

# Conservation qua Archaeology at Tell Mozan/Urkish

Giorgio Buccellati

**Abstract:** Increasingly, conservation is considered a necessary component of archaeological fieldwork. However, there are considerable differences in the way in which its presence affects the conduct of the work. Typically, it is an intervention that occurs apart from the excavation, whether it pertains to objects or to architecture. In a temporal sense, this often means that conservation takes place after the excavation: one may have, for instance, a “conservation season” following an “excavation season.” But even when the two activities take place concurrently, they are in most cases conceived as parallel activities, where conservation is viewed as a technique that is brought to bear from the outside on results that are obtained quite independently. This paper makes a case, instead, for conservation to be inscribed in the very strategy of archaeology, not so much logistically as conceptually. Archaeologists gain a better “archaeological” understanding of their universe if they act as conservators; conversely, conservators will be even better at their work if they gain a sensitivity for stratigraphy. Conservation at Tell Mozan, ancient Urkish, is presented as a test case of this approach, which has yielded very positive results. In particular, a new approach to the conservation of mud-brick architecture at the site is presented.

## Conceptual Goals

The theme developed at the 5th World Archaeological Congress—“Of the Past, for the Future: Integrating Archaeology and Conservation”—has a clear programmatic valence. First, a moral imperative: we must save the past so that future generations may draw on it at least as amply as we do. Then, the way this can happen: conservation must be integrated with archaeology, and vice versa.

I would like to underscore here the conceptual underpinnings of our central theme. It seems to me that one has to ask anew the very question, Why conservation? The reason is that even when integrated in an archaeological project, conservation generally remains extrinsic to the archaeological process as such. At best, one generally wants an excavation to entail a clear conservation program, in such a way that the excavation strategy is modified as needed to take fully into account the needs of conservation. But I would go one step further. For even in such an ideal situation, it is my observation that conservation remains an intervention not only *a posteriori* but also *ab exteriori*. This means that conservation is a technique invoked, and the degree of “integration” is correlative to the time frame within which such invoking takes place—coherently as a planned intervention at best, or, at worst, as a salvage operation after the fact, aimed at repairing damage that has occurred. The latter situation was prevalent in the past; today, happily, the pendulum is swinging in the other direction: conservation is more frequently associated with the ongoing process of excavation. Yet even so, it remains extrinsic. Are there ways, and is there merit, in going beyond such “extrinsicism”?

My answer—and this is the answer of an archaeologist, not of a conservator—can be stated in simple terms: conservation is intrinsic to the excavation process because it teaches us about excavation. It is a fact that conservators understand better than anyone else the physical and mechanical properties of the original artifact of which we find the relics. This understanding is as critical in shaping strategy as the identification of emplacement, the attribution to a given typological class, the awareness of historical conditions, or the recognition of function. Hence it follows that the conservator

is not just an expert to be consulted, even before excavation starts, with a view toward maintaining the relic and possibly reconstructing it after the fact. Rather, the conservator is an intrinsic voice in the dialogue that shapes understanding while the excavation takes place. So viewed, conservation is archaeology.

If that is so, it follows that conservation must be inscribed, in the most direct way, into the very process of excavation—not just after we realize that a building is important, not just when we are faced with a particularly delicate object. It must be simultaneous with excavation. Apart from considerations of cost and availability of resources, this must always be the goal, at least conceptually. From such general presuppositions that speak not just to the desirability but in fact to the necessity of “integrating archaeology and conservation,” there ensue some practical consequences.

It is not only a matter of decisional and hierarchical structures. It is rather a matter of *forma mentis*: the archaeologist must think as conservator and, conversely, the conservator as archaeologist. Since conservation is not just an appendix but an intrinsic facet of the excavation process, it follows that archaeologists need conservation professionals to improve on their own work as archaeologists. Of course, conservation remains an expertise with its own unique technical competence, but its summons are not just for something additive after the fact. In other words, it is necessary for the archaeologist to not just turn to the conservator for outside input, however well planned and integrated into an operational strategy; the archaeologist should also think as a conservator while doing the archaeologist’s work.

Conversely, it is just as critical that the conservator not be a mere technician providing extrinsic support but rather that he or she think as an archaeologist. Practically speaking: if courses in chemistry are required in conservation training, shouldn’t courses in stratigraphy be of exactly the same importance? The depositional process through which the “relic” has originated is just as important for a conservator’s understanding of the “relic” as the material matrix that defines the components on which the conservator works. The conservator must develop a sensitivity for this through hands-on experience in the field.

In this light, “integrating archaeology and conservation” does not mean so much developing a proper respect between two different individuals operating apart from one another but rather adding an educational component in the professional training of both archaeologists and conservators, so that each can operate with the sensitivity of the other.

To include such training in a conservator’s curriculum means above all that the conservator must develop a special sensitivity for that unique nexus of time and space that is so central to archaeology. In other words, the conservator must understand full well what stratigraphy is, at the very moment that it is being exposed through excavation. This can only be learned in the field, and that is the component that should be an integral part of an archaeological conservator’s schooling. One has to learn to touch time, to appreciate the physical interface that time assumes in the ground. Conversely, the archaeologist who has this sensitivity must develop the conservator’s eye for proposing for preservation critical stratigraphic moments.

We must, then, aim for a concrete and proper conservation of important stratigraphic junctures. Consider the difference vis-à-vis the conservation of objects and even of monuments. Though timely intervention on delicate objects soon after their exposure is important, they can often undergo conservation in a museum-type environment. In this respect, object conservation is static, in the sense that the effort may often be carried out independently of the object’s emplacement in the ground. In the case of architectural monuments, this is already more difficult, but in current practice the end result is the same. Walls and structures are conserved long after their initial exposure, and thus also statically—the only difference being that monuments, unlike objects, are tied to the ground. The goal that I am proposing is that the conservator be involved upstream of all this, at the very moment when exposure takes place, not so much and not only to better understand how to “save” the artifact but in order to help to understand and preserve a given stratigraphic moment.

When so implemented, conservation emerges as an important form of publication. That conservation adds to the documentary value of our work goes without saying. But in the case of architectural monuments and of stratigraphic moments, this documentary dimension is all the more significant and unique. So much so, in fact, that it becomes at times impossible to provide an alternative to visual inspection. To a certain extent, this is of course true of any artifact: no analogical representation can adequately and fully replace visual inspection. But it is especially true in the exposition of complex stratigraphic relationships, where a narrative description, a drawing, a photograph cannot do justice to all the concomitant elements that come into play. A digital three-dimensional model may indeed come one step closer to the ideal analogical rendering of such a situation, but it is still not applicable on a large scale, especially not for situations that,

however important from a scholarly point of view, are not monumental in nature.

Conservation may in such cases yield the best documentation of a key stratigraphic nexus, retaining it for an independent assessment by visiting scholars. Also, the very effort that goes into conservation of such a document serves as a powerful heuristic tool for the ancillary documentation that remains, of course, as necessary as ever. In other words, thinking about conservation directs the mind of the archaeologist in the direction of a fuller set of correlations than may otherwise be perceived when limiting one's attention, myopically, to the stratigraphic argument rather than to the stratigraphic document.

### Virtual and Other Realities

To illustrate how this can work, I want to use as a concrete example our own work at Tell Mozan, ancient Urkesh, with particular reference to architectural preservation. One of the largest third-millennium mounds in Syro-Mesopotamia (almost 150 hectares in size), it is located in northeastern Syria just below the slopes of the Taurus mountain range, which is today in Turkey. It was the most important urban center of early Hurrian civilization, contemporary with the Sumerian Early Dynastic and the Old Akkadian periods in the south. It remained famous in Hurrian mythology as the seat of the ancestral god of the Hurrian pantheon, and it was also known to have been the seat of an important kingdom. Our excavations have brought to light two major structures—the Royal Palace, built around 2250 B.C.E., and an earlier temple that rests on a high artificial terrace dating to at least 2700 B.C.E.

From the beginning of the excavations of what turned out to be the Royal Palace, in 1990, I became concerned with the preservation of the mud-brick walls and developed a simple protective system that has proven quite effective, as shown by our ongoing monitoring, under the supervision of our director of conservation, Sophie Bonetti. The system consists of a metal structure that closely follows the outline but not the top profile of the walls and of a tightly fitting canvas cover, tailor-made by a local tent maker. As of 2003, a total of some 400 linear meters of walls were so covered, corresponding to the entire set of the palace walls excavated so far.

The primary benefit is the protection of the walls. After thirteen years since the start of excavations in the palace, the condition of the walls remains as it was when they were first exposed. Over this relatively long period, the damage has been minimal, and the causes leading to it have been

identified and corrected. This is noteworthy because at other excavations in our area, walls that were not so protected have collapsed entirely, forcing a reconstruction that retains only the layout of the ancient structure and none of the original fabric.

It is important to emphasize the total reversibility of the process. The full protective system (metal and canvas) can be removed without leaving a trace. It is also relatively rapid. In 2003 the entire system was removed in two days by a crew of some fifteen people, and it takes about the same effort to set it back in place.

Obviously, it is not necessary to remove the protective gear on a yearly basis. Inspection of individual walls is effortless since the canvas can be easily lifted for any portion of the wall at any time (figs. 1, 2). This is a special instance when the goal of conservation as publication is achieved: visiting scholars can view such details as consistency of the bricks, faint traces of plaster, or arrangement of the mortar in ways that no photographic documentation can adequately render.

The system is fully modular, each wall being treated as a single unit, subdivided into smaller components as needed (fig. 3). This means that each new wall is covered immediately upon excavation. To wait for an eventual future season to be devoted to conservation has the disadvantage that intensive damage will inevitably occur in the meantime, and conservation can easily become little other than wholesale reconstruction. Another advantage of modularity so conceived is that excavated areas are protected while excavation is taking place in adjacent areas: for instance, the evacuation of dirt from ongoing excavations often follows a route that has an impact on earlier excavated areas, and in such cases our system affords protection from our own traffic.

But another advantage of this approach is that it is modular in a temporal as well as in a spatial sense: by protecting each wall as it is exposed, the interaction between archaeologist and conservator takes place at that critical moment when walls are exposed. The archaeologist is forced to consider more concretely the wall as an architectural unit, and the conservator to consider more sensitively the dynamics of the excavation process and the concerns of stratigraphy. Unexpectedly, modularity is one way in which the integration of archaeology and conservation takes place. Strategy decisions about the extent to which excavation should proceed are guided by considerations of how much opportunity will be available to set in place the protection system for new walls immediately following excavation. In this way, conservation is truly and properly built into the act of excavating.



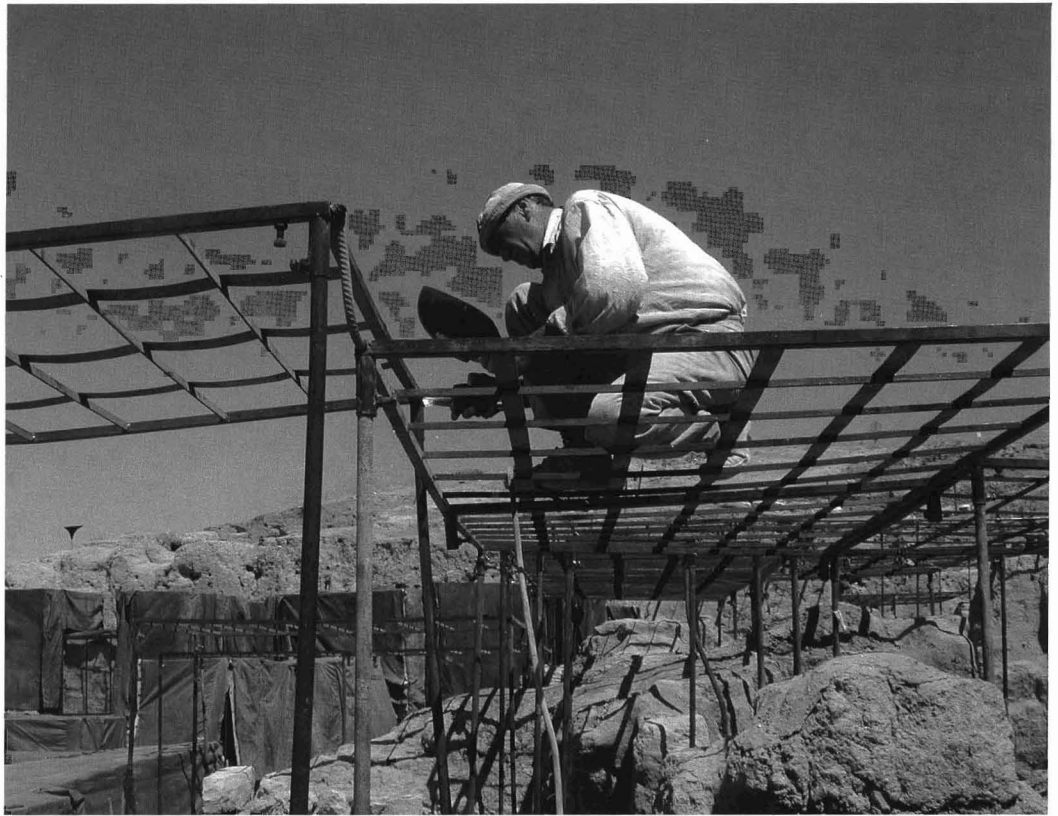
**FIGURE 1** Palace with walls covered, and with the canvas covering lifted to show one of the walls. Photo: J. Jarmakani

**FIGURE 2** Close-up of two walls when covering is lifted. Photo: G. Buccellati





**FIGURE 3** Sabah Kassem, the local smith who produces and maintains the iron structure. His dynamic participation in our work is emblematic of how conservation aids in developing an ideal collaboration between the stakeholders and the archaeologists. Photo: G. Buccellati



Conservation helps us to see each new wall not just as a fragment that is an end in itself but as the component of a larger whole that is concretely in front of us and perceivable as a real overall structure.

Modularity also means that costs are contained. This is in part due to the fact that they are spread out over a period of years. But actual total costs are also relatively low. The total spent for the portion set in place through 2002 amounted to some U.S. \$5,000, including materials (metal and canvas) and labor.

It is important to note that this collaboration goes well beyond issues of costs. The enthusiasm and intelligence that local people bring to the project enhance our own work and in some important ways even our understanding of the archaeology. The conservation effort is one of the major ways in which the stakeholders are brought to a dynamic confrontation with the past that has unfolded in their own territory: as they share in re-creating its perceptual reality, they provide significant pointers toward an understanding of the monument. The notion of stakeholders' participation in "their" archaeology is a current theme today. At Mozan, we

have been applying this concept in a very concrete way since the inception of our work there.

A major benefit of our protective system has been the sharper definition of architectural spaces and volumes—the goal of all architectural restoration. In our case, this is coupled with a degree of reversibility that is not afforded by other systems. It is as if we had two archaeological sites existing contemporaneously side by side—or rather, one within the other (figs. 4, 5). One is the site that consists of the ruin—the walls as excavated. The other is the site that consists of the architecture—the walls as they once were. The rendering of volumes and spaces corresponds to the ideal of a three-dimensional rendering on the computer. Hence the concept "virtual and other realities": the wrapping provides, as it were, a real virtual reality. Except that the perception on the ground is of course infinitely richer than the one on the screen. A telltale sign of this was the realization, once the protective system was set in place, that we could no longer walk over low walls or foundations. Even though we, the excavators, were so familiar with the floor plan of our building, it was as if suddenly we had discovered, perceptually, a new dimension that until then was

**FIGURE 4** Two sites in one: the palace “as ruin.” The walls are documented as first excavated and preserved in their original state. Kite photo: G. Gallacci



**FIGURE 5** Two sites in one: the palace “as monument.” The walls are shown as volumes in their original layout. Kite photo: G. Gallacci



known to us only through the abstraction of a drawing. This perceptual enrichment of fieldwork is one of the significant results of the integration of conservation and archaeology as we practice it at Mozan: conservation helps the archaeologist to perceive the physical reality of the monument as nothing else can do. No matter how intimately the excavators know every brick of “their” walls, as soon as the protective covering goes up, they invariably see relationships that were wholly unexpected.

Obviously, such a wrapped reconstruction of the walls adds significantly to the goal of presenting and interpreting the site to the outside visitor. We have further enriched our “sitescape” through a variety of other means that help to visualize the architectural and functional elements of the structure. For instance, signs and posters can easily be added in such a way that they are visible also from a distance, where I have built a viewing station with interpretive posters. In 2003 we painted the major wings of the palace in different colors (see fig. 1)—green for the service wing and gold for the formal wing (as yet only partly excavated). This was occasioned by the realization that the modular approach described above resulted in the less desirable effect that the canvas had different shades each year. These were so noticeable that the original pleasant appearance of a light brown color, rather close to that of mud-brick, was dissipated by the motley look of the wrapping (especially in places where patches were added to reinforce older canvas). Painting the canvas over seemed like an obvious solution. And as long as we were doing that, it seemed worth trying to have colors match the functional differentiation that we already have in the floor plans. The jury is out on this approach. Aesthetically, opinions are divided between those who prefer the uniform light brown earth tone over the brilliant colors that identify functional areas. Also, it remains to be seen how the paint will resist the winter rains and the harsh summer sun. But indirectly this underscores the beauty of the system. None of these solutions is irrevocable, and experiments can be carried out without any danger to the original “document” and with low expenditures—hence with altogether limited risk. These experiments also consolidate the close concomitance of the work of archaeologists and conservators because they are both present, as it were, at the time of creation.

## Technical Details

The system’s simplicity is one of its major virtues. It can be applied and maintained whenever there is a smith who can

assemble the metal structure, and a strong sewing machine that allows the fashioning of the tarp covers. The process of mounting the metal trellises is delicate (one must be careful not to affect the walls) but can be managed with normal supervision. Similarly, the tarps have simple geometrical shapes, and they can be sewn together without any special tailoring skills.

Also, the system in no way intrudes on any of the ancient structures: the metal structures simply rest on the floor, or in most cases on our own backfill, and the uprights are kept at a distance of some 10 centimeters from the face of the walls. While the segments of a wall cover are modular, they are all interlocked, and this, given the weight of the metal, provides adequate stability to the entire system.

In our specific context, there are two main factors that have a negative impact on conservation: rain and wind. Wind poses the greatest danger in those portions of the walls that were least well preserved. Here the hollow space contained within the covering can be considerable, and the resulting effect is that the wind has greater play inside the protective structure, rendering it more vulnerable. In such instances the very virtue of the system becomes its worst defect: since the covering is a seamless whole, a small tear can easily extend to a large portion of the structure. We are trying to overcome this problem by adding light and open wire mesh at the critical junctures. During the winter rains of 2003–4, we also removed the covering altogether in those few portions where nothing is left of the wall but only the negative trace left by the stone foundations after the stones were quarried in recent times. The fabric was set in place again once the winter was over.

To minimize the danger of water seeping through the canvas, we at first put a sheet-metal cover on the trellis, or, as a less expensive alternative, a sheet of plastic (fig. 6). But condensation trapped between the canvas and either the plastic or the metal caused the tarp to deteriorate rapidly, that is, within a couple of years. We are now trying two other alternatives. 1) A metal basin suspended from the top. This is more expensive, but it has the added advantage that one can put water in the basin to maintain an even level of humidity during the extremely hot and dry summers. 2) A loose sheet of plastic held in place by sand in plastic bags, placed directly on top of the walls.

To make visual inspection possible at any time, the coverings are not sewn at the corners of the walls. Rather, the two vertical edges overlap slightly, and they are kept tight by a set of laces that can easily be untied, and by Velcro borders that protect the metal eyelets through which the laces pass. At the



**FIGURE 6** Loose plastic cover placed directly on mudbrick, with small sandbags holding it in place, and metal basin at the top to gather water seeping through the tarp (also to hold water in the summer to provide uniform humidity). Photo: G. Buccellati



bottom of each section, there is a metal bar that also keeps the fabric taut, both when it is in place and when it is lifted.

Important structural elements and significant stratigraphic documents are protected with metal boxes or glass panels to differentiate them from the covering that identifies the walls exclusively. A decision as to which of these items is to be so protected is made by archaeologists and conservators in close collaboration, in an effort to assess fully the relative feasibility and costs.

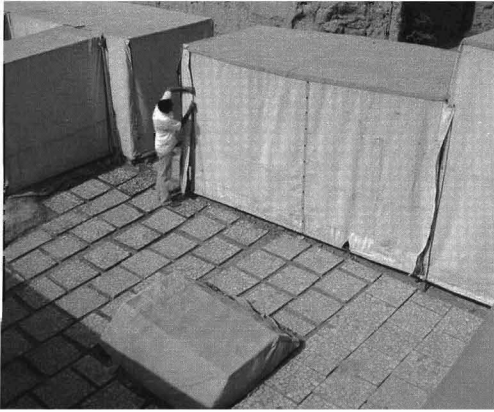
We have also addressed the question of preservation and display of the floor areas. Some of the floors were covered in antiquity with a thin layer of limestone plaster. These we have covered with plastic sheets, which are in turn covered by a thin layer of dirt, in the standard way of backfill. But this layer of dirt favored the growth of grass and thorny weeds. Rather than resort to herbicides, the backfill was covered with tiles made of recycled sherds embedded in cement. The tiles are individually placed, so they can be removed at will. We have used three different arrangements: (1) a single line to mark a path, (2) a spacing between tiles to allow a minimum growth, and (3) a tight arrangement to eliminate growth altogether. In

the formal part of the palace the floors are more elaborate; they consist of flagstones in the open areas and, in the roofed areas, of either a thick, cementlike plaster or brick pavers (fig. 7). Here we have added, to the system just described, large metal boxes that are embedded in the backfill and cover a portion of the pavement that is left free of backfill. By opening the box, a visitor can have a clear idea, from the visible detail, of the nature of the whole pavement.

Where vertical fissures have developed in the walls, we use consolidation in those cases that seem to pose the greatest risk. But our primary goal is to reduce physical and chemical intervention to an absolute minimum, and so we prefer, where possible, to apply a light stretched and weighted canvas: this simple system holds the wall in place by exerting a gentle pressure on the two sides (fig. 8).

Many issues remain under consideration, and the continuous interaction at the site between archaeologists and conservators produces a host of new ideas and experiments. The feedback we receive from a variety of sources (colleagues, visitors, staff, and workmen) helps us to fine-tune our approach. And the continuous monitoring will include all of





**FIGURE 7** Modern pavers in loose and tight arrangement on top of backfill.  
Photo: G. Buccellati



**FIGURE 8** Vertical fissures on same wall in 2002, two years after excavations.  
Note the stretched canvas, weighted down by pockets of sand on either side.  
Photo: G. Gallacci

this information in what will continue to be an interesting experiment in professional interaction, in substantive conservation, and in more enlightened archaeology.<sup>1</sup>

## Notes

- 1 For a few references pertinent to conservation at Tell Mozan, see G. Buccellati, "Urkesh: Archeologia, conservazione e restauro," *Kermes* 13 (2000):41–48; S. Bonetti, *Gli Opifici di Urkesh: Papers read at the Round Table in Florence, November 1999*, *Urkesh/Mozan Studies* 4 (Malibu: Undena, 2001) (online at <http://www.urbesh.org>); G. Buccellati and S. Bonetti, "Conservation at the Core of Archaeological Strategy: The Case of Ancient Urkesh at Tell Mozan," *Conservation: The Getty Conservation Institute Newsletter* 18 (2003):18–21 (online at [http://www.getty.edu/conservation/resources/newsletter/18\\_1](http://www.getty.edu/conservation/resources/newsletter/18_1)).

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*Edited by Neville Agnew and  
Janet Bridgland*

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