and Jews.

During the 1920s, most people considered eugenics a liberal, progressive scientific movement, whose advocates sincerely hoped to change society for the better through the application of genetics. To oppose eugenics was to oppose science, progress, modernity. Within academe, only a few anthropologists, such as Franz Boas, criticized the movement for failing to distinguish between the genetic processes leading to biological evolution, and the social and historical processes leading to inequality and economic exploitation.

I thought the exhibit could inform the public not only about genetics and human populations, but also about scientific authority, bioethics, and local history—the headquarters of the American Eugenics Society in its early years was in the home of the Yale economist Irving Fisher. The exhibit would show how science worked in an era (similar to our own) in which the hot scientific field was genetics, and geneticists were trying to convince people that everything important in life was genetic, even if their ideas put the rights of the most marginalized segments of society at risk. Wouldn't such a display have been interesting—and relevant?

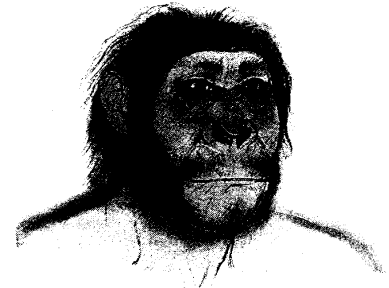
My idea didn't get very far. As it was earnestly explained to me in rejecting my suggestion: "We do stuffed animals here."

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Two reconstructions of *Zinjanthropus* (also known as *Australopithecus boisei*) show how scientists come up with different interpretations of the fossil record.



E. P. DUTTON



THE NATURAL HISTORY MUSEUM, LONDON