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The Politics of Bones

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Biological anthropologists (also historically called *physical anthropologists*) study the relationship between human biology, culture and behaviour: they may specialize in analysing the human body's evolutionary history, the human fossil record, archeologically uncovered human remains or the similarities and differences between humans and other primates. Some analyse ancient human DNA to uncover prehistoric migration patterns or find out how extinct human species are related, and others analyse the remains of murder victims for clues to the victim's identity—a subfield known as *forensic anthropology*.

Forensic anthropology currently seems to be the most popular of these specialties among US undergraduates today (perhaps because of TV shows such as *CSI* and *Bones*). By contrast, among practicing biological anthropologists, the most popular specialty these days seems to be the analysis of ancient human remains. Although decades ago what tended to make headlines were discoveries of the ancient fossilized remains of possible human ancestors—such as the 3.2 million-year-old *Australopithecus afarensis* known as Lucy—today, there is more popular interest in the findings from DNA and other molecules extracted from ancient human remains. For example, biological anthropologists recently used molecular analysis to show that ancient human remains found in a single Siberian cave contained both Neanderthal and Denisovan DNA (suggesting that members of these two human species may have come into contact with each other), and to show that 7,000-year-old remains of sheep found on the Iberian Peninsula were almost certainly domesticated by humans. Most famously, in 2015, they analysed DNA extracted from the 8,000-year-old remains of Kennewick Man (discovered in 1996 in Washington State) to determine his probable ancestry, which had previously been ambiguous.

Today, the American Association of Biological Anthropologists has over 2,200 members from all over the world. Founded in 1930 as the American Association of Physical Anthropologists, it changed its name in 2020 to reflect the field's increasing similarity to the biological sciences (including its use of modern tools such as molecular analysis, x-rays, CT scans, and bone histology) and also to emphasise its long-ago abandonment of simplistic early-twentieth-century tools that used only physical measurements to study human variation.

In recent years, social justice activists have begun to heavily shape research in the social sciences (and even in the so-called hard sciences). In the field of biological anthropology, they have insisted that scientific researchers focus on achieving political goals—such as *decolonizing* or ceding control of human remains to historically marginalized groups—even when doing so interferes with research that seeks to discover and describe objective facts about the world.

The takeover is not (yet) complete: recent publications in the field's top peer-reviewed journals still publish studies that use scientifically sophisticated methods and solid statistics and reach scientifically interesting conclusions. Examples include a July 2021 article on the reproductive and evolutionary costs and benefits of infanticide in capuchin monkeys, a November 2021 article on disability in Iron Age China and a May 2021 article comparing the process of bone development in Neandertals and modern humans. Examples from the subfield of forensic anthropology include a 2018 article on how different types of saws used to dismember bodies affect the appearance of skeletal remains, and a 2021 article drawing inferences from bears' tooth-mark patterns on human remains.

Yet recent science publications also show clear signs that biological anthropology is being politicised—in ways that distract from, distort or even preclude the pursuit of factual information: journals are publishing articles calling for scientists to *decolonise* species names, to refrain from analysing remains when a group claims that doing so would violate their spiritual beliefs, and to avoid using ethnicity clues (either to help identify murder victims, or to elucidate the relationships between ancient peoples and how migration patterns affect those relationships).

Pressure to focus on *decolonisation* is illustrated by a 2021 commentary (in a peer-reviewed journal) that advocates changing any primate species' taxonomic names that were bestowed to honour scientists who played a role in their discovery. The authors argue that, because these scientists have historically tended to be white men from the northern hemisphere, continuing to use the current names is "perpetuating colonialism and white supremacy."

Pressure to stop identifying the ethnicity of murder victims based on their remains is illustrated by a 2020 opinion piece, again in a peer-reviewed journal, which labels the practice "dangerous." The reasons they offer are based on dubious assumptions: for example, a concern that, if the victim is discovered to have been black, police might reduce the amount of effort they would otherwise have put into finding the murderer, or that, if the victim is discovered not to be a white *woman*, media coverage that could help locate the murderer might be less extensive. Another objection they make relates to the current practice of identifying the ethnicity of human remains in broad-brush terms (such as *black*, *white*, *Hispanic*, *Asian* or *Native American*), rather than in more nuanced terms (such as *Japanese* or *Hmong*). Scientists are working on developing tools that can reliably make these more nuanced distinctions, because that will further narrow

the search for a victim's identity, but some forensic anthropologists have suggested that, until researchers develop those tools, they should not make any ethnicity distinctions, because it may cause more harm than good.

Some activists may even object to identifying a murder victim's biological sex rather than their gender, because some might find it offensive to label that person *female* or *male* if it turns out that they had identified as trans. (Research has confirmed that forensic anthropologists can correctly identify the biological sex of trans individuals even if they have had feminization surgery, and that identifying biological sex improves age-estimation, thus further narrowing the search for the victim's identity.)

Not all forensic anthropologists agree with these proposed changes, for good reason. Forensic anthropology generally involves an attempt to figure out the identity of a particular murder victim when their remains are not in a condition to make their identity obvious. A successful identification typically begins by narrowing down the search, which involves making a scientific analysis of the victim's bones or other remains to determine their sex, age and ethnicity, and then searching missing person reports to identify those whose attributes match those of the remains. Determining ethnicity helps identify murder victims in two ways. First, it enables more accurate estimates of a victim's age, sex and stature. Second, when people are reported missing, a broad-brush description of their ethnicity (such as *black*, *white*, *Hispanic*, *Asian* or *Native American*) is often given, and forensic anthropologists are able to use victims' remains to accurately determine their ethnicity in these same broad-brush terms around 90% of the time. Thus, forensic anthropologists who abandon the identification of ethnicity or sex are neglecting their ethical duty to use every means available to help identify murder victims.

The study of ancient DNA has also been politicised. Ancient DNA holds clues to ancient peoples that can shed light on their migration patterns and on human evolutionary history. For example, an analysis of Neanderthal DNA in the 1990s helped determine when modern humans and Neanderthals last shared a common ancestor. And the DNA analysis of Native American remains that are over 7,000 years old (so-called *Paleoindians*) has helped us understand how the Americas were originally peopled. Perhaps the most well-known example of the politicization of ancient DNA studies is the long legal battle for control of the remains of Kennewick Man, which were found in Washington State in 1996. Based on skull shape—the best evidence available at the time—scientists initially inferred that his most probable ancestry was European. Local Native American groups sued to have his remains reburied without further analysis under a 1990 US federal law, the Native American Graves Protection and Repatriation Act. The courts initially permitted further scientific analysis. In 2015, scientists reported that, using more recently developed tools, they had been able to extract DNA from Kennewick Man's hand bones—and that his DNA suggested he was closely related to various Native American groups and might also have some European, Central or Southern Asian or Siberian ancestry. Although scientists would normally run such tests a second time to double-check their results, at that point a US court directed that his remains must be reburied without further analysis.

In response to this controversy and other similar ones, some molecular anthropologists have proposed new guidelines for conducting ancient DNA studies. One set of guidelines—published in 2020 by 13 US-based researchers—proposes requiring ancient-DNA researchers to involve any concerned indigenous communities quite deeply in their research: specifically, to "formally consult" and "engage" with them, "address" their "cultural and ethical considerations," develop plans to ensure "long-term responsibility and stewardship of the remains," report

all data and results to them, ask them whether they want materials remaining after the study is complete (such as bones, bone residue or leftover DNA) to be stored, destroyed or otherwise disposed of. (The implication is that researchers would be required, on demand, to relinquish or destroy these materials, which would undermine the normal scientific process by permanently precluding any re-examination of the remains that might make use of more sophisticated future tools, yield additional information or serve to doublecheck the accuracy of initial results.) The guidelines' authors also propose that researchers should "support indigenous capacity building" and "seek funding to support the work and training of community members to be involved in the research." This criterion would prioritise selecting people to be trained and funded based on their ethnicity rather than their skill level and experience.

This set of guidelines undermines science by requiring political considerations to take precedence over the scientific method. They are also narrowly focused on the concerns of North American activist-anthropologists—concerns that may be irrelevant, inimical or insensitive to the contexts in which anthropologists in other parts of the world are working. Most anthropology journals are published in the US; if they were to require ancient-DNA researchers around the world to adhere to these US-focused guidelines as a condition of getting their work published, it could create an arbitrary barrier to the publication of scientifically excellent research.

Another set of guidelines—produced by 64 authors representing 31 countries and intended to be applicable worldwide—was published in 2021. The first four of its guidelines encourage best scientific practices. They propose adhering to all applicable local regulations, both where the researchers are working and where the human remains were found; this supports researchers by helping them maintain smooth working relationships with host countries and institutions. And they propose preparing a detailed plan before beginning any study, minimizing damage to human remains, and making their data available after publication to allow others to critically re-examine their findings. Such practices support scientific rigour by encouraging researchers to design studies well and to make remains and data available for other researchers to examine (either as a doublecheck or when more sophisticated future tools are developed).

The fifth guideline in this set, however, is mostly political: it proposes that researchers "engage with other stakeholders from the beginning of a study and ensure respect and sensitivity to stakeholder perspectives." On the one hand, it is common sense to suggest that researchers try to *relate* to *everyone* with respect and sensitivity and to *consider* touching base early on with "stakeholders" (a term that includes local governments and may include a wide variety of local interest groups): under the right circumstances, doing so can build trust, comity and understanding, which can smooth the research process. On the other hand, in some parts of the world, *requiring* researchers to consult indigenous groups may conflict with the process dictated by local regulations; it may also foment conflict between different indigenous tribes who disagree over which of them has more of a cultural-heritage claim to the remains—or it may valorise the xenophobic attitudes of certain local tribes whose traditional narratives exalt their people as superior and denigrate outsiders as inferior—which, from a humanistic point of view, is hardly an ethical basis for claiming a right to control ancient remains. In addition, the guidelines' requirement that researchers "ensure" that any particular community is "treated" with respect and sensitivity implies that researchers must not only *communicate* with people respectfully and sensitively, but must also take whatever *actions* an indigenous community deems "respectful" or "sensitive"—even when no local regulations require such actions—thus

effectively ceding control over the scientific process to non-scientists and allowing a particular interest group's political agenda to undermine best scientific practices and the search for objective facts.

Despite the concessions that this second set of guidelines made to politics over scientific best practices, some felt that they were not political *enough*, because they did not explicitly require all ancient-DNA researchers simply to accede to the preferences of indigenous peoples. For example, a *New York Times* article about these guidelines quotes a genetics researcher at Vanderbilt University in Tennessee, who claims that they are "geared toward excusing paleogenomicists' extraction of data without the consent of communities," as well as a professor of ethics at the University of Waikato in New Zealand, who claimed that they are "not really pushing toward the place where Indigenous communities would like them to be … If any researcher can gain access to ancient DNA for new purposes … [indigenous] communities would lose the opportunity to determine how the data is used."

Lastly, in North America, my own subspeciality of bioarchaeology has been not only politicised but effectively taken over by what James W. Springer and I, in our 2020 book *Repatriation and Erasing the Past*, have called *repatriation ideology*. The term refers to any ideology, political movement or law that seeks to force scientists to hand over control of their anthropological research to members of indigenous communities. The dominance of repatriation ideology in North America is partly due to federal and state laws that require handing over to contemporary Native American tribes any ancient skeletal remains that are found in certain geographical locations. A 2001 California law, CalNAGPRA, goes even further than the 1996 federal law mentioned earlier: when it is unclear whether ancient remains are biologically related to a particular tribe, courts are required to consider as "expert testimony" whatever story that tribe's oral tradition tells about its history—and to give that story "deference"—even if evidence produced by scientific research methods such as DNA or craniometrics strongly suggests that the remains at issue are *not* related to that tribe's ancestors. This law is troubling in several respects: it gives evidentiary weight to tribal oral traditions—which have been shown to be factually unreliable—and it allows tribes to stop research from being conducted, to withhold from others any information they have about the remains, to determine how remains are handled and to handle remains solely in accordance with their particular religious practices.

The passage of these laws was opposed at the time by many anthropologists who were working on skeletal collections and artifacts in the Americas. For instance, in a 1987 letter to Arizona's then-senators, Dennis DeConcini and John McCain, the Museum of North Arizona's representatives write, "We are deeply concerned about the provisions of this [federal] bill and believe that its passage will have a deleterious effect on this nation's and, more specifically, this state's Native American cultural heritage." And both the Society for American Archaeology and the American Association of Anthropology were in sync with this opposition. But now, more than 30 years later, times have changed: the Society for American Archaeology has accepted repatriation ideology wholeheartedly. And in 2021, some members of the society even attempted to block people from viewing the video of a talk I had given at its annual conference (remotely, in accordance with COVID-19 protocols)—because it was critical of repatriation laws.

Repatriation ideology has already drastically decreased bioarchaeological research on Native American, indigenous Canadian and Australian and New Zealand aboriginal remains. As a result, most studies published these days in the top peer-reviewed bioarchaeology journals, such as the *International Journal of*

Osteoarchaeology, focus on the analysis of human remains from South America, Europe or Asia—even though many of the researchers involved in those studies live in North America—because, in these locations, researchers need not worry that their work will be obstructed by repatriation demands or delayed by years spent seeking to ensure that local communities approve of it. (Ironically, it now seems to be considered vaguely *racist* to study the remains of ancient native North Americans or ancient Australian or New Zealander aborigines, whereas a mere 20 years ago it was considered potentially racist to *not* study those populations' remains.)

Recently, a few bioarchaelogists have tried to suggest that repatriation ideology has not harmed, but only *changed*, the scientific study of the human past. As evidence, they point to a 2017 collaboration between the Canadian Museum of History, the *shíshálh* Nation, the University of Saskatchewan and the University of Toronto to digitally reconstruct five faces from 4,000-year-old human remains. As part of that collaboration, members of the *shíshálh* Nation provided feedback on "appropriate facial expressions, hair styles, and clothing" for reconstructions, and then the skeletons were reburied. The project, which took years, resulted in a book chapter and displays at the Canadian Museum of History and the local tribal museum. However, since tribal community members' opinions about what 4,000-year-old humans looked like was based only on their traditional narratives rather than on any scientific evidence, it is hard to imagine that the result was an accurate representation of those ancient people's appearance.

In addition, these same bioarcheologists contradict their own claim that repatriation doesn't harm research. They write that "entering a collaborative research relationship means that community partners share control of the project. If a partner chooses to opt out of any aspect of the proposed research, their wishes must be respected." They then provide an example that they say illustrates this principle. That example shows that repatriation can not only harm a research project, but may end up delaying it indefinitely—perhaps permanently: they relate how, after one of them had worked collaboratively for nearly a decade with Sioux Valley Dakota Nation to research cemeteries at a residential school in Manitoba, the Nation and their "university partners" put part of the research on hold in order to consult with "other affected communities." There is no guarantee that after consultation they will resume the research. The authors further acknowledge that, as they put it, "some—perhaps many—descendant communities will not be interested in pursuing scientific research prior to reburial" of skeletal remains that are housed in modern American museums and universities, on the theory that these institutions are somehow tainted by their presumed association with descendants of European colonists. And they argue that these communities' preference for blocking research on such remains must be adhered to in the name of symbolically redressing historical power imbalances.

Thus, at best, research results are distorted by the incorporation of nonscientific ideas drawn from indigenous religious ideology, research takes far longer than previously, and it is done using less effective methods (for example, because of requirements to use smaller sample sizes, or to use ground-penetrating radar rather than excavation (although some Native Americans object even to ground-penetrating radar as somehow feeling too *invasive*). And, at worst, research is simply halted. For example, in October 2021, San José State University in California, where I am a professor, recently halted all research on Native American remains, apparently in response to criticisms of a Twitter post in which I am holding a skull and smiling (to celebrate the resumption of research on human remains that had been paused by COVID-19 restrictions). Moreover, it is

not only the treatment of Native American remains that is being politicised. Some faculty at my university have argued for a prohibition on taking *photographs* of human remains (from *any* culture, whether Native American or not), because the practice of taking such photographs offends some members of some Native American tribes. (This would, for example, prevent me from photographing the remains of ancient Carthaginians collected from Tunisia—the project I am slated to work on next.) Similarly, books authored by bioarchaeologists have been excluded from the usual book displays at professional anthropology conferences because their covers show photographs of skeletal remains, which some deem offensive—even when the remains shown are not from an area connected to indigenous peoples.

Even teaching collections, used to train the next generation of anthropologists and medical doctors, may be at risk. The University of California, Los Angeles sent out a campus-wide message asking faculty and others to report any Native American human remains or artifacts in their collections, but also cast a wider net by asking people to report anything that was even of ambiguous provenance: "Are there any medical specimens without a deed of gift or documents of origin?" "Does your department/unit hold any human remains that are unidentified or have not been seen by a human osteologist that may be Native American?" and "Are there any human remains in the department/unit that are thought to be Native American?"

Many people have asked why I don't simply print out 3D versions of the bones. They argue that this could be the future of bioarchaeology. There are several problems with this approach. First, the remains must be photographed and x-rayed (or CT-scanned) from multiple angles, hundreds of times. For example, to make a 3D print of a single foot may require over 700 x-rays. Second, 3D printing is currently enormously costly and time-consuming: making a 3D print of a single skull costs over $2,000 US and takes four days' work. However, even when these issues are resolved, which I believe they will be, repatriation activists may still require the handing over of 3D-printed bones—after all, they already object even to photographs.

The importance of maintaining a rigorously scientific approach in biological anthropology and other social sciences—and the challenges of doing so—have long been recognised. For example, in 1994, the archaeologists Kent V. Flannery and Joyce Marcus and colleagues wrote, "Whenever science is combined with a social or political agenda—no matter how noble that agenda may be—it is inevitably science that suffers." Today, more than 25 years later, we've reached a point at which political ideology seems to be nearly decimating scientific research: within a few years, whole fields of study may be off limits. I hope that this is not the case for biological anthropology. Let us push back against this trend and remember to value scientific integrity over identity politics.

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Elizabeth Weiss

Elizabeth Weiss is a professor of anthropology at San José State University. She is the author, with attorney James W. Springer, of a new book *Repatriation and Erasing the Past* (University of Florida Press, 2020), which takes a critical look at laws that mandate the return of human remains from museums and laboratories to ancestral burial grounds. You can find more of her work at: https://elizabethweiss74.wordpress.com/.

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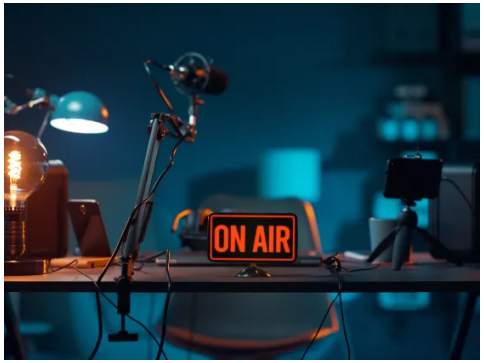

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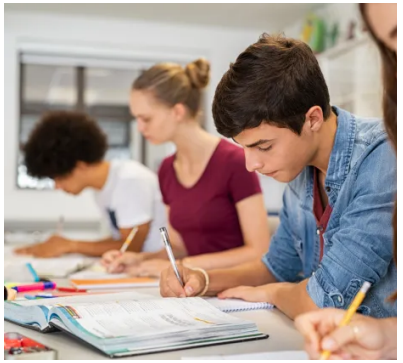

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