# In The Supreme Court of the United States

TIMOTHY WHITE, ROBERT L. BETTINGER, and MARGARET SCHOENINGER,

Petitioners,

VS

REGENTS OF THE UNIVERSITY OF CALIFORNIA, et al.,

Respondents.

On Petition For A Writ Of Certiorari To The United States Court Of Appeals For The Ninth Circuit

MOTION OF THE OHIO ARCHAEOLOGICAL COUNCIL, DR. BRIAN M. KEMP AND DR. ESKE WILLERSLEV FOR LEAVE TO FILE AMICUS CURIAE BRIEF AND AMICUS CURIAE BRIEF IN SUPPORT OF PETITIONERS

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Pursuant to Rule 37 of the Rules of this Court, the Ohio Archaeological Council, Dr. Brian M. Kemp and Dr. Eske Willerslev (collectively, the Amici) respectfully request leave to file the accompanying brief in support of the Petition for a Writ of Certiorari in the above-referenced case. The Petitioners and Respondents the Regents of the University of California, Mark Yudof, Marye Anne Fox, Pradeep Khosla, Gary Matthews and Janet Napolitano consent to the filing of this brief, but Respondent Kumeyaay Cultural Repatriation Committee, a consortium representing twelve federally-recognized Kumeyaay Indian tribes, does not.

The Ohio Archaeological Council is a not-forprofit membership organization that is the major voice of professional archaeology in that state. Its members are active in archeological research in Ohio and elsewhere, and it has appeared as an amicus curiae in other United States Court of Appeals for the Ninth Circuit cases interpreting the Native American Graves Protection and Repatriation Act, 25 U.S.C. §§ 3001-3013 (2012) ("NAGPRA"). Dr. Brian M. Kemp is a Molecular Anthropologist and Associate Professor at Washington State University who specializes in the field of ancient human genetics. He and his colleagues have developed new techniques to extract and study ancient human DNA from American Indian remains. He has studied numerous ancient North American human remains and has investigated human populations movements in ancient North America. Dr. Willerslev, a professor at the University of Cambridge, UK and Copenhagen University and director of the Centre of Excellence in GeoGenetics at the Natural History Museum of Denmark, is a Danish evolutionary biologist who is an expert in the field of ancient genomics, also known as Paleogenomics. He is particularly noted for his pioneering work on ancient DNA in North America and Europe populations.

The Amici, as representatives of the scientific community who may be affected adversely if the Ninth Circuit decision stands, are well suited to provide the Court with a broader perspective of the scientific importance of the La Jolla remains and to put into context the Respondents' misplaced reliance on NAGPRA.

For these reasons, the Amici respectfully request that the Court grant their motion for leave to file the accompanying brief as Amici Curiae.

Respectfully submitted,

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Biological and Archaeological Variation in the New World (Benjamin M. Auerbach ed., 2010)11

## $TABLE\ OF\ AUTHORITIES-Continued$

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Dalton, Rex, Scientists Fight University Of California To Study Rare Ancient Skeletons, Wired (May 20, 2011), http://www.wired.com/ 2011/05/ucsd-skeleton-fight/	16
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Kemp, Brian M., et al., Evaluation of Methods that Subdue the Effects of Polymerase Chain Reaction Inhibitors in the Study of Ancient and Degraded DNA, 42 J. of Archaeological Sci. 373 (2014)	10, 11

## $TABLE\ OF\ AUTHORITIES-Continued$

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Kemp, Brian M., et al., Genetic Analysis Of Early Holocene Skeletal Remains From Alas- ka And Its Implications For The Settlement Of The Americas, 132 Am. J. Of Physical An- thropology 605 (2007)	11
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Lepper, Bradley T., Kennewick Man: The Scientific Investigation Of An Ancient American Skeleton (Douglas W. Owsley & Richard J. Jantz eds., 2014)	3, 7
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Raghavan, Maanasa, et al., Genomic Evidence For The Pleistocene And Recent Population History Of Native Americans, Sci. Magazine (July 21, 2015)	15
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Szostek, Krzysztof, Chemical Signals And Reconstruction Of Life Strategies From An- cient Human Bones And Teeth-Problems And Perspectives, 72 Anthropological Rev. 3 (2009)	16
The Art League, Forensic Facial Reconstruction  – The Art League School, YouTube (Apr. 19, 2012)	17
Thomsen, Philip Frances & Eske Willerslev, Environmental DNA – An Emerging Tool In Conservation For Monitoring Past And Pre- sent Biodiversity, 183 Biological Conserva- tion 4 (2015)	14
Walker, Phillip L., Caring For The Dead: Finding A Common Ground In Disputes Over Museum Collections Of Human Remains (May 27, 2010)	5

## $TABLE\ OF\ AUTHORITIES-Continued$

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Walker, Phillip L., Introduction to Biological Anthropology of the Human Skeleton (M. Anne Katzenberg and Shelley R. Saunders eds., 2d ed., 2008)	8
Winters, Misa, Jodi Lynn Barta, Cara Monroe & Brian M. Kemp, To Clone or Not To Clone: Method Analysis For Retrieving Consensus Sequences In Ancient DNA Samples, 6 PLoS One (2011), http://www.plosone.org/article/fetchObject.action?uri=info:doi/10.1371/journal.	
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Now come the Ohio Archaeological Council, Dr. Brian M. Kemp and Dr. Eske Willerslev (collectively, the Amici), by and through the undersigned counsel, in support of Petition for a Writ of Certiorari. The La Jolla remains are of incalculable scientific importance, and their repatriation to the NAGPRA claimants would represent a loss of national and international significance.

For the reasons set forth in the Petition for a Writ of Certiorari and pursuant to the controlling authority of *Bonnichsen v. United States*, 357 F.3d 962 (9th Cir. 2004), the Amici assert the Ninth Circuit erred in upholding the District Court's dismissal of the Petitioners' complaint. As discussed below, the subject human remains are not "Native American" as defined in the Native American Graves Protection and Repatriation Act, 25 U.S.C. §§3001-3013 ("NAGPRA" or "Act") and are of profound scientific importance. The Amici contend that granting certiorari is necessary to protect the human remains from repatriation and safeguard NAGPRA's delicate balance among the

<sup>&</sup>lt;sup>1</sup> Pursuant to Supreme Court Rule 37.2(a), notice of the Amici's intent to file this Amicus Curiae brief was received by counsel of record for all parties at least 10 days prior to the due date of this brief. All parties except Respondent Kumeyaay Cultural Repatriation Committee consented to the filing of this brief. The undersigned affirms that no counsel for a party authored this brief in whole or in part, and no person or entity, other than the Amici, their members, or their counsel, made a monetary contribution specifically for the preparation or submission of this brief.

scientific and museum communities, Federal agencies and the interests of Native Americans in the treatment of these and other ancient human remains.

#### INTEREST OF AMICI

#### Ohio Archaeological Council

The Ohio Archaeological Council (OAC) is a notfor-profit corporation organized under the laws of the State of Ohio that is the major voice of professional archaeology in that state. As a membership organization comprised of over 100 professional archaeologists engaged in archaeological research, interpretation, site preservation, and public education in Ohio, its mission is to promote the advancement of archaeology through research, publication and education. As part of that mission, the OAC participated in a national dialogue during the 1980s that led to Congress enacting NAGPRA in 1990. Since NAGPRA's passage, the OAC has shared its expertise with the National Park Service and others through its public comments on NAGPRA's implementing rules and regulations. In addition, its members have participated in NAGPRA training workshops throughout the country and have attended many regional meetings of the NAGPRA Review Committee. Several of its members have completed the NAGPRA inventory and review process for their host institutions and universities and are familiar with its requirements.

In 2014, the OAC filed an Amicus Curiae brief in support of the Petitioners in this case, and in 2003 it filed an Amicus Curiae brief supporting the scientists-plaintiffs in *Bonnichsen* regarding the nearly 9,200-year-old human remains known as "Kennewick Man" from Washington state. Recently one of OAC's Trustees, Dr. Bradley T. Lepper, Curator Of Archaeology, Ohio History Connection, continued the Council's participation in the national scientific dialog by contributing a chapter to a major scientific publication exploring ancient human remains in North America. Bradley T. Lepper: *Kennewick Man: The Scientific Investigation Of An Ancient American Skeleton*, 7-29 (Douglas W. Owsley & Richard J. Jantzeds., 2014).

Archaeologists in Ohio have excavated numerous ancient human remains and associated funerary objects, though only one set of remains may be as old as the La Jolla remains. There are no Federally-recognized American Indian tribes or designated tribal lands in Ohio today, but the OAC anticipates that American Indian claimants may assert future NAGPRA repatriation claims against Ohio museums and institutions of higher learning. And when that occurs, courts of competent jurisdiction will be charged with applying NAGPRA to human remains from Ohio's distant past. The guidance provided by the Court regarding the La Jolla remains will thus affect how NAGPRA is interpreted and applied to future repatriation claims across the country.

## Dr. Brian M. Kemp, Washington State University

Dr. Brian M. Kemp is a Molecular Anthropologist and Associate Professor at Washington State University (WSU) with an expertise in the field of ancient human genetics. He earned his Ph.D. in Anthropology from the University of California-Davis in 2006 and holds a BS degree in Anthropology/Zoology from the University of Michigan. He has been jointly appointed in the Department of Anthropology and the School of Biological Sciences at WSU since the fall of 2007. Dr. Kemp joined an amicus curiae brief in support of the petitioner-scientists in the Court of Appeals' case below.

#### Dr. Eske Willerslev

Dr. Willerslev is a Danish evolutionary biologist notable for his pioneering work on Ancient DNA. He is a full professor at the University of Cambridge, UK and Copenhagen University and director of the Centre of Excellence in GeoGenetics at the Natural History Museum of Denmark, University of Copenhagen and financed by the Danish National Research Foundation. He is a Foreign Associate Member of The National Academy of Sciences (USA), an elected member of the Royal Danish Academy of Sciences and Letters, and an Honorary Doctor at University of Oslo, and has been a visiting professor at Oxford University, UK, and a Visiting Miller Professor at UC

Berkeley. Dr. Willerslev is an expert in the field of ancient genomics, also known as paleogenomics.

#### SUMMARY OF ARGUMENT

The outcome of this case affects more than the Petitioners and Respondents. If the Ninth Circuit decision stands, tribes (or even museums and universities), could invoke NAGPRA as a shield to severely undermine future scientific study of ancient remains found in the United States by preventing NAGPRA's intended judicial review of all repatriation decisions. The Amici limit their discussion below to (i) an overview of the immeasurable scientific importance of the La Jolla remains, and (ii) the application of NAGPRA to the subject human remains.

This case provides the Court with the opportunity to define, clarify and establish NAGPRA's reach vis-à-vis human remains from great antiquity for the benefit of scientists, universities, Federal agencies, museums, Indian tribes, the general public and, most importantly, other courts. See generally Phillip L. Walker, Caring For The Dead: Finding A Common Ground In Disputes Over Museum Collections Of Human Remains (May 27, 2010), http://www.friendsof past.org/nagpra/2010NAGPRA/Walker2004\_Documenta-Repatriation.pdf.

The disposition of the La Jolla remains is a matter of national significance because it will provide an important road map for the lower courts applying NAGPRA to the disposition of human remains from great antiquity. Because North America's documented human history reaches back fifteen thousand years or more, well beyond the reach of American Indian oral histories or origin stories, the Amici contend that *Bonnichsen* provides a proper legal framework for addressing future claims under NAGPRA to ancient human remains like the La Jolla remains.

#### **ARGUMENT**

#### I. Introduction

The La Jolla remains are those of an adult human male and human female who were buried together between 8,977 to 9,603 years ago in what is now Southern California. They were discovered in 1976 on the property of the University of California, San Diego and are currently curated by the San Diego Archaeological Center pending the outcome of this case. The Petitioners have been denied access to study the remains.

#### II. Scientific Value Of The La Jolla Remains

The profound scientific importance of the La Jolla remains arises from their great antiquity, their high degree of completeness and preservation, and the fact two individuals were buried in the same grave contemporaneously. Future studies of these remains by qualified archaeologists, geneticists, physical

and molecular anthropologists, evolutionary biologists and others will significantly advance scientific knowledge about the earliest people to inhabit the Americas, a scientific inquiry that is of compelling interest not only to the Petitioners or the scientific community in the Ninth Circuit, but to scientists throughout the world interested in understanding the human diaspora out of Africa and across the globe through the millennia. It should also be of paramount importance to present-day American Indians in assisting them to understand their deep roots.

There are very few North American human remains as ancient as the La Jolla remains. Kennewick Man: The Scientific Investigation Of An Ancient American Skeleton, supra at 3. This adult male and female, who lived nearly 6,000 years before King Tutankhamun and almost 3,500 years before Ötzi the Iceman who was recovered from a melting glacier in the Alps, are likely to reveal much about the earliest peoples to inhabit the Americas if scientists are permitted to study them sufficiently. Since the story of the peopling of the Americas is an international, indeed, a global story of great importance, the information science may glean from the La Jolla remains is pertinent to understanding indigenous population movements through time in North America compared to human settlement patterns elsewhere.

Ancient human remains like the La Jolla remains are an indispensable component to comprehending human history because they provide the most direct and intimate access to our ancestors.

Without scientific studies of ancient humans and human ancestors, we would have a very limited understanding of how we came to be who we are as a people. Phillip L. Walker, *Introduction to Biological Anthropology of the Human Skeleton*, 3-31 (M. Anne Katzenberg and Shelley R. Saunders eds., 2d ed., 2008).

Today, scientific investigations of ancient human remains take place routinely in Europe, the Middle East and elsewhere. For example, a New York Times article published November 23, 2015 online demonstrates what science can learn about biological changes in early European populations over time by analyzing their ancient DNA. Carl Zimmer, Agriculture Linked to DNA Changes in Ancient Europe, N.Y. Times (November 13, 2015), http://www.nytimes.com/ 2015/11/24/science/agriculture-linked-to-dna-changesin-ancient-europe.html. The article discusses a recent DNA study tracking the rise of agriculture across Europe based on changing genomes obtained from human remains 2,300 to 8,500 years old. Id. The article concludes with the positive hope that one day scientists across the globe can track similar historic changes in the human genome over tens of thousands of years. "I think in the future, we can do this everywhere in the world, not just in Europe," said David Reich, the study's co-author and geneticist at Harvard Medical School. Id.

Such cutting-edge research in our country will be jeopardized, however, if the Ninth Circuit decision stands. NAGPRA, as interpreted by the Respondents,

could isolate scientists studying ancient human remains discovered in the United States from their international counterparts who are permitted to investigate freely how human populations developed and spread long ago in other regions.

The curtailment of such research in this country due to an erroneous application of NAGPRA would harm not only the scientific community but presentday American Indian groups as well. Dorothy Lippert, archaeologist and Choctaw Indian, has written:

for many of our ancestors, skeletal analysis is one of the only ways that they are able to tell us their stories . . . it is difficult to speak with a voice made of bone. Nevertheless, while so much has been lost, these individuals have found one last way to speak to us about their lives.

Dorothy Lippert, In Front of the Mirror: Native Americans and Academic Archaeology, Native Americans and Archaeologists: Stepping Stones to Common Ground, 120-127 (Nina Swindler, et al., eds., 1997).

The stories the La Jolla remains can tell are stories of America's indigenous people who first discovered and colonized what was then a truly New World. When viewed in the global context, they are one of the great chapters of humanity's spread throughout the world.

### A. New Scientific Methodologies Can Be Applied To Ancient Human Remains Like The La Jolla Remains

Advanced scientific methodologies are continually being developed by the Amici and others that allow us to learn more from ancient human remains than previously imagined. Many scientific technologies that are commonplace today were undreamt of ten or twenty years ago, and as science continues to improve and refine those technologies, and create new ones, the future potential for scientific enquiry is unlimited.

For the Court to better understand the scientific potential of the La Jolla remains, the Amici respectfully present the following limited overview of some exciting new technologies that have been applied recently to other ancient human remains in this country. Foremost among these scientific advancements is the ability to collect and analyze ancient DNA.

Amicus Dr. Brian Kemp's research<sup>2</sup> centers on improving methods of recovering genetic data from

<sup>&</sup>lt;sup>2</sup> Selected Publications:

Brian M. Kemp, et al., Evaluation of Methods that Subdue the Effects of Polymerase Chain Reaction Inhibitors in the Study of Ancient and Degraded DNA, 42 J. of Archaeological Sci. 373, 373-380 (2014).

Jodi Lynn Barta, Cara Monroe & Brian M. Kemp, Further Evaluation Of The Efficacy Of Contamination Removal From Bone Surfaces, 231 Forensic Sci. Int'l 340, 340-348 (2013).

<sup>(</sup>Continued on following page)

ancient remains. In particular, his research focuses on the analysis of mitochondrial DNA (mtDNA) and Y-chromosomal DNA variation in extant and prehistoric Native American populations. He applies these analyses to questions about the entrance of humans into the Americas and the ensuing ~15,000 years of prehistory that are not approachable from culture history alone. He is interested in detecting parallels between the genetic and archaeological records as signatures of past demographic shifts, population interactions, and population movements have been recorded in our genomes. See Selected Publications, Footnote 2.

Technological problems that once plagued ancient DNA researchers are better understood and controlled for today. For example, scientists recently have devised improved methods to remove contamination from the surfaces of ancient bones and subduing the effects of – or removing – impurities that are often found mixed with ancient DNA. Dr. Kemp and

Misa Winters, Jodi Lynn Barta, Cara Monroe & Brian M. Kemp, To Clone or Not To Clone: Method Analysis For Retrieving Consensus Sequences In Ancient DNA Samples, 6 PLoS One (2011), http://www.plosone.org/article/fetchObject.action?uri=info:doi/10.1371/journal.pone.0021247&representation=PDF.

Biological and Archaeological Variation in the New World 12-50 (Benjamin M. Auerbach ed., 2010).

Brian M. Kemp, et al., Genetic Analysis Of Early Holocene Skeletal Remains From Alaska And Its Implications For The Settlement Of The Americas, 132 Am. J. of Physical Anthropology 605, 605-621 (2007).

others also have designed techniques to mitigate the loss of DNA during the extraction procedure, which is important because most ancient DNA samples are minute and limited to start with. They have also created better methods to authenticate the results of ancient DNA studies. These techniques have expanded immeasurably science's ability to recover greater yields of endogenous, authentic genetic material from increasing smaller amounts of starting material and produce superior data sets that were not possible only five to ten years ago.

Applying these enhanced techniques to the most ancient Native American skeletons made available for scientific study, specifically the ~12,600-year-old Anzick child burial from Montana, and the ~9,200-year-old Kennewick Man from Washington state, science has now created nearly complete genome sequences from numerous ancient human remains. These studies permit science to conduct genetic analyses at the population level to create models of ancient human migration and diffusion patterns, which was impossible not so many years ago.

The ability to sequence ancient human genomes also has significance to contemporary American Indians. As science collects more genomic data sets from modern Native American populations, it can compare them to ancient data sets to address with more precision questions about the origins and migrations of contemporary Native peoples through time. For example, by comparing studies of ancient and modern Native American genomes, science has

demonstrated that the vast majority of Native Americans today are descended from the Clovis Culture, known from their distinctively fluted stone spear points around 11,000 years ago.

The availability of such comparative studies, coupled with ever-improving genomic technologies, ensure that genetic analysis of the La Jolla remains will provide important contextual information for both science and present-day American Indian peoples. Indeed, the Amici hope these DNA databases will grow and improve over time as additional American Indian tribes find reasons to participate in genomic research that furthers everyone's understanding of the evolution of Native American populations.

In a similar vein, the research interests of Amicus Dr. Eske Willerslev<sup>3</sup> align with the scientific

<sup>&</sup>lt;sup>3</sup> Selected Publications:

Ermini, Luca, Cleo Der Sarkissian, Eske Willerslev & Ludovic Orlando, *Major Transitions In Human Evolution Revisited: A Tribute To Ancient DNA*, 79 J. Hum. Evol. 4, 4-20 (2014).

Ludvic Orlando & Alan Cooper, *Using Ancient DNA To Understand Evolutionary And Ecological Processes*, Annual Reviews of Ecology, Evolution, and Systematics (in press) (PR).

Douglas Owsley & Tom Stafford, Taphonomy of the Kennewick Skeleton. Chapter submission for Scientific Studies of the Kennewick Man Skeleton (Douglas Owsley and Richard Jantz eds., 2014).

Peter B. Damgaard, Ashot Margaryan, Hannes Schroeder, Ludvic Orlando, Eske Willerslev & Morten E. Allentoft, *Improving* (Continued on following page)

importance of preserving the La Jolla remains. In 2008, Dr. Willerslev led a DNA study on coprolites from the Paisley Caves in Oregon showing human presence in North America more than 14,000 years ago - some 1,000 years prior to the better known Clovis culture. In 2010, a team led by Dr. Willerslev sequenced the genome of a 4,000-year-old man from the Saggag culture of Greenland from his hair, the first ancient human genome to be sequenced. The study revealed that the Saggag peoples represent a migration from Siberia to the Americas that is separate from that of Native American and Inuit ancestors. In 2014, his team demonstrated that all paleoeskimos in the New World belong to the same population as the Saggag man and that they lived in genetic isolation from Native Americans for almost 5,000 years before they died out some 700 years ago. See Selected Publications, Footnote 3.

Ancient DNA recovered from skeletal remains may also reveal the closest living relatives of these earliest Americans. The recent recovery of DNA from the Kennewick Man skeleton is a case in point. Initial

Access To Endogenous DNA In Ancient Bones And Teeth, Sci. Rep. (June 17, 2015), http://www.nature.com/articles/srep11184.pdf.

Morten Rasmussen, et al., *The Ancestry And Affiliations Of Kennewick Man*, 523 Nature 455, 455-458 (2015).

Philip Frances Thomsen & Eske Willerslev, Environmental DNA – An Emerging Tool In Conservation For Monitoring Past And Present Biodiversity, 183 Biological Conservation 4, 4-18 (2015).

attempts in the 1990s to extract DNA from the Kennewick remains proved unsuccessful, but as reported in a June 2015 Nature article co-authored by Dr. Willerslev, the technologies for recovering ancient DNA has improved sufficiently to now permit sequencing this individual's complete genome. Rasmussen, et al., The Ancestry And Affiliations Of Kennewick Man, 523 Nature 455, 455-458 (2015). The study shows that the nearly 9,200-year-old Kennewick Man is more closely related to modern Native Americans than any other population of modern humans. If the Kennewick skeleton had been reburied after initial unsuccessful attempts to recover its DNA in the 1990s, we would have lost forever invaluable insights and knowledge about this ancient American's ancestry and cultural affiliations. The La Jolla remains contain similar data waiting to be revealed.

Dr. Willerslev also led a study published August 2015 as an article in the journal Science that challenges the conventional model of the peopling of North America via several migration waves across a Bering Strait land bridge. Those recent DNA studies of ancient human remains across the continent demonstrate that ancestors of all Native Americans entered the Americas as a single migration wave from Siberia and subsequently diversified into "northern" and "southern" Native American branches. Maanasa Raghavan, et al., *Genomic Evidence For The Pleistocene And Recent Population History Of Native Americans*, Sci. Magazine (July 21, 2015), http://www.sciencemag.org/content/349/6250/aab3884.full. This

controversial study was possible because researchers could access curated ancient human remains from which to extract DNA samples; the La Jolla remains were not, unfortunately, available to this study.

Dr. Willerslev supports the Petitioners' goal of preserving the La Jolla remains for study by scientists and others, telling Wired Magazine in 2011, "To give them away without study, would be like throwing the genetic crown jewels of the peopling of the Americas in the ocean. It would be a major loss for all, including Native Americans." Rex Dalton, Scientists Fight University Of California To Study Rare Ancient Skeletons, Wired (May 20, 2011), http://www.wired.com/2011/05/ucsd-skeleton-fight/.

A host of other exciting scientific advancements hold additional potential for unlocking the secrets of the La Jolla remains. For example, refinements to radiocarbon dating allow us to place human remains in time. As those techniques improve, scientists can create more refined ancient timelines with increasingly greater levels of precision. Analysis of trace elements in bone, such as isotopes of carbon and strontium, can now yield important clues to diet and migration patterns, which is information science was not able to extract from bones only a few decades ago. See generally, Archaeological Chemistry II 99-108 (Giles F. Carter ed., 1978); and Krzysztof Szostek, Chemical Signals And Reconstruction Of Life Strategies From Ancient Human Bones And Teeth-Problems And Perspectives, 72 Anthropological Rev. 3, 3-30 (2009).

Likewise, the study of ancient human dentition has the potential to reveal not only the health and diet of individuals but can also reveal cultural and biological processes of entire ancient human populations. Associated Press, Ancient Human Teeth Discovered In China Could Rewrite The Historic Migration Map Of Homo Sapiens (October 18, 2015), http://www. news.com.au/technology/science/evolution/ancient-humanteeth-discovered-in-china-could-rewrite-the-historicmigration-map-of-homo-sapiens/news-story/7e80c710 59da791805ed8d21fb5d91c5. Scientists can also compare the La Jolla remains' morphometric cranial and post-cranial measurements with other past and present populations to identify possible group relationships. In addition, radiology, CT scans and similar paleoradiological investigations can be applied to ancient human remains like those from La Jolla to help determine gender, age of death, types of trauma, therapeutic interventions and osteomas. Licata, et al., New Paleoradiological Investigations Of Ancient Human Remains From North West Lombardy Archaeological Excavations, US National Library of Medicine National Institutes of Health (October 19, 2015), http://www.ncbi.nlm.nih.gov/pubmed/26481783. Also, forensic artists using advanced computer modelling can create lifelike facial reconstructions of ancient human skulls from clay and wax. The Art League, Forensic Facial Reconstruction - The Art League School, YouTube (Apr. 19, 2012), https://www. youtube.com/watch?v=95ourpgaxdg. These reconstructed faces can aid scientific understanding of ancient population groups.

These examples illustrate only some of the recent scientific advancements scientists employ to unravel ancient human narratives, and new technologies are being developed and tested every day. It is of paramount importance, therefore, that the University preserve the La Jolla remains and make them available for scientific study now and in the future.

#### **B.** Completeness Of The Skeletons

The La Jolla remains are remarkably complete and relatively well preserved. Complete skeletons, as opposed to partial skeletons or fragments of human remains, are comparatively rare in the archaeological record because bones tend to degrade rapidly in most soil environments. With a complete ancient skeleton to study, archaeologists, biological anthropologists and other specialists can recover a much fuller picture of the life and death of that individual, which in turn enhances our overall understanding of their special place in the peopling of North America. And with the La Jolla remains we have not one, but two complete skeletons to study, which enhances their importance even more.

Further, ancient human bones provide an unparalleled source of scientific information because bones preserve evidence of physical activities people engaged in over the course of their lives. For example, roughened areas on bones can indicate which muscles the person habitually used and therefore what kinds of tasks the person performed. Researchers studying

the skeleton of Kennewick Man, for instance, were able to determine that he regularly engaged in activities such as throwing a spear with a spear thrower, flint knapping, poling a boat, and dipping a fish net into the river or ocean.<sup>4</sup> As additional examples, evidence of tooth wear can tell us about the kinds of food the individual ate, while damaged bones provide a history of past injuries and diseases that can point to possible causes of the individual's death.

Access to complete skeletons, therefore, enables scientists to write a much more complete biography of ancient people. And the La Jolla remains preserve vast amounts of potential information that science can unlock to better understand the life and times of these two ancient Americans.

#### C. Significance Of A Double Burial

The La Jolla double burial is among the oldest such burials found in the Americas<sup>5</sup> and, as such, offers a unique opportunity for scientific investigation into these remains and their culture. The fact the burial site contained two individuals seems to suggest that scientists can recover twice the potential information from the double burial than they could from a

<sup>&</sup>lt;sup>4</sup> Bradley T. Lepper, *Kennewick Man: Ambassador From Our Ancient Past*, 30 Mammoth Trumpet 1, 1 (2015).

<sup>&</sup>lt;sup>5</sup> The Horn Shelter No. 2 double burial near the Brazos River in central Texas has been radiocarbon dated to about 11,000 years before the present.

single burial. The truth, however, is that the presence of two individuals recovered from the same grave increases exponentially the amount of information potentially available to researchers.

Further, not only can biological anthropologists write separate biographies of each La Jolla individual from data retrieved from each skeleton, but due to the contemporaneous association of these individuals in the same grave there is a concomitant wealth of information about potential cultural and biological relationships between them. Were they husband and wife? Brother and sister? Master and servant? Does their double burial indicate special status within their group? Did they both grow up near to their interment site, or did one or both of them come to the La Jolla area from some distant region? Did one have more access than the other to preferred foods? Did one work harder than the other at daily tasks? Did they die at the same time from disease, conflict or together in some tragic accident? Was one ritually killed to accompany the other in death? These are only some of the questions that studying the La Jolla double burial may reveal about ancient society and religion that a single burial could not.

Ongoing scientific access to the remains is paramount too. As the Kennewick Man example above shows, where improved scientific methodologies over time finally answered threshold questions about the skeleton's origin, it is not enough to allow for a single study of the remains. Other scientists, now and in the future, must have access to examine the La Jolla

remains in order to corroborate or overturn previous interpretations or apply new techniques to past studies, and in doing so, to reveal new insights into the earliest history of the Americas. To accomplish that, the La Jolla remains must be curated in perpetuity.

## III. THE LA JOLLA REMAINS ARE NOT "NATIVE AMERICAN" ACCORDING TO NAGPRA

## A. Under *Bonnichsen*, The La Jolla Remains Are Not "Native American"

Bonnichsen held that Congress did not intend for NAGPRA to control the disposition of all ancient human remains in this country. "Congress enacted NAGPRA to give American Indians control over the remains of their genetic and cultural forebearers, not over the remains of people bearing no special and significant genetic or cultural relationship to some presently existing indigenous tribe, people, or culture." Bonnichsen at 977. "NAGPRA requires that human remains bear a significant relationship to a presently existing tribe, people, or culture to be considered Native American." Id. at 878. Absent such a showing, no extant Federally-recognized Indian tribe, including Respondent Kumeyaay Cultural Repatriation Committee ("KCRC"), can assert a special interest in the La Jolla remains under the Act.

NAGPRA defines Native American as, "'Native American' means of, or relating to, a tribe, people or

culture that is indigenous to the United States." 25 U.S.C. §3001(9) (2012). To be subject to NAGPRA, human remains must qualify under the statute as Native American. "Congress's purposes would not be served by requiring the transfer to modern American Indians of human remains that bear no relationship to them" and such a construction is contrary to NAGPRA. *Id.* at 876. As the court explained, "[t]he exhumation, study, and display of ancient human remains that are unrelated to modern American Indians was not a target of Congress's aim, nor was it precluded by NAGPRA." *Id.* 

As a recent commentator noted in discussing the Kennewick Man cases, the party asserting NAGPRA's application to a set of human remains bears the burden of proof on the issue of "Native American":

NAGPRA does not specify with any particularity how Native American status must be determined. The Interior Department and SAA [Society for American Archaeology] approached the matter by presuming that, for the purposes of NAGPRA, any human remains predating documented European contact that are found within the country's borders would qualify under the law as Native American. From a legal standpoint, such a presumption would place the burden of proof on a party challenging the Native American status of precontact remains, by requiring it to prove that the remains are not Native American. In contrast, the Kennewick courts determined that Congress intended to require proof of Native American status for all remains, regardless of age, in order for NAGPRA to apply. The courts' rulings place the burden of proof squarely on the shoulders of a party claiming that remains are Native American. As a result, both courts required proof of Kennewick Man's status as a Native American before applying NAGPRA to the case, and they both ruled that the government failed to provide sufficient evidence to satisfy its burden.

Susan B. Bruning: Complex Legal Legacies: The Native American Graves Protection And Repatriation Act, Scientific Study, And Kennewick Man. (Native American Grave Protection and Repatriation Act), 71 American Antiquity 501, 501-522 (July 2006).

The University and tribal Respondents have not met their *Bonnichsen* burden of demonstrating any significant cultural or biological relationship between the La Jolla remains and any present-day Indian tribe or groups. The La Jolla remains, therefore, are not subject to NAGPRA based on what science tells us today.

The Amici support the laudable goals of NAGPRA<sup>6</sup> but also recognize that some ancient human remains,

<sup>&</sup>lt;sup>6</sup> As *Bonnichsen* found, relying on legislative history, NAGPRA was not intended to protect the interests of Indians alone. (Citing S. Rep. No. 101-473, at 6 (1990) (NAGPRA "was not intended merely to benefit American Indians, but rather to strike a balance between the needs of scientists, educators, and (Continued on following page)

including the La Jolla remains, fall outside its coverage because they are so ancient they fail NAGPRA's significant relationship test to any present-day American Indian tribe or groups. *Bonnichsen* concluded that the very antiquity of remains as old as the La Jolla remains makes it "almost impossible to establish any relationship between the remains and presently existing American Indians" and that mere geographical proximity, the principal criterion relied upon by the KCRC in asserting a claim to the La Jolla remains, would provide "at most a tenuous, unknown, and unproven connection." *Id.* at 979.

Bonnichsen further found that NAGPRA requires two levels of inquiry germane here, the first being "whether human remains are Native American." Id. at 875. If the remains are not Native American under this initial prong, NAGPRA does not apply and the second level of inquiry is moot. Id. The University has, as did the United States Department of the Interior in Bonnichsen, improperly NAGPRA's first inquiry into the second - simply "asking which American Indians or Indian tribe bears the closest relationship to Native American remains." *Id.* As a result, the University failed to properly apply NAGPRA in determining the disposition of these human remains.

historians on the one hand, and American Indians on the other.")) *Bonnichsen*, 367 F.3d at 874 n.14.

Further, the record contains no evidence to support an assertion that the La Jolla remains are Native American under NAGPRA or bear any cultural or biological relation to the KCRC or other presentday American Indian groups. The University's own studies over the years have not identified any special relationship between the La Jolla remains and present-day Indian groups. Indeed, the University's Advisory Group on Cultural Repatriation and Human Remains and Cultural Items issued a report in 2008 voicing "concerns expressed by experts about the scientific uncertainty that the remains are 'Native American." See White at 1021. Because the record does not contain any proof of a shared group identity between the La Jolla remains and any present-day Indian group, NAGPRA is inapplicable to the disposition of these remains.

Although the La Jolla remains have not been shown to be "Native American" under NAGPRA, this does not mean necessarily they are not Native American in a broad anthropological sense or even that they may not be ancestral to some contemporary Native Americans. Nor does it mean that future scientific studies may identify a special relationship between the remains and some present-day group. But in the technical, legal framework established by NAGPRA and affirmed in *Bonnichsen*, the La Jolla skeletons as we understand them today are not "Native American" and are not subject to repatriation.

### B. 43 C.F.R. §§10 Et Seq. Contradicts NAGPRA And May Be Improperly Promulgated

If left standing, the Ninth Circuit decision will have deleterious effect on the scientific community. The Court should review this case to permit the Petitioners to challenge the University's reliance on flawed and possibly illegal regulations that undermine NAGPRA and *Bonnichsen* and may result in incalculable damage to the scientific community.

The 2010 regulations promulgated by the Secretary of the Interior to implement disposition of certain culturally unaffiliated Native American human remains, funerary objects, sacred objects, and objects of cultural patrimony under NAGPRA, 43 C.F.R. §10 (2010), contradict the Act in significant ways and may exceed DOI's rule making authority. For example, section 10.11(a) states that it implements section 8(c)(5) of NAGPRA and "applies to human remains previously determined to be Native American under section 10.9." Section 10.9, however, does not define "Native American." Section 10.2(d) says that the "term Native American means of, or relating to, a tribe, people, or culture indigenous to the United States, including Alaska and Hawaii," which expands NAGPRA's Section 3001(9) definition of the term. Section 10.2(d)(1) states that "human remains" means "the physical remains of the body of a person of Native American ancestry." Section 10.11(c) contradicts NAGPRA by shifting the burden for right of possession from the requesting tribe to the federal

agency or museum, which needs to show they have a "right to possession" of human remains. Further, in the event federal agencies or museums cannot make that showing, 43 C.F.R. §10.11(c)(1) (2010) requires them to transfer control of the remains or objects to a tribe that either owns the tribal land or is recognized as aboriginal to the area from which the remains were removed, a result not intended by NAGPRA. In addition, Section 10.11(c) imposes "age and geography" factors to determine ownership, contrary both to NAGPRA and *Bonnichsen*.

By promulgating regulations that favor American Indian claims over the interests of other stakeholders, the Secretary of the Interior has upset the careful balance Congress intended "between the needs of scientists, educators, and historians on the one hand, and American Indians on the other." *Bonnichsen* at 974 n.14, and the Petitioners should be permitted to challenge the legality of these regulations as they apply to the La Jolla remains.

#### CONCLUSION

For the reasons set forth above, the Amici urge the Court to grant the Petition for a Writ of Certiorari. The Respondents should not be permitted to use NAGPRA as a shield in ways never intended by Congress. The La Jolla remains are not "Native American" under NAGPRA and do not bear a special relationship to any present-day tribe, people, or

culture. They possess unique scientific importance that should compel the University to retain them now and in the future for study by qualified scientists like the Petitioners. The Petitioners should have the right to challenge the legality of the University's institutional decisions that could halt or restrict important research into humanity's North America origins, which was the reasoning behind *Bonnichsen*.

#### Respectfully submitted,

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