

Thinking about historic resources: A proposed guidance document

I.R. Stiegler & R. McManus

IS Architecture, La Jolla, California, USA

M. Achenza, M. al-Aidaros, M. Beas, J. Bell, L. Cooke, M. Costi de Castrillo, A. Crosby, B. Esquivel, J. Hurd, B. Işik, P. Jerome, M. Lambert, T. Leiermann, C. Mileto, G. Shemdin, J. Vargas & F. Vegas

ICOMOS ISCEAH Sub-committee on In-Use, USA

ABSTRACT: The ISCEAH Sub-committee on In-Use wishes to guide communities around the world in preserving, conserving and rehabilitating historic earthen resources worldwide. The Sub-committee seeks to guide through a comprehensive illustrated document that can be easily disseminated. The document will assemble an illustrated glossary of terminology as well as a methodology for approaching work on a historic resource, including documentation and evaluation, assessment of best treatment/levels of intervention, and assessment of attainable and sustainable results. The document will also use community case studies from around the world as illustrative examples.

1 INTRODUCTION

1.1 *The ISCEAH Sub-committee on in-use*

The ICOMOS International Scientific Committee on Earthen Architectural Heritage (ISCEAH) is tasked with carrying out specialized, scientific studies and sharing information that contributes to the protection and conservation of the world's earthen architectural, archaeological and cultural landscape heritage. The Sub-committee on In-Use (Scientific Theme 1) is concerned with conserving and studying extant, standing, and possibly in-use earthen architectural heritage of all kinds.

1.2 *Project introduction*

The ISCEAH Sub-committee on In-Use has noted a lack of basic guidance documents in the international cultural heritage community that could instruct the preservation, conservation, and rehabilitation of historic resources throughout the world and especially in those countries which lack their own guidance documents. In response, the Sub-committee drafted a table of contents for such a document in December 2016 and has recently begun the process of creating comprehensive guidelines for approaching a historic resource. While the Sub-committee's topical specialty is earthen architecture, the information in *Thinking About Historic Resources* could be applicable to many types of tangible, immovable cultural resources.

2 THE NEED FOR A GUIDANCE DOCUMENT

2.1 *Existing guidance document availability*

There are numerous existing resources for those who wish to learn how to approach historic cultural heritage. At the broadest level, there are numerous international charters and declarations which have outlined the cultural heritage field's approach to many aspects of the discipline, including authenticity, rehabilitation and replication, and the treatment of specific resource types such as wooden resources.

Expanding on the international community's broad declarations, individual countries and communities throughout the world have produced guidance and policy documents to guide cultural heritage work within their respective borders. For example, the United States first drafted its *Secretary of the Interior's Standards for the Treatment of Historic Properties* in 1966 and the Chinese published their *Principles for the Conservation of Heritage Sites* in 2000. The forthcoming "Guidelines of preservation and conservation of earthen architecture in Spain" (Fernando Vegas and Camila Mileto) is also an exemplary model for a country-wide guidance document.

On an even more specific level, treatment plans for individual sites or resources also provide examples of methodologies for identifying, evaluating, treating, and managing historic cultural resources.

The Sub-committee was particularly inspired by the recently-published “Conservation and Rehabilitation Plan (CRP) for one of Northern Africa’s most significant earthen sites, Kasbah Taourirt in Ouarzazate, Morocco.”

All three levels of guidance documents—international charters, country—or city-specific principles, and site-specific plans—may be readily available to those who wish to engage with a historic resource, with one major caveat: in order to find these documents, one must know that they exist elsewhere and know the correct key words to use to find them. Moreover, one must have the field-specific knowledge to interpret these documents and extrapolate how their recommendations may apply to the resource at hand.

The Sub-committee aims to create a document that can be used by cultural heritage professionals and laymen alike to protect, treat, and manage tangible, immovable historic resources around the world.

2.2 *The risks of insufficient guidance: Ribat Riyadh*

Ribat Riyadh is located in the city of Seyoun, in the Hadramaut Governorate of Yemen. It is the last remaining religious school of its historic shape in the wider region and an important monument of local architecture. Recent modernizations, however, show clear deficits in preservation techniques and awareness on different levels.

Ribat Riyadh was built in 1898 AD by the al-Habshi family as a religious learning institute connected with a mosque. It was erected in a time when wealthy families returning from overseas introduced Neoclassical, “colonial” architectural styles in the wadi. These new styles of architecture were still built in the autochthonous methods of Hadramaut, which was developed in the remote desert region relatively free from outside influences. The building was erected in the local mud brick technique, completely covered with white plaster, and accented with carved wooden elements of local hardwood. The complex consists of a main courtyard with two prayer halls, a portico, an ablution wing, open-roofed mosques that were used on summer nights (before the introduction of air ventilation), and a *madrasa* (school for Islamic instruction) building. The complex still serves its original purposes: the *madrasa* is used for religious teachings and the mosque by the surrounding quarter.

The owners began a wide-ranging renovation in 2007. According to the local mud-building technique, the upper layers have to be removed and redone. This includes the upper mud layer and several plaster layers. Since much of the building is maintained by this periodic removal and replace-

ment of layers, any fine relief or other plaster decoration is going to be destroyed and has to be redone according to careful documentation. The replication of this decoration is not part of the traditional practice but is required by preservation standards; otherwise, the traditional architecture and knowledge of traditional techniques would be entirely lost.

In this case, the work was executed by a master builder of Tarim. This builder had no specific knowledge of the artistry of Seyoun and low awareness for the necessities of professional conservation. There are no legal restrictions or guidelines in place in the area except for a decree which forbids the destruction of historic mosques, which is not enforced by the authorities. Furthermore, the owners did not seek professional conservation experts on their own. Despite the lack of professional oversight, the owners’ general awareness of the monument’s value allowed for the preservation of some significant elements of the building, including *mihrab* (prayer niche) details and many carved, wooden doors and windows.

Other parts of the building, however, underwent larger transformations and even destruction. The old ceiling, constructed of mud vaults and wooden beams, was replaced with a concrete ceiling. Wooden window lintels were replaced with concrete ones, which destroyed triangular lamp niches above the windows which were vital to the design of the interior. The proportions of arches and columns were changed, causing the integrity of the prayer hall to be lost.

In the ablution wing, traditional cisterns were changed into modern ablution cells with ceramic tiles. On the exterior of the building, plaster decoration was replaced without an understanding of the logic and intent of the original design. This led to shapes which are similar to the historic ones but which don’t reflect the essence of the historic design’s geometrical harmony. Therefore, the new

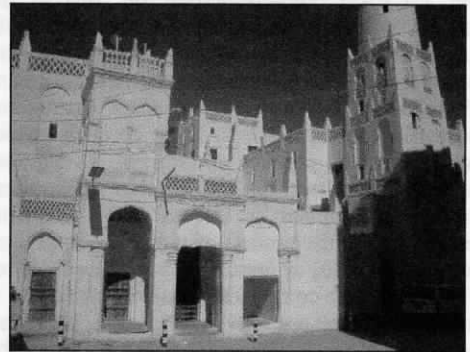


Figure 1. Southern view of Ribat Riyadh before the renovation. Courtesy of T. Leiermann.



Figure 2. Southern view of Ribat Riyadh after the renovation. Courtesy of T. Leiermann.

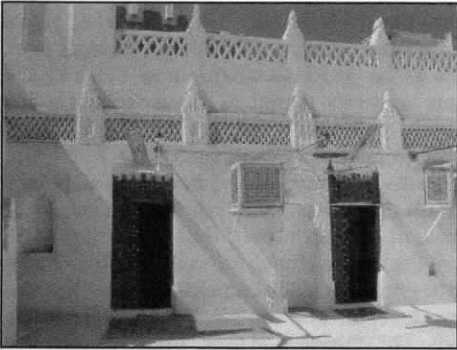


Figure 3. Courtyard entrance before the renovation. Courtesy of T. Leiermann.

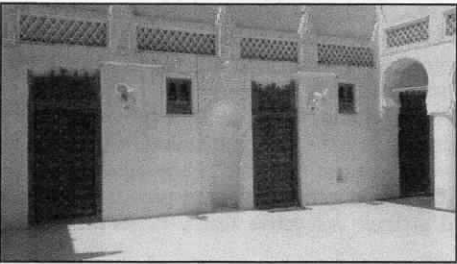


Figure 4. Courtyard entrance after the renovation. Courtesy of T. Leiermann.

exterior plaster cannot serve as documentation of or a model for the traditional craftsmanship which is so important to the building.

In addition to the alteration or destruction of many historic features, the renovation included the construction of a second minaret and domes in Egyptian and Turkish styles. These changes turned a building of an already unusually high level of ornamentation into a collection of historic and pseudo-historic details.

Even if the transformation of the many altered elements could have been justified by the needs of

cyclical maintenance, careful documentation and professional supervision could have maintained most of their original dimensions, shapes, and materials. The lack of guidance in this situation ultimately led to unnecessary damage to a significant historic building. Even in the absence of official cultural heritage oversight, this regrettable result may have been avoided if a simple, easily-accessible, comprehensive guidance document like the one proposed by the Sub-committee had been accessible to the owners of Ribat Riyadh (all preceding from Leiermann 2017).

3 GUIDANCE DOCUMENT CONTENTS

3.1 Introduction

The guidance document has the working title of *Thinking About Historic Resources: Guidance for Identification, Documentation, Evaluation, Treatment, and Management*. The proposed contents of this document were developed through an extensive evaluation of existing guidance documents from around the world. ICOMOS and ICCROM charters such as the Venice Charter, Nara Document, and Riga Charter were referenced to identify major international themes. The way in which different countries translated these universal themes into policies, principles, and standards was explored through an evaluation of the national guidance documents of the United States, China, and the United Kingdom. Country-specific evaluations were further supplemented by specific practical and technical recommendations from site-specific documents, such as the Kasbah Taourirt plan.

Following this in-depth investigation—from the broadest context to the most specific—the Sub-committee identified the terms, concepts, methodologies, technologies, and case studies that are necessary to address the needs of those working on historic resources. This information was arranged in a logical manner that allows the reader to first gain a basic understanding of cultural heritage preservation concepts and terminology and then continue on to an evaluation of his or her specific resource. *Thinking About Historic Resources* will guide the reader through the steps of addressing a cultural resource in order and will attempt to provide guidance for most major considerations and treatment options; where guidance cannot be given, resources are suggested for further research.

3.2 Visual glossary

The inclusion of a glossary is crucial in a document which may be used by cultural heritage professionals and laymen from differing countries and educational backgrounds and who speak different languages. The Sub-committee determined that a

visual glossary—one which supplements textual definitions with photographs, diagrams, and other graphics—will be especially useful in creating a comprehensible guide.

3.3 Extended discussions of conceptual issues

In addition to the visual glossary, *Thinking About Historic Resources* will contain longer discussions of more complex or conceptual terms such as authenticity, significance, condition versus integrity, and the concept of minimal intervention. These terms, which are so critical to the understanding and practice of cultural heritage work and so ingrained into the minds of heritage professionals, must be thoroughly and clearly explored for the benefit of the layman or new professional.

3.4 Methodologies

Thinking About Historic Resources will guide the reader through five stages of interaction with their historic resource: identification, recordation and documentation, evaluation, treatment, and management. Within each of these stages, the document will address more specific methodologies. What is a survey and when might different survey types be applicable? What is the best way to document a particular resource? What tasks should be performed by a specialist and which can a generalist undertake?

The document will also include information on technical topics such as cleaning historic earthen architecture, materials testing, and documentary technologies. When should a building be tested for the presence of lead? Is pressure washing appropriate and, if so, how should it be done? What is a Building Information Model and why might one be helpful?

The Sub-committee acknowledges that it is not possible to cover every possible methodological and technological question and that the field is always evolving. In the interest of providing the most complete guidance, however, the Sub-committee will provide a robust appendix of recommended resources for further research and study.

3.5 Case studies

Case studies will be utilized throughout the document to illustrate specific methodological and technological concepts, potential challenges, successes, and failures. The ‘story’ of each case study will be supplemented by definitions and discussions of major concepts. Two examples of case study ‘stories’ can be found below, in Section 4.

4 CASE STUDY EXAMPLES

The following case studies are abbreviated examples of the types of case studies that will be utilized

in *Thinking About Historic Resources*. The case of the Tumacácori National Monument illuminates the necessity for both minimal intervention and reversibility in treatment as well as the caution with which untried treatment technologies must be approached. The case of Arg-e Bam illustrates the dangers of an incomplete treatment plan and highlights the importance of assuring structural stability foremost amongst preservation concerns. In the final guidance document, these ‘stories’ would be followed by in-depth looks at the concepts identified within each example.

4.1 Tumacácori national monument

From the 16th to the 18th centuries, Spanish envoys from Mexico established hundreds of missions as far north as what is now San Francisco. These missions served as bases from which the Spanish colonized and converted surrounding native populations (Brocius 2010).

The site at Tumacácori had been part of the Spanish mission system since the 17th century, but it was not until the turn of the 19th century that the surviving adobe church was constructed. The new adobe church replaced an existing one that was in great disrepair and too small for the population’s needs. The church was never quite completed and shows evidence of multiple alterations and repairs throughout its history (Crosby 1985).

The site was abandoned by 1850 and remained unused and deteriorating until 1918. Tumacácori was inscribed as a National Monument in 1908, but it was not until 1918 that the National Park Service (NPS) dedicated any significant funds to its preservation.

The NPS undertook multiple projects at the site beginning in 1918; the progression of these projects allows a glimpse into the technologies and preservation philosophies that were predominant in the field at their respective times. Preservation in the

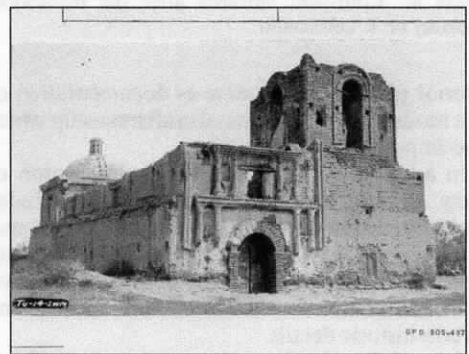


Figure 5. Tumacácori in 1919. Photograph in the public domain, courtesy of the NPS.

United States before the 1960s favored the reconstruction of ruins, as the predominant theory was that visitors would not be able to connect with an incomplete building, structure, or site. Work at Tumacácori prior to the National Historic Preservation Act and the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (both dating to 1966) focused on reconstructing damaged or missing features of the church including the nave, dome, and perimeter wall. During this period, much more of the historic fabric was removed or altered than would be acceptable today.

In addition, Tumacácori became a lab for a number of experimental or relatively untried chemical consolidation techniques. Chemical consolidants were first utilized on the deteriorating adobe walls in 1935 and were used liberally throughout the 1950s and 1960s. According to a 1985 Historic Structure Report, "a silicone material, 'Daracone,' was used by Gordon Vivian in the mid-1950s and Roland Richert began to experiment with 'Daraweld' in 1960. Daraweld was apparently used periodically during the 1960s and perhaps into 1970-71" (Crosby 1985). A 2010 news article indicates that these experimental preservation methods were ultimately not compatible with the adobe bricks and lime plaster of the walls and resulted in internal erosion to "such a degree that they became little more than hollow shells" (Brocius 2010).

In the 1970s, the NPS took a more hands-off approach at Tumacácori (and indeed at most other sites). Further work at Tumacácori included "simply stabilizing [the] ruins with mostly natural materials" and attempting to reverse earlier inappropriate or harmful interventions (Brocius 2010).

The history of interventions at Tumacácori illustrate the necessity of a few key preservation concepts that apply to all architectural resources: reversibility, minimal intervention, and the use of

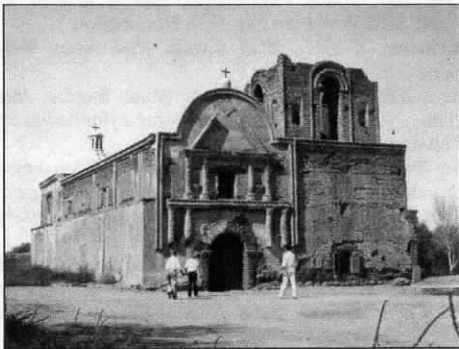


Figure 6. Tumacácori in 1938, following a major reconstruction effort. 1935 was the first year that an experimental chemical consolidant was used on the walls. Photograph in the public domain, courtesy of the NPS.



Figure 7. Tumacácori in 1970, following decades of reconstruction and chemical consolidation. Photograph in the public domain, courtesy of the NPS.

tested and reliable treatment methods. The silicone-based consolidants used beginning in the 1930s did not allow the adobe to 'breathe' and, since the intervention was not reversible, caused severe and continued damage to the walls. The extensive reconstruction of non-extant features completed before the 1970s does not reflect the current preference for minimal intervention. And, finally, the widespread and repeated use of experimental methods of treatment is never advisable unless all other options have been deemed insufficient.

4.2 Arg-e Bam

At 5:28 AM local time, an earthquake struck Bam, Iran. The earthquake measured between a 6.3 and 6.6 on the Richter scale and left about 70% of the city destroyed. Among the litany of damaged buildings was Arg-e Bam, the city's historic citadel and the world's largest mud brick complex (ICHO 6).

Arg-e Bam was constructed between the sixth and fourth centuries BC to serve as a center of trade for the Achaemenid Empire along the Silk Road.

The citadel has been occupied nearly continuously from its construction until the early 20th century. Despite its near complete abandonment, the compound survived intact to the point of the earthquake through the power of its religious and national symbolic elements (ICHO 6). However, without a residential population to complete the cyclical maintenance that is so crucial to the longevity of earthen architecture, Arg-e Bam began to disintegrate.

Its national and religious significance allowed Arg-e Bam to be listed on the National Heritage List of Iran in 1945 and the World Heritage List in 2004. The site's 1945 listing sparked a flurry of rehabilitation and restoration efforts within the compound. This work was guided by preservation professionals and respected the historic fabric and design of the structures; the efforts were considered a success (ICHO 30).



Figure 8. Arg-el-Bam before the earthquake. Photograph by Arad Mojtahedi (2000). Licensed under CC BY-SA 3.0.



Figure 9. Arg-el-Bam after the earthquake. Photograph by the US Federal Emergency Management Agency (public domain).

The 2003 earthquake illuminated a crucial flaw in the previous decades of otherwise successful restoration: the restorers did not have the foresight to seismically strengthen any structures that were restored. This oversight is especially egregious considering the region's long history of significant seismic activity, and as a result the city suffered the loss of nearly 70% of their mud brick buildings (Manafpour 7).

The unfortunate destruction of Arg-e Bam may not have been completely avoidable, but seismic retrofitting of historic buildings has been shown repeatedly to successfully protect earthen architecture against structural collapse in the event of an earthquake. In this case, an otherwise appropriate restoration effort was undercut by a failure to prioritize structural stability before undertaking any further interventions in the complex. Structural interventions are not always visible or exciting but can assure the survival of historic fabric and any additional interventions at the site. The case of Arg-e Bam also illustrates the necessity for a comprehensive evaluation of threats to a resource and the necessity of a treatment plan that mitigates as many of those threats as possible.

5 CONCLUSIONS

It is the Sub-committee's intent that *Thinking About Historic Resources* serve as a reference for the basic preservation and conservation of the world's earthen architectural heritage. Moreover, the document will be largely applicable to built heritage of other varieties; with this approach, the Sub-committee hopes to fill the larger need for comprehensive guidance in approaching any tangible, immovable historic resource.

The Sub-committee completed an outline of *Thinking About Historic Resources* in December 2016. A working draft of the full document may be forthcoming in 2017.

In the future, the Sub-committee will need to address the methods through which preservation professionals and interested non-professional parties will learn of this guidance document, to assure that it does not become yet another guidance document existing just out of reach of those who need it most.

REFERENCES

- Brocius, A. 2010. Debating Preservation in the Southwest's Spanish Missions. In *High Country News*.
- Centre de Conservation et de Réhabilitation du Patrimoine Architectural Atlasique et Subatlasique (CERKAS) and The Getty Conservation Institute. 2016. *Conservation and Rehabilitation Plan for Tighermt (Kasbah) Taourirt*. Los Angeles, CA: The Getty Conservation Institute.
- Cheang, E, et al. 2015. *Methods of Documentation and Measured Drawing (Istana Bandar)*. Taylor's University.
- Crosby, A. 1985. *Historic Structure Report: Tumacacori National Monument, Arizona*. Washington, D.C.: National Park Service.
- Historic England (English Heritage). 2008. *Conservation Principles, Policies and Guidance for the Sustainable Management of the Historic Environment*. London: Historic England.
- Iranian Cultural Heritage Organization (ICHO). 2004. *The Bam Citadel (Arg-e Bam) and its Related Sites*. UNESCO World Heritage List Nomination.
- Leiermann, T. 2017. *Ribat Riyadh, Hadramaut, Yemen*. Unpublished.
- Lim, J. 2014. *The Destruction of Istana Bandar*. *Jimmy Lim Design*. <http://www.jimmylimdesign.com/the-destruction-of-istana-bandar/>
- Manafpour, A.R. 2008. *Bam Earthquake, Iran: Lessons on the Seismic Behaviour of Building Structures*. In *The 14th World Conference on Earthquake Engineering, October 12-17, 2008, Beijing, China*.
- State Administration of Cultural Heritage (SACH). 2015. *Principles for the Conservation of Heritage Sites in China*. Beijing: State Administration of Cultural Heritage.
- Weeks, K.D and Grimmer, A.E. 1995. *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring & Reconstructing Historic Buildings*. Washington, D.C.: U.S. Department of the Interior.