Mosaic Conservation: Fifty Years of Modern Practice

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Abstract: *The practice of mosaic conservation has evolved significantly over the past several decades. Fifty years ago mosaics were approached as isolated objects, without context, and interventions were undertaken without adequate planning. There were limited options for conservation strategies (detachment was the main option available); the workforce consisted mainly of artisans, craftspersons, or carpenters; and materials were limited to cement, gypsum, or adhesives. This paper reviews the changing philosophy and practice of mosaic conservation, leading to the current state of the art.*

Résumé : *La pratique de la conservation des mosaïques a considérablement évolué au cours des dernières décennies. Il y a cinquante ans, la mosaïque était abordée comme un objet isolé et sans contexte et les interventions étaient effectuées sans planification adéquate. En décidant d'une stratégie de conservation les options étaient très limitées (la dépose constituait l'option principale), les intervenants étaient principalement des artisans tels que les menuisiers et les matériaux se limitaient au ciment ou au plâtre. A partir de ces débuts, la présentation retrace l'évolution de la philosophie et de la pratique de la conservation des mosaïques, pour arriver aux « méthodes de pointe » actuelles.*

In a sense the conservation of mosaics is a practice as old as the making of mosaics themselves. Today one can find ancient mosaics with patches made as part of maintenance when the floors were still in use. In more recent centuries restoration was widely practiced on objects of antiquity, including mosaics. And from the first decades of the twentieth century we have fine examples of restorations.

Before the mid-twentieth century, discoveries of mosaics occurred primarily during archaeological excavation of known sites. During the postwar period in Europe massive construction and reconstruction was undertaken, and discoveries of mosaics occurred more frequently throughout the continent. This does not mean, however, that these artifacts were ultimately preserved. According to a 1971 study by the French engineer Claude Bassier, of 660 pavements found in France since 1870 and published by archaeologists, at least 83 percent were abandoned, destroyed, or lost (Bassier 1975). The remaining pavements—those whose subjects were figurative and considered valuable—were, according to the traditional techniques of the time, systematically removed from archaeological sites. Some were relaid on concrete slabs; others were abandoned in storage, where many remain today (fig. 1).

FIGURE 1 Mosaics lifted from their original sites and placed in storage. Photo by Roberto Nardi.

In the early postwar period strategies for mosaic conservation were very limited; detachment was the primary option available. Interventions were typically undertaken without adequate planning and with a workforce that consisted mainly of artisans, craftspersons, or carpenters. Conservation practice was based solely on empirical knowledge, and the materials used by practitioners were limited to cement, gypsum, and adhesives. In addition, documentation was lacking. Practitioners worked in isolation, without the benefit of professional associations. An exception in the late 1950s to the typical treatment of excavated mosaics was the completion of the excavation of the Villa del Casale in Piazza Armerina, Sicily (fig. 2); there Cesare Brandi introduced the solution of conserving the villa's remarkable mosaics in situ and protecting the entire site (Brandi 1956; Stanley-Price 1997).

FIGURE 2 The mosaics of the Villa Romana del Casale in Piazza Armerina, Sicily, were conserved in situ and sheltered in the late 1950s. Photo by Guillermo Aldana 1993. © J. Paul Getty Trust.

In the 1960s a dramatic evolution in mosaic conservation began. Two important professional figures came to prominence in this decade: Rolf Wihr in Cologne, Germany, and Claude Bassier in Périgueux, France. Wihr was a conservator-restorer, working at the Rheinisches Landesmuseum in Trier. Bassier, in private practice, was called in on rescue excavations when mosaics were discovered. He was able to arrive within two days, with trucks, a crate, and a tent with heating systems, ready to work, even in winter. Both Wihr and Bassier introduced new approaches, which included systematic documentation, new supports (honeycomb aluminum instead of concrete), and new adhesives (resins instead of glues and cement) (Bassier 1978). But they also continued the established practice of polishing the mosaic surfaces.

A third significant figure who advanced the field technologically at an early date was Antonio Cassio of the Istituto Centrale per il Restauro in Rome. Cassio, a mosaicist from a family of mosaicists, preferred a more sensitive and controlled method for detaching mosaics. He used a system typical of mosaic making itself, which permitted the detachment of mosaics in pieces averaging 25 square centimeters (Cassio 1982). This method substantially reduced cutting stresses—and therefore reduced damage to mosaics being lifted.

In the late 1960s, again in Italy, a different field—mural painting—was undergoing a theoretical and practical reevaluation, which would have a direct and important impact on mosaic conservation. In 1968 the International Center for the Study of the Preservation and Restoration of Cultural Property (ICCROM) joined with the Istituto Centrale per il Restauro to initiate an annual four-month course on the conservation of wall paintings. At first the highlight of the course was the detachment of a wall painting, but very quickly in situ consolidation was embraced as a more appropriate method, as wall paintings came to be considered an integral part of the buildings in which they occurred. This evolution in wall paintings conservation led to the publication in 1977 of the fundamental book for the profession, *Conservation of Wall Paintings* (Mora, Mora, and Philippot 1977).

Establishing the International Committee for the Conservation of Mosaics

All this was in the air in 1977 when the first meeting on mosaic conservation—with forty-five participants—was organized in Rome. At the end of this conference ten of the participants decided to establish the International Committee for the Conservation of Mosaics (ICCM) and to act as its first board.

The publication of the proceedings of the meeting, addressed to archaeologists, conservator-restorers, technicians, administrators, and the public, was titled *Mosaics, No. 1: Deterioration and Conservation* (Selvig 1978). Another important result of the meeting was the recommendation to launch a course on mosaic conservation.

The 1977 meeting in Rome was the starting point for a series of regular conferences. The following year, the Institut National du Patrimoine in Tunisia hosted the second conference and went on to host subsequent meetings of the ICCM board. The latest conference, the ninth, took place in Hammamet, Tunisia, in 2005. Following each of these meetings, the proceedings were published. In addition to the proceedings, twelve newsletters have been published. These materials represent for the profession a basic source of information that did not exist fifty years ago.

The evolution in the thinking of the ICCM—and, indirectly, the trend in its professional principles—is reflected in the themes of each of its conferences:

Rome, Italy, 1977: *Deterioration and Conservation*
Tunis and Carthage, Tunisia, 1978: *Safeguard*
Aquileia, Italy, 1983: *Conservation in Situ*
Soria, Spain, 1986: *Conservation in Situ*
Palencia, Spain, 1989: *Conservation in Situ*
Faro-Conimbriga, Portugal, 1992: *Conservation, Protection, Presentation*
Nicosia, Cyprus, 1996: *Mosaics Make a Site: The Conservation in Situ of Mosaics on Archaeological Sites*
Saint-Romain-en-Gal and Arles, France, 1999: *Mosaics: Conserve to Display?*
Thessaloniki, Greece, 2002: *Wall and Floor Mosaics: Conservation, Maintenance, and Presentation*
Hammamet, Tunisia, 2005: *Lessons Learned: Reflecting on the Theory and Practice of Mosaic Conservation*

It is evident that by 1983 the ICCM was pointing out the importance of in situ conservation and encouraging its use whenever possible. In this way, it mirrored an evolution that had already occurred among wall paintings specialists.

Another principle that ICCM has come to strongly support is the rejection of the use of cement in the conservation and restoration of mosaics. It had been clear for some time that the use of cement in the conservation of ancient monuments brought the risk of an increase in damage. In response, the Italian conservation scientist Giorgio Torraca launched research in 1980 to replace cement with, paradoxically, one of the oldest construction materials known—lime-based mortar (Ferragni et al. 1984). However, even within the ICCM, almost ten years of heated debate took place before lime-based mortars were generally accepted and before cement applied in direct contact with mosaics was replaced. The use of lime-based mortars has allowed the development of in situ consolidation and furthered the practice of maintenance in situ when possible. (Unfortunately, despite the abundant evidence of destruction caused by cement in conservation interventions, this material is still used on mosaics—and worse, its use is still taught as a technique in some countries.)

Another important advance that can be credited to discussion and reflection at several ICCM conferences was the acceptance by conservation practitioners of a planned approach to safeguarding mosaic floors. In 1996 a question-driven flowchart was developed to help practitioners determine which of several options would be most appropriate to a particular context and set of problems (fig. 3). The questions related to risk, visitation, significance, available resources, and archaeological investigation, and they led to consideration of a range of options, including backfilling, lifting and transferring to a museum, lifting and re-laying in situ, and consolidation in situ.

The standard practice of leaving a mosaic on-site without protection—or of lifting the pavement and abandoning it in storage—was clearly the result of a lack of planning, as well as demonstrative of the attitude of some archaeologists, insensitive to conservation, who felt that their work ended the day they published their findings. A systematic analysis of practical conditions can help to determine different and more appropriate approaches for dealing with an excavated mosaic. With any of these options, serious planning before implementation is required.

The four ICCM conferences following those dedicated to in situ conservation referenced in their titles the issues of public presentation of mosaics. As early as 1978 it was suggested in *Mosaics, No. 1*, that the public be involved "so that specialists responsible for conservation receive support from both groups and individuals. It is the public, after all, that benefits and is served by the world-wide conservation movement" (Selvig 1978: foreword). This approach established in the mosaic conservation field recognition that an objective of the conservation profession is to present and to interpret for the public the cultural properties that we are engaged in conserving (fig. 4).

To influence the actual practice of mosaic conservation, these new ideas and approaches required adequate training at all levels. Yet the development of training did not happen

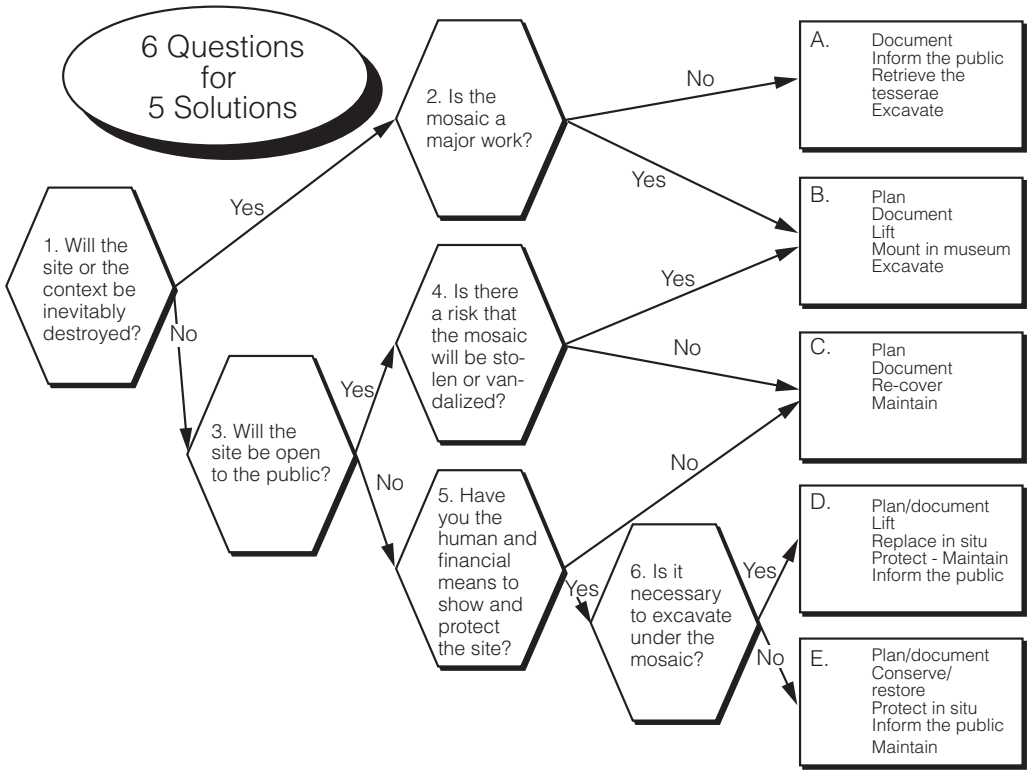

FIGURE 3 Question-driven flowchart developed in 1996 to guide decision making.

FIGURE 4 Visitors watching conservation activities at the site of Zippori, Israel. Photo by Roberto Nardi.

quickly. Twelve years passed after the 1977 recommendation for training before the first course for decision makers was initiated. The one-month course—organized by ICCROM in 1989 in Rome—was attended primarily by archaeologists (Melucco Vaccaro, de Guichen, and Nardi 1994). Today some of the participants of that early course are members of the ICCM board.

Since that time several courses at various levels have been—and continue to be—organized. While this activity is generally welcome, certain doubts exist regarding their efficacy. Some of the sessions are considered too short—a few weeks at most—or it is felt that the trainers lack the necessary teaching ability. In some instances the production of new mosaics is taught simultaneously with conservation techniques—a questionable pairing.

An example of training appropriately adapted to the challenge faced is the technician training program launched by the GCI and Tunisia's Institut National du Patrimoine in 1998 (fig. 5). This long-term involvement in training technicians in the care and maintenance of in situ archaeological mosaics is attempting to enhance the ability of cultural authorities in Tunisia to preserve the country's wealth of mosaic heritage.

FIGURE 5 Technicians-in-training stabilizing a mosaic pavement at the site of Thuburbo Majus, Tunisia. Photo by Kristin Kelly 2003. © J. Paul Getty Trust.

Maturing of the Profession

For the mosaic conservation field, the past fifty years constitute a period of great change and maturation. The establishment and development of the ICCM has advanced the work begun by the Association Internationale pour l'Étude de la Mosaïque Antique (AIEMA) and later developed by the Association for the Study and Preservation of Roman Mosaics (ASPROM) in Great Britain and the Associazione Italiana per lo Studio e la Conservazione del Mosaico (AISCOM) in Italy.

Unlike three decades ago, the scope of mosaic conservation is no longer restricted to a few square meters of tesserae recently excavated or on exhibit in a museum. It has expanded to include entire mosaic complexes or sites where thousands of square meters of mosaics are in danger. And the conservator has been joined by other professionals in the field of conservation in addressing the problems of mosaic conservation. Among them are conservation scientists who share an interest in finding solutions to mosaic conservation globally—and not simply through the lens of a microscope. That 250 colleagues from thirty countries—and with many different backgrounds—attended the 9th ICCM Conference indicates that common problems exist and that the interest in solving them collectively is very high.

At the same time it is evident that there are issues that have not been resolved, and a great deal of work remains to be done. There is an urgent need to properly conserve and store hundreds, if not thousands, of mosaics previously relaid on reinforced concrete or abandoned in storage. Reburial of mosaics is an important tool for preserving mosaics, but it requires clear protocols and a technical and financial assessment. Further research on the protection of mosaics from biological growth would contribute to resolving a widespread problem confronting the preservation and presentation of mosaics. Studies of the cost of maintenance of mosaics in situ are needed to help promote this approach. Assessments of training needs for archaeologists, conservator-restorers, and technicians are essential to ensuring long-term protection of mosaics. And finally, the publication of a major book on the conservation and restoration of mosaics is long overdue.

These are only some of the challenges faced by the professionals charged with responsibility for conserving and exhibiting mosaics. There is still a long way to go. Nevertheless, it is not unrealistic to look to the future with optimism. With the help of the ICCM, the great vitality demonstrated by the profession has resulted in standards of mosaic conservation practice today that appeared almost unreachable thirty years ago. Much has been accomplished, and those accomplishments form an essential foundation for the work that lies ahead.

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