Dealing with Electric Pandas: Why It's Worth Trying to Explain the Difference between Archaeology & Pseudoarchaeology

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Abstract: The use of pseudoscience is a growing trend in documentary style television shows currently filling the time slots of multiple cable television networks. Methods and theories without scientific credibility masquerade as facts or sound hypotheses in which viewing publics are manipulated into believing fake scientific answers. Archaeology or rather pseudoarchaeology has become a recurring topic on these shows, acting as another line of bastardized "evidence". While trained archaeologists can spot the misrepresentation of their discipline within the first few minutes of a viewing, the majority of the public is not versed in such background knowledge. In actuality this viewing public is often choosing such programs because they would like to learn more about various scientific disciplines and their discoveries. The question then becomes, how can we, as scholars of the sciences, effectively debunk the use of pseudoarchaeology and share our knowledge of the discipline outside of academia? How can we convince the public of the important distinctions between real and fake science?

Key words: Pseudoarchaeology, pseudoscience, archaeology and the media, archaeology and the public, alternative archaeology, cult archaeology

Bugsy Malone: You can't put an animatronic animal in a zoo!
Vince McCain: Why not?
Reggie: It's not real!
Vince McCain: So what? It gave you a thrill. People come from all over the world who have never seen a panda in their whole miserable life.
Sydney Lotterby: It's not a real thrill, is it? It's artificial!
Vince McCain: Having pandas in England is artificial, for God's sake! What do you want me to do? Put everyone on a plane and fly them to Africa?
Entire zoo staff: Africa?!!???
Bugsy Malone: They come from China.
Vince McCain: Not this baby. This was handmade in Belgium. I don't want some cheap Chinese panda.

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Willa Weston: People come here to feel their connection with nature. You don't get that with electric pandas.
Vince McCain: We're just giving them what they want!
Willa Weston: What about the quality of the experience?
Vince McCain: No, Rod says quality has never worked for him.
Willa Weston: Right. Everything he touches gets tackier.
- *Fierce Creatures*

I love a good story, fictional or real. Part of the reason I became an archaeologist in the first place was the opportunity to uncover real stories about real people. Since embarking on my graduate school career, I've also come to appreciate the arduous process behind finding these stories that is the archaeological method. I've discovered that I enjoy sharing the *real* thrills of archaeology with anyone willing to listen. Consequently, when I encounter pseudoarchaeology and the simplistic bastardization of my discipline, I tend to get protective and angry. Not just because it's my career being misrepresented, but also because those real stories archaeologists dedicate their lives to investigating and accurately representing are twisted into (often politicized) lies. It's the replacement of something complicated but still knowable with something artificial for the sake of profit or aggrandizement. It's the animatronic panda in the zoo.

A few months ago while visiting my family, I discovered the latest entry in the History Channel's pseudoscience programming. *America Unearthed* operates under the premise that various ancient and medieval peoples from other continents arrived in North America centuries earlier than Columbus. The host, Scott Wolter, is a geologist, author, and president of American Petrographic Services, which specializes in petrographic analysis of construction materials, particularly in forensic cases (American Petrographic Services Inc. 2010; History.com 2013; The Hooked X 2009; Kehoe 2005:38; Wolter and Nielsen 2005; Wolter 2009). Wolter's interest in Pre-Columbian contact stems from his geophysical examination and subsequent belief in the legitimate antiquity of the Kensington Runestone (Kehoe 2005:14-15, 34-38), a controversial rock slab with a runic inscription recounting the tale of putative fourteenth century Norsemen in Minnesota defending themselves again an attack by local Native Americans (Gilman 1993b; 2006; Kehoe 2005; Michlovic 1990). The stone is believed to be a hoax by the majority of the academic community (Gilman 1993b:26; 2006; Michlovic 1990:105). It was "dis-

covered" (more probably created) in 1898 by a Swedish immigrant in Kensington, Minnesota and is generally thought to have been intended to bolster pride in Scandinavian heritage during a time when immigrants from those countries were struggling for acceptance in frontier America (Michlovic 1990:105). The Kensington Runestone not only supported Scandinavian land claims in the area, it also reinforced popular attitudes about Native Americans and Norsemen. In the Runestone popular narrative, the Native Americans were described as savage and hostile pillagers while the Norse were brave and daring (Michlovic 1990:105). While the underlying racism in the origin of this tale is not necessarily something modern believers in the legend would be aware of or subscribe to, the undermining of Native American heritage is clearly part of the Kensington Runestone story (Gilman 1993b; 2006:65; Michlovic 1990:105).

Wolter's theories regarding the stone are based on his interpretation of mineral weathering and oxidation patterns (Gilman 2006:64; Kehoe 2005:34-38). He also claims to have invented the "new science of archaeopetrography," a process used to date stone objects believed to be archaeological artifacts or features (American Petrographic Services Inc. 2010; The Hooked X 2009). While he has discussed his findings at a number of conferences in the last decade (American Institute of Professional Geologists 2003; Gilman 2006:62-64; Kehoe 2005:34-38), and published two books on the Kensington Runestone (Wolter and Nielsen 2005; Wolter 2009), Wolter has yet to submit the specifics of his methods to any peer-reviewed journal in the geological or archaeological scientific communities.

The episode that I viewed, entitled "Giants in Minnesota" was the latest twist on the Runestone tale (2013). At the Saker Farm in Twin Valley, MN, Wolter interviewed landowner Roger Saker, who claimed that the body of an abnormally large man had been discovered on his property. When the Office of the State Archaeologist was called in to investigate the discovery of human remains, professional archaeologists identified a prehistoric Native American burial containing multiple individuals (one male and two females). Consequently, the remains were quickly reburied, though the reasons for this action (the legal requirements of the Native American Graves Protection and Repatriation Act (1990) and other burial laws), was never made clear to the audience. Mr. Saker insisted the archaeologists were perpetrating a cover-up, though the only reason he gave for this interpretation of events was that one archaeologist had noted the large stature of the male individual. Wolter brought up the possibility of giants, citing a St. Paul newspaper article from 1888 that

recounted the finding of "a race of giants" in which the remains seven individuals, each over seven feet tall, were discovered during well digging. This newspaper reference is clearly a manifestation of a common 19th century literal reading of the Bible's reference to "giants in the Earth" (the inspiration for another well-known hoax of the same period, the Cardiff Giant (Williams 1987). Wolter's lack of historical context or willful denial of such a context are clearly illustrated by this reference. Wolter then initiates an investigation into this claim, though the show never returns to examine either the scientific authenticity or the historical context of this article. Wolter brings in an actual archaeologist to put some test pits on Saker's property, one Michael Arbuthnot. No explanation is offered to the audience for why the original burial was not reopened or why test excavations were permissible (again, missing a NAGPRA regulations "teachable moment"). The test pits revealed only fragments of Native American pottery, but Wolter isn't finished yet. The rest of the episode involves a trip to the Minnesota Office of the State Archaeologist, where Dr. Scott Anfinson refutes the claims of a cover-up by noting that all material evidence found was Native American and that the forensic anthropologist who looked at the remains put the male individual's stature at 5'3''. Wolter concedes the lack of evidence for a Norse presence in this particular investigation and delivers the disappointing news to Saker. He then concludes the episode by promoting theories regarding the presence of Vikings in Minnesota based on his analysis of the Kensington Runestone, despite the dearth of evidence here for any Viking giants ("Giants in Minnesota" 2013).

Upon the episode's completion, I attempted to explain the mash-ups of factual, legal, and ethical distortions I'd just witnessed to my fellow audience, mostly family members. I could not, in that overwhelmed moment, adequately articulate the heartbreak and frustration of seeing the bastardization of a discipline that has so much more to offer. The result was that one of my family members turned to me, sighed, and said, "Oh, you're no fun." I felt defeated. I'd failed to explain the harm that can result from this kind of self-serving misrepresentation of archaeology. I'd been unable to adequately point out damage done by the vilification and breeding of mistrust towards professional archaeologists, the unclear representation of the legal requirements of any excavation (especially one that may involve human remains), the lack of any verifiable scientific evidence to back claims regarding giants or Vikings in Minnesota, the exploitation of locals by the media with an interest in their European heritage, and of course, the underlying racism in the passive dismissal of Native American heritage throughout the episode. The Viking legend is addition-

ally problematic in its racist origins. Throughout modern history other politicized folktales and pseudoscientific theories like this one were also appropriated for nationalist purposes. The Nazi Party was particularly adept at such manipulation, but it was by no means unique (Arnold 2006:160-169; Gilman 1993b; Williams 1987). While the motivations behind support for such folklore shifts over time, people (particularly in the media) who profit from the propagation of pseudoscience and folklore ignore the wider (often racist) implications of their work and take no responsibility for the impact it has on their audience (Fagan and Feder 2006; Fagan 2006; Stoddart and Malone 2001:459-463). Consequently, the underlying take-away message of shows like *America Unearthed* or *Ancient Aliens* tends to encourage the undermining of one cultural heritage in favor of another.

What my fellow audience members saw instead was an entertaining story, and I was cast in the role of elitist stick-in-the-mud, turning my nose up at those without the same training as myself. The event got me thinking. If I can't communicate the egregious misrepresentations of pseudoscience programming to people who already know me, how can I hope to communicate with the wider public? I'm fortunate to come from a family that has an interest in disciplines like archaeology and scientific discovery in general. They have always been happy to look at my photos and listen to my stories about my own experiences on archaeological digs. So where, in this instance, was the disconnect? Why was I unable to communicate with people who already have some interest and appreciation for what I do?

Archaeologists have been tackling the issues of public perceptions of archaeology in dealing with the media for years now, with varying degrees of success (Arnold 2001; Stoddart and Malone 2001). Some recognize the vital need for archaeology to justify its relevancy outside the academy, including effective communication with the public and responding to fringe archaeology through respectful dialogue. Without such engagement, the public must rely on outdated information that is merged with folklore (Chippindale 1986; Wallis and Blain 2003). Only through this type of interaction can we explain the archaeological process, the importance of context, and the vulnerability of the archaeological record as a non-renewable resource (Fagan and Feder 2006; Fagan 2006; Arnold 2001; Stoddart and Malone 2001).

These things I already knew, and firmly support, and usually I'm better at explaining the fiction versus fact of archaeology to family and friends. In

this instance, however, I let my outrage and protectiveness of my discipline get the better of me. So I decided to dig a little deeper. I called a number of my family members and asked about their interests in archaeology and their thoughts when I'd criticized various pseudoscientific or fictionalized television shows or books. I recalled a number of class discussions I had been a part of during my graduate career. And I remembered a few things.

People are attracted to pseudoscientific theories and folktales for a reason; such accounts may appeal to their interests, excite them or comfort them in some way. In encounters with the public and during our discussions of our discipline with family and friends, if archaeologists simply stomp on their ideas or appreciation for a particular story, we may also kill their enthusiasm for the entire topic and their inclination to listen to anything else we have to say. We then appear to be the stuffy boring academics that suck the fun out of everything. Beyond interacting with people in a calm and respectful manner when debunking pseudoscience, we need to go a step further when we can. We need to help them keep their enthusiasm by giving them something else, something *real*, to be excited about. Their interest in archaeology and stories about the past is already there, a common ground we can share.

For example: In the last century, a number of isolated finds of supposed medieval Norse origin have appeared throughout the Midwestern of the U.S., and none have been accepted as evidence for the presence of medieval Scandinavians in the Midwest by professional archaeologists (Gilman 1993:27), but this hardly means the peopling of North and South America before the arrival of Columbus can be rejected out of hand. The debates surrounding the dating and routes of the earliest migrations are ongoing as new archaeological findings with documented contexts come to light. In addition, archaeologists continue to investigate medieval Norse settlement sites in Greenland to better understand what kind of interactions these Europeans may have had with Native Americans. Even scholars who disagree regarding the Kensington Runestone recognize the need to approach the antiquity of anomalous items like the stone as hypotheses to be tested. Impartially, a willingness to be a part of respectful debates with fellow scholars, recognition that answers only come through multiple lines of evidence tested and vetted by experts from all fields of inquiry involved, and acceptance of the fact that sometimes a definitive answer is not possible, are all vital aspects of research (Gilman 1993a:3; 2006:64-65; Kehoe 2005:79-87). Throughout multiple episodes, *America Unearthed* fails to approach archaeology using these methods without

devolving into distortions, referencing unfounded conspiracies, making use of oversimplifications, or blatantly generating theories without any evidentiary support. Even Wolter's assertions regarding the Kensington Runestone are not expounded upon or tested. If Wolter has developed a potentially viable new method of dating petrographic artifacts, this is the kind of breakthrough the geological and archaeological scientific communities would clamor to utilize once it has been verified. Without verification and replication, however, the method's accuracy cannot be trusted.

The point is that there is plenty of current archaeological research that highlights the complexities and unanswered questions surrounding the topic of prehistoric human migration across the continents that needs no embellishment or distortion to be deemed interesting. Such ongoing research needs only to be successfully communicated to a wider audience. True, archaeologists are not always adequately prepared to debunk any and every pseudoscientific claim we may encounter, as the expanse of prehistory is vast. Also, some people will always find pseudoscientific falsehoods more appealing than reality. In addition, explaining the dangers of conflating fact and fiction when discussing the racist undertones of local Viking folklore or alien pyramid construction theories is no easy task when one's audience is completely unprepared for this type of uncomfortable revelation. However, that doesn't mean it's not worth the effort, especially when talking to people whom we already know and with whom we share mutual respect. Anyone can make a human connection to the past, and archaeologists are particularly well equipped to facilitate that kind of connection.

Though I've explained the impossibility of some of the analyses performed on skeletons from the television show *Bones* to my aunt, I've also described the wealth of information that archaeologists and physical anthropologists can obtain from human remains. She and other members of my family have, in turn, become excited by how much scientists can learn about an individual person who lived hundreds or thousands of years ago. What I discovered in interviewing my family members was that they had developed multiple interests in my discipline over the years. The more I had enthusiastically shared my experiences, the more interested they became. More recently we've discussed the various lines of osteological and genetic evidence used to identify the remains of King Richard III of England. The sleuthing involved in locating archaeological sites; the complexities of excavation, analysis, and interpretation; the contextual information that makes particular artifacts so important;

and the excavation stories behind a particular discovery had all become accessible, and interesting, to them.

What I've come to realize in retrospect is that I was outraged not only on behalf of my discipline, but also on behalf of my family, and anyone else who viewed this show in the expectation that they were about to be presented with a factual and interesting story. I want for them what I want for myself: the opportunity to experience the real discoveries of our discipline, not a false echo that lacks the fascinating complexities of reality. If archaeologists choose not to present our lives' work outside of the academic world even with those people who share our interests, we, who have been fortunate enough to experience and participate in the actual archaeological process, will become the only ones who know or care about the difference between archaeology and pseudo-archaeology. When we are fortunate enough to have people in our lives interested in what we do and willing to listen, *if* we can find a thoughtful and articulate way to share our knowledge, it's worth the effort to keep talking.

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