The Search for the First Americans

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Laboratories and Museums

In 1784, Thomas Jefferson dug into a mound located on his land and concluded that it had been built by the ancestors of American Indians. When it had been built “was a matter of doubt.” Historians frequently refer to Jefferson’s effort as being the first instance of a specific American excavation for archaeological purposes. “Jefferson’s pioneering methodology—the first excavation designed not to recover artifacts but to solve an archaeological question—was sufficiently ahead of his time that it had virtually no real impact on subsequent work for at least another century.” Thus began the creation of the First American scientific laboratory and museum in the search for the First Americans.

Laboratories

For the modern First American scientist, much of the world’s land mass, and some parts of the oceans as well, constitute the potential laboratory. Many scientists have a fixed point, a known location, to which they can repeatedly return to test their hypotheses. Archeologists must first create an expectation, a theory, as to where to even situate a laboratory. Where are they most likely to find material artifacts, to make meaningful observations? In a cave? In a desert? Beneath a body of water? Where there are, or rather were, flora and fauna of particular types? As an example, the accidental initial discovery by an amateur of the Clovis cultural tool kit occurred in the high desert area of the American Southwest and so the location for an important First American laboratory was serendipitously created in a dusty arid field that, for a while, was shared with a gravel mining operation.

Since Jefferson’s time there have been many more sites, including important ones in South America. The more famous tend, naturally, to be those that have produced novel results as well as those that were more contentious. As James Adovasio pointed out, “the cavalcade of loser localities was taken by many archaeologists as proof that no one was or could have been in the New World
before the fluted-point makers [Clovis]. Such a belief is, of course, not science. And it is not logical. It is, in fact, more like a religious dogma.”

The goal of the First American laboratory is to produce and examine material artifacts from which culture-defining statements can be made. The archaeologist could, ideally and unrealistically, hope to find a living, breathing potential First American. That being an impossibility, the hope is to find a first order derivative: the remains of a First American. However, typically, what is found is a second order derivative: the material artifacts left behind by no-longer existing First Americans. Further compounding these difficulties is the reality that only a small subset of the cultural tool kit is likely to survive. Flaked stone tools are frequently the only material evidence recovered from First American archaeological sites. As a result, archaeological theory associated with the First Americans is irretrievably linked to methodologies that are structured toward finding stone tools. “Their [nondurable artifacts of wood, bone, or fiber] absence has lent undue importance to the relatively common stone tools. This bias in what has been preserved and what hasn't has in turn helped create (and sustain) an image of Late Pliocene and early Pleistocene technology that is not only wrong for that time but for virtually all later periods. . . . It is virtually certain that stone was always a minority element in their technological suite.” Moreover, it is believed that stone tools are historically the result of a masculine endeavor, overemphasizing the hunting/killing aspects of First American society; the perishability of materials such as wood, basketry, and cloth results in an unrepresentative view of that society and the roles of women and children.

First American scientists face a particularly daunting evidence-by-proxy challenge. Their task is to develop plausible theories regarding prehistoric cultures that might well have no modern progeny. In the absence of a cultural road map, scientists typically prize burial sites for the information that a cadaver and its associated funereal artifacts provide. For the First Americans, there are few such remains, and those that exist are typically subject to contentious arguments over physical control of the remains themselves. That then leads scientists on a search for artifacts of any type. Often, the only humanly modified material that has survived through the millennia is stone. However, as valuable as stone may be as an enduring talisman of a cultural past, it may well not be the predominant material tool employed. First American scientists, such as Dennis Stanford and Richard Morlan, believed that pre-Clovis cultures might have predominantly used bone rather than stone in their cultural tool kit. Such a contention is purportedly supported by thousands of bones found in the mudflats of the Old Crow River in the Canadian Yukon. Finds such as Old Crow are rare. The
Stanford-Morlan thesis may well be correct, and their logic of stone being preferentially preserved by nature has a certain intuitive plausibility, but current evidence is not sufficient either to prove or disprove it.

The determination as to how to construct any particular laboratory is critical for the practice of science in the search for the First Americans. For an archaeologist as well as for a bioanthropologist, the scientific act of discovery is first an act of physical discovery, with the initial problem being the selection of a location on the Earth. To obtain funding from a sponsor for an archaeological excavation, it is necessary to demonstrate a reasonable probability of success—the measurement of which is typically against generally prevailing theories. When there is a theory, such as Clovis-first, that is believed to be well-confirmed, a proposal to search (i.e., to situate a laboratory and make observations) for a pre-Clovis site could be perceived as baseless with the resulting consequence that experiments were typically structured and funded to confirm repeatedly the reigning Clovis-first theory and rarely around a meaningful effort for its refutation. With the laboratory existence itself being a direct reflection of a theoretical model, the observations become increasingly theory—and even observer—dependent. As an example, Monte Verde in Chile and Meadowcroft Rockshelter in Pennsylvania—two initial challenges to the long-held Clovis-first paradigm—were neither discovered by a scientist nor the result of a specific search based on a theoretical model. Rather, they were each the result of a serendipitous sighting by a nonscientist intent on other matters.

What constitutes a laboratory, the context of scientific observation and experimentation, is less clear in the search for the First Americans than might be evident in an investigation into particle physics or the development of pharmaceuticals. “Since the seventeenth century, the laboratory has come to be recognized as the preeminent site for making knowledge in the experimental sciences. It straddles the realms of private seclusion and public display, and calls for means of managing the transitions between them.” While philosophers of science may engage in debates concerning the relative merits of induction and deduction as methodologies for drawing conclusions about the nature of the physical world, these same issues play out in a much less esoteric fashion in the daily lives of First American scientists. Is the preferred experimental approach to uncover evidence and then create a theory with some explanatory power, or to establish a working theory and then test it by seeking observations, typically in a laboratory, that confirm or falsify the theory? In the practice of science in the search for the First Americans, holes are not dug at random. As Ian Hacking observed, a scientist must always begin with some expectation. “We should not... underestimate the
pre-theoretical role of invention and fiddling around.” First American scientists, in particular, must have some idea of how the material world might produce evidence and what such evidence might look like.

For the First American scientist, there is not only the necessity of identifying a physical location for the laboratory, but there also must be a reasonably accurate temporal assessment. Depth into the Earth translates into elapsed geological time. Digging deeply is resource intensive, but failure to explore to an adequate depth precludes discovery of artifacts relating to particular periods in human history and, therefore, excludes examination of entire classes of potential theories. The location of an archaeological laboratory can be situated in such a fashion that the earliest artifacts that might be discovered are those of the Clovis era; without an accepted theoretical model that anticipates a pre-Clovis culture, in the absence of a purely serendipitous accident, the material artifacts that form the basis for archeological discovery will not be found because the excavation will be of insufficient depth or in the wrong location.

In addition to the difficulty in determining precisely what constitutes a laboratory for the First American scientist, there can be little doubt that, wherever such a laboratory could be, the possibilities are disappearing. Just as we modern humans build our social networks in areas associated with sources of food and water, facile modes of transportation, and favorable environmental conditions, so did our ancestors. Access to productive archaeological laboratories would, in many cases, entail destruction, or at least significant disruption, of elements of modern society. The opportunity costs are sufficiently great that vast populated areas of the Earth’s land mass are off limits to archaeological exploration. Conversely, that same human activity—the creation of roads, cities, and the other trappings of civilization—that creates such a physical barrier for modern archaeologists, has also already destroyed archaeological artifacts.

The theory dependence of observation is central to the First American debate. If scientists situated their laboratories in such a manner as to give discovery of Clovis artifacts the only realistic outcome of the experiment (i.e., the archaeological excavation), then the opportunities are greatly decreased for archaeological results that disconfirm a Clovis-first theory. Although methodological rigor and advanced technological equipment are important in all scientific domains, in archaeology, the theory-laden nature of the location of the laboratory is of especially critical importance.

With the typical within-domain difficulties described above, attempts to situate a laboratory frequently encounter irreconcilable differences between historical discovery and heritage preservation. Situating a laboratory and conducting an
experiment that searches for First American evidence confronts the reality that many of the most logical locations are on properties owned either by American Indian tribes or by the US government, which, in either case, triggers federal laws and regulations that accord equal status to cultural preservation over the interests of science. Despite the judgmental positions taken by the advocates on either side—see the discussion elsewhere on the Kennewick Man—both science and heritage preservation have, upon occasion, been culturally hegemonic tools tainted by moral ambiguities. Examples range from Stalin’s prohibition against the practice of “Jewish” science to US prohibitions on stem cell research. There may, however, be instances when a normative constraint on the practice of science may provide a balance, not a proscription, for the conflicting cultural authorities of heritage and science. In The Leviathan and the Airpump, Steven Shapin and Simon Schaffer drew a direct relationship between social order and the methodologies considered acceptable in the practice of science. There is no question that the imposition of social constraints on what constitutes an acceptable laboratory impacts the practice of First American science while giving some protection to the myths associated with American Indian heritage preservation. What constitutes an observation, a fact, is an outcome produced by a social negotiation. The difficulty in completing a successful negotiation as to what constitutes an observation is that myth and science—each of which has established a form of cultural legitimacy in the search for the First Americans—offer mutually conflicting standards as to the location of a laboratory. The gold standard of technological rationality becomes the mass spectrometry of carbon decay, the genetic analysis of migrant haplogroups, and geospatial imagery. Instruments routinely employed in physics increasingly bestow their credibility on First American science. New types of instrumentation, however, can also provide an opportunity for a theoretical flexibility, which can challenge the social validation of outmoded models.

The so-called First American laboratory locations are plentiful. A short and nonexhaustive list of potentially significant First American archaeological sites—legitimized, refuted, or unresolved—must include Clovis, New Mexico; Meadowcroft Rockshelter, Pennsylvania; Cactus Hill, Virginia; Monte Verde, Chile; Page-Ladson, Florida; Cerutti Mastodon, California; Buttermilk Creek, Texas; Calico Hills, California; and Chiquihuite Cave, Mexico.

In his study of Louis Pasteur’s nineteenth-century research on anthrax, Bruno Latour concluded that laboratories, both culturally and scientifically, are a mechanism for the generation of social power. In the search for the First Americans, laboratories are a reflection of social power as well. Laboratory location critically constrains the potential results that may be obtained. Where excavation
is conducted is mediated by several critical factors, all of which are determined in substantial part by politics. First, much of the funding for excavations now comes through the Cultural Resource Management (CRM) agendas of American Indian organizations. Second, the Archaeological Resources Protection Act (ARPA) and the Native American Graves Protection and Repatriation Act (NAGPRA) constrain where excavations may not occur. Finally, the location of an archaeological excavation has been decisively dependent on a dominant First American theory which, for a seventy-year period, was the Clovis-first model.

Museums

An archaeological site serves not only as a laboratory but is in substantial ways also a museum. It typically becomes a static display of the knowledge production process rather than of the knowledge itself. The artifacts are removed, but the process is left preserved and available for inspection. It is a museum displaying a petrified laboratory methodology. In many ways, the preserved excavation sites that produced the artifacts and the museums to which they were removed are as much as a part of the First American scientific record as is any written report or artifact display.

For the Meadowcroft, Pennsylvania, and the Clovis, New Mexico, sites, once the excavation was completed, the evidence of the process itself remained as a monument to a particular methodology for years, and in the case of controversial locations, at times even for decades. As is obvious at both locations, there was a considerable resource commitment, especially at the Meadowcroft Rockshelter, to enclose the excavation site and facilitate access not only for interested professionals, but also for the public at large. Each of these preserved excavation sites, these static displays, provides the visitor the sense of being in a museum.

At the Meadowcroft Rockshelter, archaeologists have documented a clear preservation of the stratigraphic record associated with the recovered artifacts. In addition, there are hundreds of tags that permit later association of a particular artifact with the specific location documenting where it was discovered. There is no longer any active excavation underway at the site, and it is now effectively a museum. There are observational platforms, stairways, railings to guide the public, and even electronic screens showing videos of the excavation as it took place. The public is permitted access to the site only upon paying admission, and under the guidance of a knowledgeable, but nonprofessional, tour guide. Since the original work began in the 1970s, the excavation has been under the supervision of the archaeologist James Adovasio with funding for the location currently
being provided by the admission charges as well as by the Senator John Heinz History Center. Unlike the Blackwater Draw location, which is associated with the well-documented Clovis culture, the Meadowcroft Rockshelter is associated with a pre-Clovis culture for which a formal scientific report has not yet been published. Consequently, the exact preservation of the archaeological site may well be critical to a later examination by independent First American scientists to confirm the artifactual integrity on which Adovasio will base his conclusions.\textsuperscript{10}

The Blackwater Draw display for the Clovis excavation is under the control of Eastern New Mexico University, and apparently has been less well funded than that of the Meadowcroft Rockshelter. While Blackwater Draw also has viewing platforms, the building is less attractive; however, it would appear to provide functional sheltering from the environment. Exact preservation of the site is no longer an issue since the material existence of the Clovis culture is well documented not only at this location, but also at many others throughout North America. There is also a separate museum for Blackwater Draw artifacts operated by Eastern New Mexico University located nearby in Portales, New Mexico.

There is an increasing recognition of the importance of museums as knowledge production sites. As Jan Golinski has indicated, in field sciences such as the search for the First Americans, “an analysis of science as a localized construction makes no sense, since their knowledge-producing practices are not bound to any delimited space.”\textsuperscript{11} The work of First American scientists is not substantially different from Louis Pasteur’s nineteenth-century incorporation of field-situated agricultural livestock as a part of his biological laboratory.\textsuperscript{12}

With the evidentiary abundance of early human presence in Europe, the initial inclination of First American scientists was to assume a New World parallel, to assume that the human origins theories created in the European context were also appropriate for the New World. “While American archaeology was developing a more scientific approach in the years between 1865 and the turn of the twentieth century, it nonetheless lagged far behind the field as practiced by Europeans.”\textsuperscript{13} Convinced that there was a human origin analogue between the New and Old Worlds, the conceptual space of nineteenth-century American archaeological theory included room for little more than what might be called proof by European analogy—and that analogy requiring both digging and static displays.

Joseph Henry (1797–1878), the first secretary of the Smithsonian Institution, alerted travelers as to what to look for in “Indian country” with regard to remains and artifacts that might document the antiquity of human origins in the United States.\textsuperscript{14} Even though Henry was of the nineteenth-century generation of American scientists that actively encouraged the looting of Indian burial sites in
the search for the First Americans, the Smithsonian Institution oddly presents this desecration as beginning a natural continuum that resulted in the creation of the National Museum of the American Indian. According to the Smithsonian Institution, “the creation of the National Museum of the American Indian is the most recent example of the Smithsonian Institution’s commitment to the increase and diffusion of knowledge about Native Americans. It is a commitment which goes back to the first secretary, Joseph Henry.”15 That Henry was committed to the study of American Indians was obvious; however, there is more than a subtle difference between looting and museum creation as mechanisms for displaying a commitment to knowledge production.

The public interest in human origins is evident in viewing the crowds that have visited the David H. Koch Hall of Human Origins in the Smithsonian Institution National Museum of Natural History.16 Another measure of public interest is philanthropic donations, as is apparent from the $15 million contribution to the Smithsonian by David H. Koch to support the project.17 On the same day that I saw a packed crowd at the Hall of Human Origins of the Smithsonian National Museum of Natural History (NMNH), the nearby Smithsonian National Museum of the American Indian (NMAI) was practically empty.18 In 2018, the Smithsonian Institution reported that its facilities had a total of 28.5 million visitors. Of that number, only 1.1 million visited the National Museum of the American Indian despite its large building situated prominently on the Washington Mall between the US Capitol and the other major Smithsonian museums. In 2018, attendance at the Museum of Natural History, including the Human Origins exhibit, was 4.1 million. Acknowledging that the NMNH has many exhibits unrelated to human origins, the public was largely walking past the NMAI to visit the other attractions surrounding the Washington Mall.

Although a comparison of attendance numbers is relatively straightforward, it is much more difficult to assess the motivations behind attendance or non-attendance at any particular museum. One possibility is the content itself. In an NMAI exhibit that began in 2006 called “Listening to Our Ancestors: The Art of Native Life along the North Pacific Coast,” it was stated that the “curators from each of these North Pacific Coast communities determined the content and selected the objects from the museum’s collection to be included in the exhibition. They provided important information on the unique cultural context of each object.”19 It can certainly be argued that American Indians have a unique insight as to their own interpretation of their culture and its artifacts. This exhibit was apparently presented unfettered by any challenge from First American science. In a discussion with a staff member of the NMAI Resource...
Center, it was confirmed that the exhibits of the NMAI are not intended to be science, but rather are to be representational of American Indian culture. Based on these attendance figures alone, the American (and foreign visiting) public would appear to attend scientifically centered exhibits in much greater numbers than those representing an American Indian cultural perspective.

Museums can also play subtle, but powerful, roles in reinforcing particular cultural narratives. For example, an exhibit entitled “The Americas” at the NMAI stated that the pre-Columbian cultures of the New World have “memories from the beginning of everything.” This is presented as if there were an agreed-upon consensus that this was the case, as opposed to presenting it more accurately as being a part of American Indian traditions that are contested by many First American scientists.

A second example of the subtle implications as to how museums can shape the cultural narrative is contained in an NMNH video with a voiceover narration providing a chronological countdown from the beginnings of human origin to modern times. At one point the viewer is shown that by seventeen thousand years ago, Homo sapiens had occupied the entire world to include the Western Hemisphere. Without clearly articulating it, in this instance the Smithsonian Institution is subtly telling the museum visitor that modern humans had already occupied the New World for four thousand years before either the Clovis or Monte Verde culture arose. While there is material evidence that Clovis was not the first culture in the New World, the timing of the arrival of the first Homo sapiens remains far from being a settled issue. Yet the Museum of Natural History provided what is by archaeological standards a fairly precise date of “about 17,000 years ago.”

For First American science, the traditional view of a museum as nothing more than a static display of physical artifacts is obviously misguided. The museum-like nature of these sites where archaeological excavations have taken place is an important element in legitimizing the specific practice of science as conducted at that particular location. Conversely, First American science, as presented in traditional museums such as the Smithsonian Institution, play an important role in enlisting public sentiment in support of a particular theoretical view that results in a determination of the winners and losers in the theories associated with the search for the First Americans.