

Conserving the In Situ Archaeological Record

By William D. Lipe

In the 20th century, archaeologists made great strides in learning to understand the material record of past human life. Concurrently, destruction of the archaeological record increased as population growth, economic development, and looting took a rising toll. During the past one hundred years, most countries established laws to protect at least major archaeological sites and to curtail illegal excavation and export of antiquities. Although often ineffective in practice, these laws formally recognized a national interest in archaeological conservation. By the end of the century, some nations, primarily in the developed world, had fairly effective legal and bureaucratic systems for balancing the value of in-place conservation of significant archaeological sites against economic developments that would destroy them. The creation of organizations such as ICOMOS and ICCROM and the promulgation of standards and agreements such as the World Heritage Convention built a framework within which archaeological conservation could be pursued at an international level, both complementing and reinforcing national efforts.

Hence, the past century was a time of great progress in conservation of the archaeological record. But what of the future? Below, I briefly characterize the archaeological record and the threats to it, and then consider its fate in the 21st century.

Nature and Value of the Archaeological Record

The archaeological record consists of the material remains of past human activity, left on or just under the surface of the earth. It is a peculiar kind of record, consisting of items as varied as the foundations of razed buildings, pieces of broken pottery and tools, remnants of campsites and hearths, bones of animals once used as food, elaborate tombs and simple interments, fragments of monuments to now-forgotten heroes, and images incised or painted on natural rock surfaces. Beginning about five thousand years ago, this material record was increasingly supplemented by the written word. In many places, however, written texts have yielded only meager information until quite recent times. The archaeological record provides the primary source material for understanding most of human history—all the way back to three million years ago, when humans began to make stone tools. Some more recent portions of this record are also considered by particular groups of present-day people as their cultural heritage—the sites, monuments, and artifacts that link them to a particular place in the world and to a particular vision of their past.

As we press back in time, the identities of individual cultures blur and are lost, but the record continues to speak of the lives of peoples now known only by the names archaeologists give them, and of how the complex history of humanity has unfolded. As read and interpreted by archaeology, this record documents the great events of human history—the spread of our human ancestors out of Africa, the emergence of human artistic and technical abilities, the peopling of all the continents save Antarctica, the multiple inventions of agriculture, of cities, of complex polities. It also yields fascinating glimpses of people from the near and distant past whose art and manufactures we instantly recognize as a product of our common humanity but whose lives were

almost unimaginably different from ours. The archaeological record tangibly links the past and present because it has preserved the actual objects and places used in ancient times. In addition to being a source of information about the past, it connects us in an immediate, physical way with real individuals and communities of long ago.

Archaeological research has produced remarkable insights into the character and history of societies, but archaeological interpretations are always provisional and often disputed. Nonetheless, the methods of archaeology provide the best prospect for deciphering the material record of human history. Although this record is often subject to multiple interpretations, it has a stubborn materiality that limits the possibilities. And for any given period of time, it is the only record we will ever have. We must study it carefully and respectfully and conserve what we can of it for the future so that new methods can be applied, new questions be asked, and old questions be revisited.

Archaeological sites have been formed wherever people have lived. The floors of oceans, lakes, and rivers also preserve sunken watercraft and other evidence of human activity. The hundreds of thousands of sites that have been recorded since the mid-19th century represent but a fraction of those that exist. Even fewer have been studied systematically, and fewer still have been actively protected. These sites are primarily the best preserved, the most aesthetically pleasing, the most monumental. The great majority of archaeological sites, however, consists of the humble leftovers of the daily life of ordinary people. Many are from periods before monumental architecture became part of the human environment. Yet these "ordinary" sites provide perspectives on the past as important as ones derived from study of the rare and spectacular. Archaeological sites compete for space with alternative human uses of an increasingly crowded globe. Maintaining a tangible link with a distant past or preserving opportunities for future archaeological research seldom rank high in the priorities of growing societies. Although sites are numerous, most are also very fragile. Several processes are accelerating their destruction.

Threats to the Material Record of the Past

The archaeological record has always been under assault from the forces of nature, but in the 20th century, human agency became the major threat. As we move into the new millennium, the pace of destruction increases exponentially. Economic development, fueled by population growth and increasing wealth, is transforming the surface of the earth. The extension and intensification of agriculture, the mining of materials and minerals, the growth of cities and suburbs, the development of reservoirs, transportation systems, and other public works, all result in the destruction of sites. Laws requiring that archaeological and historical values be considered in development planning are effective in some places and for some kinds of projects, but on a world scale, sites are lost to economic development at an increasing rate.



The unprecedented wealth generated by development is also fueling expansion of the antiquities market. This, in turn, promotes the looting of sites in search of objects having aesthetic or antiquarian appeal or direct value as "treasure." Such objects ordinarily represent a small fraction of the artifacts sites contain. As sites are bulldozed or rapidly hand-dug to find these few marketable items, there is wholesale destruction of objects, structures, and other remains, as well as of the stratigraphy and associated contextual information upon which archaeological interpretation depends. Today, the typical looted site is in a developing country where impoverished local people make small sums by feeding artifacts into the antiquities market. The end purchasers are the wealthy elite of the developed world, and the profits go largely to dealers, gallery owners, and middlemen.

Over the next 50 to 100 years, world population will continue to grow, though at a slower rate than in recent decades. It is projected to peak at between two and three times our present six billion. Growth in economic development and hence in wealth is harder to project, but barring a major worldwide depression, economies should continue to improve worldwide, with more nations joining the "developed" group. And more individuals worldwide can be expected to amass the wealth needed to collect antiquities. Thus, the factors responsible for the recent increase in archaeological destruction will surely intensify.

Prospects for the 21st Century

What are the prospects that any significant fraction of the world's archaeological heritage will survive the coming century? The outcome will be determined by a complex interaction of demographic, economic, political, and cultural factors. There will be great losses, but as an intrinsically optimistic person, I can imagine some scenarios under which the rate of loss will peak and then gradually slow, leaving a diminished, but perhaps not thoroughly impoverished, archaeological record. Although the outcome will largely be determined by large-scale demographic and economic processes already under way, it is possible for archaeologists and others committed to archaeological conservation to exercise some influence, if they take the right steps and form effective alliances with those with similar or overlapping interests.



The archaeological record, which extends back millions of years, provides critical information needed for understanding much of human history. The record is diverse, ranging from places like the discovery site of fossil remains of *Australopithecus boisei* in Olduvai Gorge in Tanzania and the rock art site of Chikupu in Zimbabwe, to the Roman city of Ephesus in Turkey and the cliff palace at Mesa Verde National Park in the United States. Photos: Neville Agnew (Olduvai), Guillermo Aldana (Chikupu and Ephesus), and Crow Canyon Archaeological



Hope can be gleaned from the fact that a number of formerly poor countries are developing robust economies and are undergoing the demographic transition associated with higher levels of wealth and education, evolving from agrarian and natural-resource-based economies to industrial or postindustrial ones. The nations that have already passed through this transition have stable or slowly growing populations and high levels of income by world standards. They have fairly effective laws protecting antiquities, and most support good systems of archaeological parks, monuments, and museums.



Most economically developing countries already consider the archaeological record a part of their national patrimony and have laws designed to protect antiquities and at least a basic system of archaeological monuments, preserves, and museums. If they follow the existing pattern, these countries will expand their investments in archaeological conservation, research, and public access as their economies improve.

The global economy and e-commerce seem likely to become even more powerful, with possibly mixed effects on archaeological conservation. On the one hand, the global economy will facilitate the transmission of antiquities from poorer to richer sectors of the world, and e-transactions may make the trade in illegally acquired or exported objects more difficult to control. On the other hand, global economic integration provides a platform for international agreements on issues such as the environment, human rights, and labor standards. Negotiation of future international trade agreements will offer opportunities for strengthening and extending international protocols to control illegal trafficking in antiquities and reduce the effects of economic development on archaeological sites. Existing UNESCO and ICOMOS committees and standards provide a framework for these efforts.

Nongovernmental organizations all over the world pursue a variety of "causes," including preservation of ecosystems, endangered species, and historic buildings. However, in situ conservation of the archaeological record is only weakly promoted among such interest groups, especially in the less-wealthy countries. In the United States, the success of the Archaeological Conservancy in raising private funds to buy and manage important sites shows what can be accomplished. Conservation-oriented archaeologists and like-minded public activists need to develop a worldwide network of privately and publicly funded organizations devoted to saving portions of the archaeological record through public education, by lobbying for proconservation laws and public policy, and, if necessary, by acquiring important sites. Activist individuals and organizations must also work to make archaeological conservation more prominent on the agendas of environmental and historic preservation organizations. Among other goals, there is a need to recruit members of the media and entertainment elite to spread the word that owning looted antiquities is destructive and socially irresponsible. These efforts require hard work and in some cases the negotiation of difficult alliances, but the potential for success is there.

The popularity of museum exhibits, books, television productions, magazines, Internet sites, and tours devoted to archaeological topics demonstrates that a large number of people worldwide find archaeology fascinating. These individuals make up a potentially powerful base of support for archaeological conservation, and they are likely to increase rapidly in number as more countries develop relatively wealthy, educated, aging middle classes. It is from this group that the future activists so hopefully described above will be drawn. Yet for the most part, archaeology buffs today are treated primarily as passive observers of wonders brought forth from the earth by the anointed professionals. Those engaged in "bringing archaeology to the public" have a responsibility to clarify the link between public enjoyment of archaeological discovery and the messy and often unpleasant business of promoting archaeological conservation in legislative and bureaucratic arenas, and through persistent efforts to change public opinion. This desanitizing of archaeology may drive away some now attracted to the field, but others may feel empowered through the realization that conservation of the archaeological record is not something that can just be left to the professionals.

In some places, efforts to slow the pace of archaeological destruction are being mounted by indigenous peoples such as Native Americans and Australian Aborigines, as well as by other ethnic and national groups. Paradoxically, national or ethnic cultural identity movements are flourishing at the same time that a rapidly integrating world economy and its commercial popular culture are swamping local traditions. Such movements often link a concern for preservation of archaeological sites to a particular vision of group or national historical and cultural heritage. In these contexts, religious or nationalist ideology may dominate interpretation of the archaeology and cause conflicts with the institutionalized skepticism and appeals to material evidence that characterize professional archaeology. Nevertheless, in the United States, the evolving relationships between archaeologists and Native American groups show that where there is mutual good faith, the interplay of multiple perspectives and interests can invigorate archaeological research. Tensions will undoubtedly continue to arise among archaeological researchers, activist conservation organizations holding universalist views of the archaeological heritage, and various ethnic and national identity movements that take an interest in archaeology. Nonetheless, all are likely to have some influence on what portions of the archaeological record survive in the 21st century. Intellectual and political agendas can change, but if the archaeological record is destroyed, it is gone forever. Hence, there are good reasons for groups with different agendas for archaeological conservation to find common ground—or at least to minimize the energy spent in internecine conflict.



A Native American student assisting at a site being excavated by the Crow Canyon Archaeological Center. The Center works with a Native American Advisory Group in designing its archaeological education and research programs, and it attempts to give interested Native American students the opportunity to learn about archaeology firsthand. Collaborations such as this between archaeologists and Native Americans show that where there is mutual good faith, the interplay of multiple perspectives and interests can invigorate archaeology. Photo: Courtesy Crow Canyon Archaeological Center.

Although archaeological research affects only a small proportion of the existing sites in a given year, excavation does consume portions of the archaeological record, albeit in a way that yields systematic records, documented collections, and, one hopes, publications. Nonetheless, the archaeological record is a nonrenewable resource, and if a site has been fully excavated, it cannot be revisited with new methods or new questions in the future. New technologies such as remote sensing, as well as the use of sophisticated sampling methods, have helped archaeologists learn to use the archaeological record more frugally. In many parts of the world, the complete excavation of sites is now the exception rather than the rule. It is incumbent upon archaeologists, however, to continue to develop and apply methods that allow them to learn more from any given part of the archaeological record, leaving intact as much as is feasible for research and educational uses over a long-term future.



As public demand grows for access to "developed" archaeological sites, those managing such sites must be prepared to invest substantially in conserving the irreplaceable structures and contexts that are exposed to the elements and tourism. Here, visitors at Hovenweep National Monument contemplate the Cajon site. Photo: Courtesy Crow Canyon Archaeological Center.

Archaeological parks and monuments provide the public with opportunities to make tangible contact with past cultures, and they are important vehicles both for sharing the results of scholarly research with a broader audience and for giving the public concrete reasons to value conservation of the in situ archaeological record. Over the next century, public demand for access to excavated and "developed" archaeological sites will surely grow even more rapidly than population in many areas, as levels of education and wealth increase, as retirees become proportionately more numerous, and as rates of tourism increase. Those responsible for managing such facilities must be prepared to invest substantially in conserving the irreplaceable structures and contexts that have been laid bare by excavation. It is simply not acceptable to open sites for public education and enjoyment only to see them rapidly disintegrate due to exposure to the elements or to the impacts of visitation. Nor is it acceptable to excavate sites to meet the demands of tourism without adequate funding for analysis and reporting of the excavated contexts and materials. There are also increasing needs for research on ways of conserving earthen architecture, stone masonry, artifacts, and the other types of remains that have survived from the past; for training technicians to apply this knowledge; and for developing and applying standards for site and artifact conservation. Furthermore, research and standards related to visitor management are needed, as is research evaluating visitor responses to the archaeological materials and the interpretive messages they encounter.

It seems inevitable that population growth, economic development, and elite acquisitiveness will pose enormous threats to the in situ archaeological record throughout the world during the 21st century. The protective infrastructure created in the 20th century is in most places inadequate to cope with the magnitude of these threats, but it offers a base upon which to build. Although there surely will be huge losses, there are also some aspects of economic growth that may create contexts for at least partially effective responses. Those dedicated to archaeological conservation must redouble their efforts to strengthen protective laws and public policies, to expand public

involvement in archaeological conservation, and to direct their energies toward preserving and studying archaeological sites rather than engaging in struggles among groups that approach conservation from different perspectives. Archaeologists must be conservative in their own uses of the archaeological record, so that future research can continue to build on prior work. And we must do a better job of conserving those archaeological sites and materials that are put on public display in parks and monuments, even as the demand for access to these sites rapidly increases.

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The author wishes to acknowledge the following sources found useful in preparing this article: "The Loss of Cultural Heritage, An International Perspective," edited by Catherine M. Cameron, in a special issue of *Nonrenewable Resources*, vol. 6, no. 2; *Plundering Africa's Past*, edited by Peter R. Schmidt and Roderick J. McIntosh; *Native Americans and Archaeologists: Stepping Stones to Common Ground*, edited by Nina Swidler, Kurt Dongoske, Roger Anyon, and Alan Downer; [Vanishing Treasures Web page](#), U.S. National Park Service.