Conservation of Cultural Heritage in the Arab Region

Issues in the Conservation and Management of Heritage Sites
Conservation of Cultural Heritage in the Arab Region

Issues in the Conservation and Management of Heritage Sites
Disclaimer

The views expressed in the publication are those of the individual authors and not necessarily of ICCROM

© 2013 ICCROM
ICCROM – International Centre for the Study of the Preservation and Restoration of Cultural Property
Via di San Michele 13
I-00153 Rome RM, Italy
http://www.iccrom.org

Implemented by:
ATHAR Programme (Conservation of Cultural Heritage in the Arab Region)

With the support of:
The Arab League Educational, Cultural and Scientific Organization (ALECSO);
The Government of Sharjah, United Arab Emirates;
Directorate General of Development Co-operation, Italian Ministry of Foreign Affairs.

Supervision and follow-up:
Zaki Aslan, ATHAR Programme Manager, ICCROM.

Graphic design:
PAGEGROUP di Giancarlo De Pol
Since its inception in 2004, the ATHAR Programme (Conservation of Cultural Heritage in the Arab Region) has aimed at addressing priority needs identified closely with partner institutions working in the region in this particular field. A planning phase in 2003 intensified contacts with heritage institutions working in and for the region through field visits and by reviewing existing reports such as the first periodic report for the Arab region of World heritage sites published in the same year by the UNESCO World Heritage Centre. While the identified needs consisted of a wide range of actions to be taken, addressing various issues ranging from applying conservation principles, particularly promoted by ICOMOS and disseminated internationally through ICCROM’s education and training programmes, to public attitude and knowledge of conservation technical and management methods in the field. It became clear at the time that prioritizing these needs was a task to be undertaken by ATHAR Programme partners in its pilot phase (2004-2007).

To this end, supported by the Italian Government, an orientation meeting was held in Damascus in May 2004, engaging officials and professionals from the countries of Jordan, Lebanon and Syria, comprising a first sub-region benefiting from the programme in its pilot phase. This meeting then identified three core priority areas of capacity building requirements to be addressed. These included building the capacity of site managers who work at national heritage institutions in the fields of site management and conservation, development of existing university programmes and curricula in their variety of focus in the cultural heritage fields, as well as enhancement of public education and awareness through schools and museum programmes.

To achieve these objectives, the programme has implemented several of its activities in close collaboration with UNESCO World Heritage Centre and the field offices in the region (in Beirut and Amman). While the Italian Government (through the Italian Development Cooperation) generously enabled the programme to consolidate its first phase and financially contributed to it in the second phase, ICCROM sought to establish new partnerships with institutions working in the region. The latter have been materialized first through the close collaboration and support of ALECSO (the Arab League Educational, Cultural and Scientific Organisation) since 2006. ICCROM and ALECSO’s first activity in Jordan and Syria on “Management and Documentation of Archaeological Sites” was notably marked by a royal patronage of Her Majesty Queen Rania Al-Abdullah of Jordan. This collaboration has since then continued, enabling various training activities to benefit participants from all Arab countries who took part in the ATHAR Programme activities. At this time, Mounir Bouchenaki was appointed Director General of ICCROM supporting further collaboration with the Arab Governments, when in 2008 a Memorandum of Understanding was signed with His Highness Sheikh Dr. Sulatan Al-Qassimi the Ruler of Sharjah, UAE.

These initiatives consolidated the engagement of the Arab institutions who increasingly appreciated the work of the programme aimed at institutional strengthening in the area. In fact, “investing in people” who are in charge of protection of cultural heritage in the Arab Region was the main goal of the programme. These professionals have now truly been engaged in actual projects after they have completed a series of training requirements and their skills have become indispensable. Thus, the achievements of the programme were greatly acknowledged after an eight-year period of investment. For example, this support was crowned by a resolution made at ALECSO’s latest meeting of Ministers of Culture of the Arab States, which was held in Doha in October, 2010, stating that it is crucial to support the ATHAR Programme by the Arab States through various contributions for the programme to achieve its ultimate goal. Facts which led to this decision have been summarized in achievements made in figures. These included:

- 161 Participants (Mid-Career Professionals) were trained
- 19 Arab Countries (Member States) took part in the ATHAR activities
- 10 Intensive four to eight-week Training Courses were held
- 5 Thematic Workshops were conducted
- 6 Special and Field Projects were led by ATHAR Programme graduates
- 5 Publications in Arabic were produced, including a schools teachers guide and glossary of conservation terms
- 7 National and Regional/ sub-Regional activities addressing World Heritage in the Arab States
- 4 National UNESCO Training Courses (for Iraqi professionals, Jerusalem-based experts)
It should be stressed that the positive impact of the programme is illustrated not only by the engagement of its graduates in the various ATHAR field projects, but also in their involvement in training and regional activities across the region (for example, several ATHAR former participants contributed substantially to the second cycle of the World Heritage periodic reporting in the Arab States, also conducted in partnership with ICCROM’s ATHAR Programme experts), as well as in university teaching and participation on international forums.

Following several ATHAR Programme’s foundation courses in Byblos and Tripoli (Lebanon) in Amman (Jordan), and in Sharjah (United Arab Emirates), it was deemed necessary to put some of the experiences learned in the hands of a wider audience beyond the direct benefit of course participants. Thus, this book entitled “Selected Readings from ATHAR” is aimed to serve this purpose. It is a result of invaluable contributions from instructors who took part in the ATHAR core regional courses and who were invited to submit scientific material relevant to the topics they covered during the ATHAR courses. It is thanks to ALECSO and the Government of Sharjah who financially have supported the ATHAR Programme and this particular publication.

The subjects included in this first series of “Selected Readings from ATHAR” range from theoretical approaches to the conservation of cultural heritage sites to the implementation of techniques and management approaches for the safeguard of immovable heritage for future generations. It is our aim to disseminate this knowledge for the effective benefit of practitioners and educators working this specialist field in the Arab Region.

Since its inception by ICCROM in 2004, the ATHAR Programme (Conservation of Cultural Heritage in the Arab Region) has aimed at addressing priority needs identified closely with partner institutions working in the region in this particular field. A planning phase in 2003 intensified contact with heritage institutions working in and for the region, through field visits and successive regular consultation of existing reports (such as the first periodic reports for the Arab region of World Heritage sites by the UNESCO World Heritage Centre). The identified needs consisted of a wide range of actions to be taken, addressing issues ranging from applying conservation principles disseminated internationally through ICCROM’s education and training programmes, to public attitudes and knowledge of conservation technical and management methods. It became clear then that prioritizing these needs was a task to be undertaken by the ATHAR Programme partners in its pilot phase (2004-2007).

To this end, supported by the Italian Government, an orientation meeting was held in Damascus in May 2004 initially, engaging officials and professionals from the countries of Jordan, Lebanon and Syria. It consisted of the three core countries comprising a first sub-region benefiting from the programme in its pilot phase. This meeting identified three core priority areas relevant to capacity building requirements. These included building the capacity of heritage site managers who work at national heritage institutions in the fields of heritage management and conservation, development of existing university programmes and curricula in their variety of focus in the cultural heritage fields, and the enhancement of public education and awareness through schools, museum programmes and the media.

To achieve these objectives, the programme implemented several of its activities in close collaboration with the UNESCO World Heritage Centre and the UNESCO field offices in the region (particularly in Beirut and Amman). While the Italian Government (through the Italian Development Cooperation) generously enabled the programme to consolidate its first phase and financially contributed to it in the second phase, ICCROM sought to establish new partnerships with institutions working in the region. The latter was materialized through a close collaboration and support of ALECSO (the Arab League Educational, Cultural and Scientific Organisation) since 2006. ICCROM and ALECSO’s first activity that took place both in Jordan and in Syria on “Management and Documentation of Archaeological Sites” was notably marked by a royal patronage of Her Majesty Queen Rania Al-Abdullah of Jordan. This collaboration has since continued, enabling various training activities to benefit participants from all Arab countries who took part in the ATHAR Programme activities. It particularly helped the programme to be regularly reviewed at ALECSO meetings of Directors of Heritage and Antiquities in the region. This phase also marked the strengthening of cooperation with the Arab states mainly resulting in signing a Memorandum of Understanding with the Government of Sharjah, with the gracious support of His Highness Sheikh Dr. Sulatan Al-Qassimi the Ruler of Sharjah in the United Arab Emirates in 2008.

These initiatives consolidated the engagement of the Arab institutions who increasingly expressed their appreciation of the results achieved by the programme. They were mainly crowned by conference resolutions of the Arab ministers of culture, particularly held in Doha in 2010 and in Manama in 2012. The conferences
of the Ministers of Culture of the Arab States stated that it is crucial to support the ATHAR Programme by the Arab countries through financial and moral contributions for the programme to achieve its ultimate goal.

While acknowledging the gracious support of His Highness Dr. Sheikh bin Mohammad Al Qasimi, Member of the Supreme Council of UAE and Ruler of Sharjah, the Arab Ministers of Culture recognized that investing in people, who are in charge of protecting of cultural heritage, was crucial to advance this field in the region. Facts which led to these decisions have been summarized in programme achievements made in figures. These included: 214 Participants (Mid-Career Professionals) were trained; 19 Arab Countries (Member States) took part in the ATHAR activities; 10 Intensive four to eight-week Training Courses were held; 5 Thematic Workshops were conducted; 6 Special and Field Projects were led by ATHAR Programme graduates; 5 Publications in Arabic were produced, including a schools teachers guide and glossary of conservation terms; 7 National and Regional/sub-Regional activities addressing topics such as World Heritage in the Arab States were conducted; and 4 National UNESCO Training Courses were held.

By the end of 2011, a decision to establish an educational and study entity serving the region was made at ICCROM’s 27th General Assembly and an agreement between ICCROM and the Government of Sharjah was made, thus sustaining the efforts in the region for the benefit of heritage institutions in the Arab States. The establishment of a regional institution serving as an educational and study institute is now underway at the University City in Sharjah, United Arab Emirates. This establishment will serve as a crossroad for information, ideas, studies and research in the growing field of cultural heritage conservation and management in the Arab World. The ATHAR alumni, in particular, will now use this hub as their pivot to exchange experiences, ideas, and knowledge in the field. ATHAR will also help advance this knowledge for the protection of Architectural-Archaeological Tangible Heritage in the Arab Regions (denoting ATHAR as abbreviation of this subject matter of this newly established body).

It is also important to underline that graduates of the ATHAR Programme were engaged in actual projects after they had completed a series of training requirements, rendering their skills indispensable. It should, however, be stressed that the positive impact of the programme is illustrated not only by the engagement of its graduates in the various ATHAR field projects, but also in their involvement in training and regional activities across the region. For example, several ATHAR former participants contributed substantially to the exercise of the second cycle of the World Heritage periodic reporting in the Arab States that engaged ICCROM’s ATHAR Programme experts.

Following several ATHAR Programme’s foundation courses in conservation and management of heritage sites and collections held Lebanon, Jordan, and United Arab Emirates, it was deemed necessary to put some of the experiences learned in the hands of a wider audience beyond the direct benefit of course participants. Thus, this series titled “Selected Readings from ATHAR” is aimed at serving this purpose. It is a result of invaluable contributions from instructors who took part in the ATHAR core regional courses and who were invited to submit scientific material relevant to the topics they covered during the ATHAR activities. ICCROM and ATHAR Programme express their gratitude to both the Government of Sharjah and ALECSO who supported this first series of ATHAR publications.

The subjects included in this first series of “Selected Readings from ATHAR” range from theoretical approaches to the conservation of cultural heritage sites to the implementation of techniques and management approaches for the safeguard of immovable heritage for future generations. It is our aim to disseminate this knowledge for the effective benefit of practitioners and educators working in this specialist field in the Arab Region.

Zaki Aslan, 2013
I. Setting the scene: Theoretical and Philosophical Approaches to Heritage Conservation and Management

1. Introduction to Heritage Site Management: Rationale in planning and decision-making for the conservation and presentation of archaeological sites, Zaki Aslan, ICCROM
2. Considerations on Authenticity and Integrity in World Heritage Context, Jukka Jokilehto, Italy
3. The Socio-Cultural Aspects of Conservation Notes on the Effect of Modernization in the Arab Region, Hossam Mahdy, Egypt

II. Documentation and Condition Assessment of Heritage Sites

4. Improving Capacity of Conservation Professionals: Integrating Heritage Information Activities to the Conservation Process, A. Almagro Vidal, Spain, M. Santana Quintero, Belgium
5. Documentation of Archaeological Sites and Monuments: Ancient Theatres in Jerash, Talal Akasheh and Naif Haddad, Jordan
6. Integrating Documentation in the Process of Site Management Condition mapping, weathering forms and processes, May Shaer, Jordan
7. Science in the Service of Conservation, Ziad Al-Saad, Jordan

III. Conservation of the Archaeological Fabric: Methods and Techniques

8. The Conservation of Archaeological Sites: Notes of a Practitioner, Gionata Rizzi, Italy
9. The Conservation of Mosaics on Archaeological Sites, John Stewart, England
10. The Stabilization and Protection of Archaeological Sites from Natural Processes, John Stewart, England

IV. Management Issues and Legislation for Cultural Heritage

11. Cultural landscapes in Environmental Management, Katri Lisitzin, Sweden
15. Introduction to the Economic Valorisation of Cultural Heritage, Isabelle Skaf

V. List of contributors
Setting the scene: Theoretical and Philosophical Approaches to Heritage Conservation and Management
Introduction to Heritage Site Management: Rationale in planning and decision-making for the conservation and presentation of archaeological sites, Zaki Aslan, ICCROM

Zaki Aslan

Abstract

This background paper reviews the development of theoretical and philosophical approaches in the field of archaeological conservation in situ. It thereafter emphasizes the consideration of various implications embedded in contemporary conservation definitions and objectives to develop sustainable approaches to protect archaeological heritage places. It discusses the interdisciplinary nature of conservation research procedures and, consequently, the rationale of planning processes and approaches used for physical interventions at archaeological sites. The basis of these approaches is that, alongside the physical conservation requirements to protect archaeological material remains in situ, a comprehensive understanding of value-based management procedures, consideration of socio-cultural dimensions of heritage, and regard to administrative practical considerations are all necessary in sustaining cultural heritage places.

Literature review of modern conservation theories and an understanding of the rationale of contemporary management approaches in the fields of protection and presentation of archaeological heritage form the basis of a planning approach in the cultural heritage field.

1 Archaeological conservation in-situ: rationale and implications

Approaches to the protection of archaeological heritage sites and objects have evolved with modernity. Prior to the eighteenth century, conservation work consisted of traditional repair and methods driven by the appreciation of antiquities and objects of past periods. Main conservation concepts have emerged in the modern conservation movement in the European context, particularly in the eighteenth century, although the roots can be identified in the Italian Renaissance and even earlier (Jokilehto 1999: 1-20). These concepts have had an accumulative impact on the development of contemporary conservation approaches. The development of these theoretical approaches and concepts has contributed to the understanding of the broader contemporary notions of sustainability and environmental protection in the field of cultural heritage.

1.1. Philosophical approaches to new physical interventions at archaeological sites: an historical account

With the rediscovery of antiquities and poetic expressions and inspirations associated with the cult of ruins from the fourteenth to the seventeenth centuries, numerous examples of archaeological objects were conserved and represented. The objective of restoration efforts, which particularly started to take place in the fifteenth century, was to achieve aesthetic reintegration on the basis of a probable idea of the original form. The Age of Enlightenment was significant to the history of the theory of heritage conservation because it introduced cultural paradigms, and formulated foundations for conservation concepts of the eighteenth century. Baumgarten, Vico and Herder, and Winckelmann respectively developed and founded the disciplines of aesthetics, history, and modern archaeology (Baumgarten 1750-8; Herder, 1803; Winckelmann, 1764; Vico, 1725). This period also witnessed the emergence of concepts of the patina of age and the picturesque of ancient ruins. In the seventeenth and eighteenth centuries, the archaeological discoveries and restorations of cities like Herculaneum, Pompeii, and Stabiae added to the growing scientific knowledge of scholars. Additionally, interest in the concept of ideal beauty was a principal criterion for Winckelmann in evaluating works of art (Winckelmann 1792). In fact, in the seventeenth century, restoration of casually discovered objects in newly-known sites was not differentiated from normal artistic creation. Restoration meant simply to remake the broken and missing parts due to age or accidents (Jokilehto 1999: 47-65). Distinction between the original and additions was later claimed as a rule in restoration works by Winkelman, Rafael Mengs and Cavaceppi, who insisted that restoration should be carried out without falsifying the artistic concept of the original, and added work should not mislead the careful observer (Winckelmann 1972; Cavaceppi 1768). Winkelman’s approaches to the treatment of ancient monuments included achieving both concepts of distinguishibility between old structures and new additions, and noble simplicity. These concepts soon had tangible consequences in restoration works in Rome towards the end of the eighteenth century.

The end of the eighteenth century was a period when modern conservation principles found their first expressions in the modern conservation movement. An important incentive for the movement in this period was the industrial revolution. Particular emphasis was then laid on heritage sites from the past, with a focus on classical monuments. With inputs from Winkelman and a period of romanticism, ancient Greek monuments were considered signs of democracy, and, a few decades later, the concept of anastylosis of ancient archaeological monuments became a symbolic act for the history of the Greek nation. Anastylosis is the reassembling of existing original parts of a monument (Starosta 1999:84), or the re-erection of a dismembered historical structure or one part of it, in which every recovered element takes up
its original position and structural role (Mertens 1984). In addition, classical monuments in Rome, such as the Arch of Titus and the Colosseum, became classic references for the restoration of ancient monuments (Starosta 1993; Sanpaolesi 1972:160; Mertens 1984). Newly-built parts of the Arch of Titus were of travertine without carved details, thus distinguishing new parts from the original marble. At the Colosseum, in the restorations of the middle of the nineteenth century, new parts were built in brick in order to distinguish them from the original structure. Various conservation approaches to physical interventions at archaeological structures were used, adopted, and developed, formulating emerging different schools of thought and contributing to contemporary philosophies in the cultural heritage field (Erder 1986).

Stylistic restoration

Towards the end of the first half of the nineteenth century, the romantic appreciation of ruins and classical archaeology was given new power through the development of new science and technology. Eclecticism dominated the field of architecture in that period, and, therefore, the treatment of ruined buildings was supported by historicism. In 1854, Viollet-le-Duc published his book Dictionnaire raisonné de l’architecture where he founded the theory of stylistic restoration. Viollet-le-Duc’s objective was to restore national monuments in the most appropriate style. He asserted that restoration as a word is modern, and to restore an edifice means neither to maintain it, nor to repair it or to rebuild it; it means to re-establish it in a finalized state, which may in fact never have actually existed at any given time (Viollet-le-Duc 1869 & 1990:195). Viollet-le-Duc restored the ancient walls of Carcassone in France in 1855, which were not only repaired but also largely rebuilt (Jokilehto 1999: 147-49).

Conservation or ‘romantic’ conservation

In the mid-nineteenth century, criticism was directed at the practice of stylistic restoration, John Ruskin (1819-1900), while initially leading a movement based on criticism, established the modern approach to the care of historic structures and ruins, and, thus, formulated the principal references for maintenance and conservative repair. In his book The Seven Lamps of Architecture, he asserted that “the greatest glory of a building is its age, and in that deep sense of voicefulness, which we feel in walls that have long been washed by the passing waves of humanity” (Ruskin 1880 & 1925: no.10). Ruskin thus called for a new respect of the old so that replications, restorations, and removal of the patina of age were opposed. In 1877, the pioneers of the conservation movement, led by William Morris, opposed the indiscriminate re-facing of old stone work and conjectural restorations. This romantic approach has formed the base for present general conservation policies in England to preserve ancient ruins as found. Ruskin in his approach saw the past in the context of continuity with the present and the future. The past, he argues, is there to inspire the present, and, therefore, what is left of it should be respected; the past should not, however, be replicated. Ruskin argues that any new work of the present should be thought of in such a way that future generations will thank us for it. He states that new work should take into account the unfolding continuity and development of human production through time. Emphasizing creative work of each period, he remarks: “like all human works, our productions will gradually acquire voicefulness” (Ruskin ibid). Thus, although in his theory he called for a romantic respect of the old, Ruskin was conscious of the necessity to establish continuity with the past by new work representative and well thought of in the present.

Philological and historical conservation (Restauro filologico, restauro storico)

Camilo Boito became the most visible theoretician of the Italian conservation movement at the end of the nineteenth century. In 1883, at a congress of engineers and architects in Rome, Boito presented guidelines for the restoration of ancient monuments. His guidelines were largely influenced by historicism, and established the criteria for new interventions and additions to historic structures. His principles became the first Italian charter (Ceschi 1957: 108) and the main reference for philological restoration. Considering ancient monuments as documents that reflected the history of the past in all their parts, he advised marking all new additions either by using different materials, or simplified architectural forms. He recommended that new additions be made clearly in contemporary style, but in such a way as not to contrast too much with the original. Boito compared the two approaches of Viollet-le-Duc and Ruskin; he considered stylistic restoration risky, falsifying the original architect’s intentions, and was critical of Ruskin’s approach, which he misinterpreted to mean that one should not touch the historic building, and rather than conserving it should let it fall in ruin. To Boito, a historic structure can be compared with a fragment of a manuscript, and it would be wrong for a philologist to fill the lacunae in a way that the additions cannot be distinguished from the original. His thoughts formed the basis for the concept of anastylosis in the Venice Charter of 1964; the concept was viewed to be the only method accepted in the re-erection of ruins (ICOMOS 1964; Starosta 1999; Sanpaolesi 1972:160).

Luca Beltrami, a student of Boito, recognized the importance of documents or records as a basic requirement for any restoration work. For this reason, his approach was called historic restoration. He argued that in ancient classical architecture, restoration was possible if there were sufficient fragments available to define the lines of the whole, while avoiding too detailed restoration in decorative stone work.

Values, kunstwollen, and the cult of monuments

Alois Riegl’s study of Modern cult of monuments: its character and its origin was a cornerstone in introducing the notions of values and concepts of modern conservation. He explained that several values influence how people perceive ancient monuments and works of art. For him, art is of interest to us only from a historical point of view, and the monument of art is an art-historical monument; its value, therefore, is not artistic but rather a historical one. However, one of the key issues in Riegl’s thinking was kunstwollen (artistic volition), namely the extent to which the monument meets contemporary requirements of artistic values. Therefore, artistic value for Riegl is not commemorative, but a value that needs to be considered along with a monument’s historical past. Additionally, the artist’s creative
mind should be considered in relation to a period’s functional, practical or technical considerations (Riegl 1996: 71). Riegl stressed that historical value is concerned with preserving the most genuine document possible for future restoration and art-historical research. Ruskin’s “voicefulness” was introduced by Riegl as age value, which is acquired by the monument through the passage of time. The age value reveals itself in the monument’s outmoded appearance. He argued that age value works against the preservation of a monument, and processes of decay affect the substance of remains. For that purpose, he stated that a distinct trace of the original form, of the original production, must remain; he asserted that “a pile of stones represents no more than a dead, formless fragment of the immensity of nature’s force, without a trace of living growth”. By emphasizing the cult of historical value, he believed that a structure should be preserved so that the course of natural development is restrained by bringing the decay processes to a halt.

“If one observes, for instance, a segment of a previously well-preserved fresco on the exterior wall of a church being washed away by rain in such a way that the fresco itself threatens to perish before our eyes, then even an adherent of age value could certainly not oppose the installation of a protective awning, although this undoubtedly represents an intervention by the hand of modern man in the independent course of natural forces ... we therefore see age value demanding the preservation of a monument through human intervention, something that typically only historical value would strongly propose. To the proponents of age value a gentle intervention by the hand of man seems the lesser of two evils when compared with the violence of nature ... age value seeks merely to slow down disintegration, whereas historical value opts for a complete halt to the processes of decay altogether.” Alois Riegl 1903 (Stanley-Price et al. (eds.) 1996: 77)

Scientific conservation (restauro scientifico)

Through his teachings at the Faculty of Architecture in Rome, Gustavo Giovannoni consolidated the Italian conservation principles (Giovannoni 1932). He emphasized the critical, scientific approach, and thus provided the basics of restauro scientifico. His concepts extended to include historic urban areas. He distinguished himself from previous theorists in his approach to conservation as a cultural issue of evaluation, and respect of the building’s historic periods without reconstructing them to their ideal form (Giovannoni 1954; Jokilehto 1999: 219). He emphasized maintenance, repair, and consolidation even if that necessitates the use of modern technology. His ideas contributed to the formulation of the Athens Charter (ICOMOS 1931; Iamandi 1998). However, he agreed with Boito that restorations should not be visible when modern methods and techniques are introduced to the historic material.

Critical theory

Italian post-war developments to restore damaged historic buildings led to the emergence of a later conservation theory. Benedetto Croce emphasized the aesthetic quality of the whole of an object over the details and created a method of aesthetic appreciation (Croce 1938 & 1990). He has been considered the theorist who contributed to the basics of critical conservation theory. Argan, Pane, Bonellli and Brandi were among the main figures who were influential in the formulation of the principles of the critical process of modern conservation theory (Argan 1985; Pane 1971; Bonelli 1959; Brandi 1963, 1974, 1995). In restauro critico, the emphasis was given to the specificity of each historical structure, and the impossibility of using pre-ordered rules or principles. Restoration had to be undertaken on a case-by-case basis, and on the critical sensitivity and technical skills of the conservator based on knowledge of the history of architecture and art at the time of creation and development over the years. In particular, Brandi emphasized that understanding the creative process and its passage through time guides interventions to re-establish the unity of the work of art and image which the object has lost through the effect of time. He, therefore, argues that restoration is not an ancillary technical activity, but a moment of critical appreciation of the work of art (istanza); it is an aspect of philological and aesthetic research towards the understanding of art (Brandi 2005). He asserted: “restoration should aim at the re-establishment of the unity of the work of art, so far as this is possible without committing an artistic or historic fake and without cancelling any traces of the passage of the work of art in time.” Commenting on physical interventions, Brandi explained that only the form of the work of art should be restored, but the physical medium to which the material image is entrusted does not accompany it (Brandi 1963). Accordingly, in Brandi’s Teoria del restauro aesthetic requirements guiding future interventions tend to prevail.

Nevertheless, there are difficulties in a full application of Brandi’s theory to archaeology (Melucco-Vaccaro 1996: 201-11). For him a ruin constitutes fragments that have lost all traces of their original functional and aesthetic qualities. A ruin, therefore, cannot be restored because it is impossible to recover its unity; however, it is possible to ensure its maintenance, its status quo. He adds that restoration of ruins must start where the work of art ends. He did not accept anastylosis carried out by assembling fragments at classical ruins (Jokilehto 1999: 235). Therefore, Brandi did not allow enough latitude for the conservation of ruins. Nevertheless, he differentiated between additions and reconstruction, allowing distinguishable reversible additions to re-establish the unity of a work of art. His theory was criticized as being a theory placing main attention on the conservation of image, and as being a theory of painting conservation. In addition, the focus of the theory on aesthetic values has created difficulties in applications on works with little artistic significance (Jokilehto 1999:238).

While recognizing Brandi’s critical appreciation based on research into the understanding of a work of art, Giovanni Carbonara finds Brandi’s theory limiting when it restricts the creativity of the architect-restorer. For Carbonara, it is possible to recover the unity and create the lost image only by means of fully recognizable architecture of the time. Additions, therefore, are justified by the goal of recovering and conserving the value that an ancient building represents. He states that “the new context has to derive from placing the object in a new artistic work so the object becomes part of the structure into which it is inserted, by maintaining an independent legibility and by joining with other new elements” (Carbonara 1976: 240). On the dilemma of choosing between intervention and preserva-
tion, and deciding upon aesthetic or historical approaches in restoration Carbonara wrote:

“The basic dilemma - intervention or preservation, aesthetic or historical approaches - is, nonetheless, always present and cannot be solved by denying one of the issues; by acting as unconstrained innovators or as stubborn conservators. The dilemma can and should be dealt with each time by critical actions and choices that ... are ... unfounded or arbitrary”.

Carbonara 1976: 239

The emergence of contemporary issues and trends in conservation approaches

Contemporary issues and trends have been developed in the course of extending the focus of conservation theories to thematic and regional topics. Critical theory influenced the development of a series of charters. Issues that were not adequately addressed in the Venice Charter of 1964 resulted in the emergence of later charters of specific cultural heritage themes and others focusing on regional and local issues of many countries (ICOMOS 1964; Stovel 1990: 3). Indeed, the development of theoretical contemporary approaches forms a filtration of ideas addressed in former conservation theories of the nineteenth and twentieth centuries. Critical theory, in particular, has had an impact on the development of planning and evaluation approaches such as those included in the Burra Charter of Australia (ICOMOS Australia 1988; Truscott & Young 2000).

In the field of archaeological heritage, the inadequacies which notably resulted in difficulties of applying Brandi’s theory in archaeology have been articulated in more recent writings. An example of such efforts is an essay written by M. Berducou in her Introduction to archaeological conservation (Berducou 1990). Although the field of archaeology developed profound theoretical approaches, a need to bring closer together the theoretical field of archaeological conservation and archaeological theory has been a main concern in recent years. Although theoretical methodologies addressing planning of interventions at archaeological sites have recently become important topics, their roots can be traced to reactions to modern critical theory. Issues related to social involvement, new concerns to bring technical conservation science close to heritage management processes, and specific of archaeological heritage conservation can be found in writings of theoreticians like Philippot, Urbani, and Berducou. Moreover, these writings coincided with a similar re-examination of theoretical developments in the field of archaeology and cultural heritage in general:

Philippot emphasized that the status conferred upon the historical work varies according to the system and cultural context in which it is inscribed. He noted that the information gathered about an object and its relevant values of different perceptions are necessary in understanding its meaning. For Philippot, the role of the conservator is to suggest a certain reading of the cultural object to the viewer, based on this understanding and without introducing a fake (Philippot 1996). Despite that, Philippot, like his predecessor theorists, insisted on the concepts of respect for the object’s unity and developmental history. He emphasized the understanding and respect of the object’s context, whereby the object should not be museumized or segregated from its present cultural and social contexts. Thus, Philippot promotes both in situ conservation and careful study of cultural contexts of an historic place.

“Restoration will not be able truly to develop except to the extent that the range of its cultural function is understood and sustained by society”

Philippot 1989: 228

Urbani, on the other hand, argued for the importance of science in the cultural heritage context. He further expressed his concern about the disinterest in the problems of technical conservation shown by many art historians, who have concentrated their efforts on the historical and aesthetic aspects of an historic work of art (Urbani 1989). He warned that historical and aesthetic characteristics of objects depend on their physical condition, and that increasing decay results in the loss of identity of an historic place. In describing the urgency of taking certain technical measures that cannot be justified only from an ethical point of view, he described the situation of the statue of Marcus Aurelius, stating:

Chemical alterations of metal and the lacunae (of the statue of Marcus Aurelius) are so numerous that conservation of the statue in the present state of knowledge is only possible in a protected environment ...

... the kind of relationship we have with a monument of the past (referring here to the Colosseum) based on historical awareness and aesthetic appreciation prevents us from planning and completing an efficient (physical) conservation of the same ...

... we must then choose between two different patterns of change: change that is in the nature of things, and which sooner or later will have to end with the disappearance of what we would have liked to preserve; or a change that is the product of efficient conservation, that is capable of repeating the creative experience of the past, not in terms of artistic creation, which is definitely precluded, but in terms of scientific imagination and technological innovation.

Urbani 1989: 445-9

Berducou believes that in archaeology an excavated object or structure is important less as a work of art than as a document. Accordingly, an excavated material is a document that does not communicate aesthetic values alone, but has potential for providing historical information (Berducou 1990). Thus, the documentary nature in archaeology should be understood, interpreted, and displayed after careful analysis of the artefact’s immediate, general, and particular contexts. Berducou’s theory illustrates the distance that seems to separate the field of archaeology from Brandi’s unclear views about ruined architecture and his focus on aesthetic qualities of objects.

Although rooted in theories of the twentieth and late nineteenth centuries, the field of conservation of archaeological sites in the 1990s, like other fields of cultural heritage, was put in the context of a theory that encompasses cautious approaches in the decision-making processes. Methodological approaches, stemming from the nature of the specific case in the field, and planning and management processes appeared in the late eighties and nineties (Hughes & Rowley 1986; Kerr 1996) to re-examine the “why”, “what”, and “for whom”
of heritage conservation activities while filtering and putting former theories into perspective. However, until today, theories and philosophical approaches have referred to and re-examined certain conservation objectives. These objectives form the base for discussions about what can be considered a suitable physical intervention at the outset of any conservation activity, and have focused on the necessity of studying the cultural context, the importance of science in a larger perspective, and the communication of cultural meaning to the public.

1. 2. Contemporary approaches in the management of cultural heritage

1.2.1. Conservation objectives: contemporary viewpoints

"Conservation...embraces all acts that prolong the life of our cultural and natural heritage, the object being to present to those who use and look at historic buildings with wonder the artistic and human messages that such buildings possess". Feilden 1982: 3

The objectives of contemporary, systematic management approaches are associated with modern goals of conservation practice. Modern philosophy and objectives of archaeological conservation have emerged from modern approaches accepted in most cultural forums today. These are illustrated by Sir Bernard Feilden who asserts that the object of conservation is to prolong the life of a heritage property and to clarify the historic and artistic messages held therein (Feilden 1982: 1-15). There are significant implications in this definition of objectives set in the broader sense of conservation activity. Despite the fact that Feilden’s definition focuses on technical measures to prolong the life of a heritage property, its primary concern is with messages that are reflective of the meaning and values of cultural archaeological properties (Carver 1996: 45-56; Lipe 1984: 1-11; Kalman 1980). Consequently, the success of a conservation intervention can be judged by the level at which physical actions enhance the meaning of a site, and not primarily by the ingenuity of a technical solution. By referring to Feilden’s definition, Stovel states that conservation is more an art than a science, and technical measures are a means of prolonging the life of a site with important messages reflecting its values (Stovel 1994: 20).

In a report on research work in the field of heritage conservation, the Getty Conservation Institute illustrated that technical conservation work, which focuses on material conservation and physical intervention, has been disconnected from the broader field and from the principles of conservation defined in contemporary theory. This is partly due to the relative isolation of spheres of professionals or social groups in the (broadly defined) work of conservation (Fig. 1.1). Particularly, physical intervention has very little interplay with the other spheres related to interest among professionals and the public to define the meaning and values of a heritage site, and to other planning and management contexts that are necessary for long-term protection (Avrami et al. 2000: 3-10).

Other recent writings illustrate Feilden’s philosophy in the context of conservation of archaeological heritage. Berducou, in her Introduction to Archaeological Conservation, affirms that conservation, in its broader sense, pursues a triple objective by providing durability, integrity, and a certain accessibility to information about the meaning of archaeological heritage objects. Accessibility is meant to be for the society of scholars and the public at large. By this definition, Berducou argues for bringing the technical assistance of conservation to the global goal of communicating a useful heritage and values to be studied, displayed, or documented for or by the society, thereby, offering a certain accessibility. This accessibility is not necessarily physical to the original object; it can be in the form of access to documents and recorded information that are made available to heritage professionals and the public.

Stanley-Price, on the other hand, refers to objectives of management of archaeological sites in the form of three types of conservation policy concerned with physical conservation, presentation, and scientific archaeological research (Stanley-Price 2006: 10-11). If the first two items in this definition are similar to Feilden’s perspective, the third essentially implies the continuous scientific re-interpretation of heritage places uncovered and known. Continuous re-interpretation can be pursued by using archaeological methods such as excavation. In fact, research is an essential process in the archaeological heritage context since it continually reveals a better understanding and provides scientific insight to help, as much as possible, understand the past of a site. This insight is also necessary for planning, managing, and monitoring the future of a site (Avrami 2000; Ucko 2000).

To illustrate the why and what and objectives of any conservation work, Warren made reference to the rationale of heritage conservation as an activity inherent in human behaviour, which may be rationalized into precepts (Warren 1996). Thus, Warren explains in more depth the notions of values and meanings of cultural heritage. The precepts he referred to guide individuals to conserve, and guide the principles they construct to govern this activity. However, with the logical approach constructed by conservationists in set conservation principles and ethics, there are issues of aesthetics, practicalities and issues related to present social acceptance in the decision-making process. From a conservation perspective, it is, therefore, vital to follow a logical integrated framework in a value and perception-based management process to arrive at policies of protection for each case, while incorporating considerations of ethics and aesthetics that are particular to values of a heritage place.
1.2.2. The sustainability in the context of cultural heritage

“No theory of conservation or attempt at conservation can be effective unless it takes into consideration the sustainable uses to which an object is put and the quality of its environment”. Melucco Vaccaro 1996: 204

In recent years the notion of sustainability has become an increasingly-used term in discussions related to the management of heritage places and associated conservation objectives. The notion is rooted in environmental sustainable development approaches promoted by various publications and conferences in the eighties and nineties (United Nations 1987, 1995; Habitat 1996). It gained importance in the cultural context at the UNESCO meeting in Stockholm in 1998 on cultural policies, where the concept of sustainable (human) development focused on culture and conservation of its creative works, in order to enhance and promote cultural diversity (Laenen 1998; Malliet 1998: 10-13). In analysing the application of the notion of sustainability to cultural heritage, Stovel and Malliet addressed it as a notion of multiple objectives and varied processes of conservation activities (Stovel 1999; Malliet 1998). They illustrated that sustainability from a cultural heritage perspective can be understood to be concerned with long-term, preventive, and risk-sensitive solutions to maintain desirable conditions over the lifetime of the heritage object, thereby, extending its life. It is further relevant to value-sensitive actions, which aim to enhance the meaning of heritage in daily life. In addition, the concept of sustainability is concerned with local focus, grassroots, and involvement of the public in valuing and deciding upon the future of their heritage (Teutonico & Matero (eds.) 2003; Fairclough 1999). Finally, sustainability is associated with the processes and methods to achieve conservation ob-
Sustainability in the heritage conservation context is, therefore, concerned with integrated, comprehensive, and dynamic processes. Thus, these processes are related to balancing conservation and use, to the health of relationship among the elements of the heritage place, and to maintaining ongoing changing meanings, and continuous re-interpretation of heritage sites. These reiterative processes are central to the management approach, which aims to achieve the aforementioned conservation objectives (Fig. 1.2).

Moreover, Throsby also illustrated that consideration of sustainability approaches in the context of conservation of archaeological sites is crucial since “sustainability” as a term implies achieving similar objectives that form the basis in the field of environmental protection. As in the environmental context, sustainability implies considering intergenerational equity, tangible and intangible resources, and protection of the diversity of heritage assets. It abides by precautionary principle, and recognizes interdependence with the social context (Throsby 1999).

<table>
<thead>
<tr>
<th>Sustainability from an archeological heritage perspective...</th>
</tr>
</thead>
<tbody>
<tr>
<td>... is concerned with</td>
</tr>
<tr>
<td>Extending the life of the site</td>
</tr>
<tr>
<td>Maintaining desirable conditions over the life time of the site</td>
</tr>
<tr>
<td>Balancing the relationship among &amp; constituents of both the fabric &amp; the setting of a site possible activities</td>
</tr>
<tr>
<td>Maintaining ongoing process which contribute to the meaning, and “tangible &amp; intangible” characters of the site</td>
</tr>
<tr>
<td>Involving local communities &amp; social groups. (Interdependence with the social context).</td>
</tr>
<tr>
<td>Balancing conservation with the public use of the site &amp; with tourist development</td>
</tr>
<tr>
<td>Enhancing the meaning of the site in daily life</td>
</tr>
<tr>
<td>... resulting in a conservation approach that is...</td>
</tr>
<tr>
<td>Preventive, risk sensitive (governed by a precautionary principle/caution)</td>
</tr>
<tr>
<td>Long-term</td>
</tr>
<tr>
<td>Comprehensive, holistic</td>
</tr>
<tr>
<td>Focused on traditions, historic continuity &amp; dynamics</td>
</tr>
<tr>
<td>Based on Local focus, grass roots, diversity, (“intra &amp; intergenerational equities)</td>
</tr>
<tr>
<td>Integrated</td>
</tr>
<tr>
<td>Value-based</td>
</tr>
</tbody>
</table>

Fig. 2 The notion of Sustainability in a cultural heritage context, ICCROM Newsletter

1.3. Implications of contemporary perspectives in the conservation of archaeological sites

Overall, the necessity of applying a management or a contemporary conservation approach is associated with the success of adopted conservation policies and chosen levels of interventions. This success can be measured if conservation objectives, implicit in the definitions of contemporary conservation theory, are clear at the outset of the planning process. In an in situ archaeological conservation context, defined conservation objectives have a number of implications emerging from accepting modern views associated with the why of the conservation and management processes. These implications of contemporary perspectives form the basis of discussions for the planning and design of physical interventions at archaeological sites:

1. Conservation of archaeological sites is value based, and the appropriateness of an intervention strategy is relative to the particular cultural meaning of a site, from which values and messages are derived. However, understanding the meaning of a site is not a simple process in the context of site interpretation. In fact, each archaeological site may have varied versions of meanings; and their understanding is often not only dependent on the methods used in the investigative approach, but also on ways and extent of public involvement. Heritage interpretation issues and socio-cultural dimensions of heritage have increasingly been areas of current research in the field of heritage conservation, particularly in what is associated with the objective of conserving the meaning, values, or messages of an historic place (See sections 1.3.1 and 1.3.2.).

2. Conservation of archaeological sites is case specific. Each site requires adaptation to the specific requirements to prolong its life and to analyse its cultural meaning with the best available techniques. Modern conservation principles and charters, which link value perceptions with policies for the future of a site, are not in themselves absolute, but must be applied in an established context relevant to the site values and
1.3.1. Interpretation of archaeological sites: questions of authenticity

Communicating messages and values of a heritage site implied in the nature of contemporary conservation objectives necessitates careful analysis of processes utilized in site interpretation. Adopting a policy of intervention for an archaeological site is dependent not only on technical conservation needs, but also on the quality and depth of the archaeological investigative approach brought to the definition of site values and meanings. In addition, understanding a site and its values are crucial to steps of subsequent decisions related to cautious choices of new architectural methods of presentation and levels of intervention.

The vital need to address archaeological interpretation in the course of the conservation process is illustrated by Paul Philippot’s definition of the conservator’s role. Philippot asserts that a conservator is in charge to suggest creatively a certain reading of the cultural object to the viewer. This reading is based on thorough understanding of the heritage site, and is aimed toward avoiding an introduction of a fake (Philippot 1989: 228). This view is also relevant in the context of the role of a conservation team or architect, who takes architectural design decisions for what is judged to be appropriate or a best available approach to the enhancement of the understanding of a site by means of a new intervention.

Nevertheless, there are dilemmas associated with the processes of understanding and interpreting archaeological sites. These dilemmas have increasingly been main issues of discussions in the fields of both archaeology and heritage conservation. Indeed, the notions of objectivity and authenticity in the processes of heritage interpretation, and, thereafter, in the presentation of archaeological sites to the public generated various theoretical and critical approaches to the central problem of knowing the past.

1.3.1.1. Knowing the past in archaeology

Various writers question whether it is truly possible to access the past. In addition, the problems, the validity, and even the rationale of interpreting the past have often been disputed issues in the cultural heritage field (Hewison 1989; Wright 1985; Lowenthal 1985; Molyneaux 1994; Potter 1992). Lowenthal, for example, places insurmountable obstacles challenging the possibility of knowing the past; he argues that the past is a foreign country that is impossible to know with accuracy (Lowenthal 1985). Because archaeologists may be susceptible to processes of selective attention and perceptions affected by their personal experiences, there is a consensus among professionals in the field that historical knowledge, especially of ruined and abandoned sites, is subjective and biased despite the well-authenticated and scientific processes involved. It is, indeed, now accepted to believe that it is impossible to know the past (Bagnall 1996: 240-1).

The current concept of ethics of authenticity refers to the behaviour pattern of the society as a whole (Taylor 1991). Lowenthal sees the cult of authenticity, which has pervaded modern life, as a self-delusion with ever-changing and conflicting criteria. He is convinced that although authenticity is considered an absolute value, it is largely a relative one (Lowenthal 1992: 184-90). Authenticity has developed since the eighteenth century, and is an offspring of Romanticism (Trilling 1972). Ruskin’s ‘voicefulness’, like authenticity, may prove elusive in its application to the field of archaeological heritage. Talley comments:

“Like the music produced on period instruments for so-called authentic performances, the past’s 'voicefulness' will always sound, to varying degrees, somewhat false, somewhat thrill.”

Stanley-Price, Vaccaro, and Talley (eds.) 1996: 9

It is now agreed that no matter how objective archaeologists are in their attempts to apply historical methodology, their perception of the past remains, to a large degree, coloured by their present time (Stanley-Price et al. 1996: 10, 174, 196). Indeed, it is also now recognized that in creating heritage centres and archaeological parks, representation of the past reflects contemporary understanding and concerns (Sorensen 1989:61). This situation has cautioned current practice where representations of heritage sites, which have been superficially studied, become falsified or oversimplified historic entities.
1.3.1.2. Concerns in creating heritage: falsification or oversimplification

Despite acknowledging impossibilities involved in knowing the past in the heritage interpretation field, concerns about representing an untruthful or unauthentic past form the basis of discussions at forums of heritage interpretation (Uzzell 1989; McManus 1996; Jameson 1997; Eco 1985 & 1973). Concerns about presenting a past that is divorced from a scientific or negotiated archaeological interpretation, to reach most possible objective findings, have been a result of the development of a heritage industry driven by commercialization activities and commodification of the past. On the one hand, interpretation and representation of sites have been considered useful means to improve the public image of archaeology and ways to instigate commitment to preservation and funding (Fowler 1989); they have also been considered as an educational experience for visitors (English Heritage 1994: 20). On the other hand, interpretation has been seen an income-generating activity exploiting heritage sites (Smith 1989: 23-28). Uzzell refers to marketing-led interpretation by saying that interpretation has been hijacked by the tourism and leisure industry (Uzzell 1989: 3). Similar to efforts in balancing conservation with tourism in the conservation and cultural tourism fields (ICOMOS 1993), a balance between interpretation led by marketing and promotion, and interpretation driven by education has been a main issue in the field of heritage interpretation (Sansom 1996: 134).

In an interpretation context, re-creation sites led by tourism have been considered attractions for visitors to experience the past. Stevens argues that heritage has been exploited by tourism and marketing professionals, and has become an exercise of trivia (Stevens 1989). Processes of banalization of the society and environment have been caused by a false discourse in the preservation of heritage and an industry of consumption (Choy 1991: 158-80; Rojek & Urry 1997). Heritage organizations claim that they bring history back to life (Cohen 1988: 376). By having these claims, interpretation has been extended from physical representation to include historic re-enactments and performances at sites. These activities have been put into question (Ucko 2000); in addition, this type of presentation has been practised without adequate research and evaluation processes, which would demonstrate its effectiveness in achieving expected understanding and interaction with visitors at these sites (Sansom 1996: 118-9). Furthermore, Ucko questions whether the goals of such representations are well defined in the presentation planning process (Ucko 1996). Potter observes that satisfaction of visitors entertained by these presentations does not imply that there is any kind of intellectual interaction with the public to enhance the understanding of a site (Potter 1997: 35-44). There has also been criticism about site re-creation stemming from the fact that these interventions or activities concentrate on one period of the site’s history while neglecting others. Conversely, critical views were concerned about the fact that these sites become fossils of their own reconstruction period by showing various site features as coexisting, when in fact they were chronologically separate. Concerns have also focused on resulting sanitized experiences, an air of unreality, or a simplified static version of the past at these sites (Pearce 1990: 179-80; West 1988: 56-7). In fact, these representations have been accused of providing information about artefacts as products of the past _per se_, while information about past social and cultural conditions and contexts is barely conveyed (West 1988: 57; Wallc 1987: 9-19).

Lowenthal considers heritage as an activity of presenting heritage sites and objects; he is critical of all attempts at presenting heritage to the public. By referring to the heritage industry, he not only considers that created heritage is divorced from historical reality, but also warns that heritage, in the sense he uses, ape scholarship and is not academically defensible because historians become incapable of reducing bias since heritage sanctions it (Lowenthal 1998). His recent writings have been criticized for the lack of examination of archaeological scholarship that underpins heritage stewardship (Clark 1998).

In a conservation context, site reconstruction is an area that has implications (Molina Montes 1982). Schmidt argues that _in situ_ reconstruction of sites is unethical since it introduces a fakery. He refers to reconstruction as an activity, which involves using new materials similar to the old, and is based on interpretation of the evidence of below-ground archaeology at a discovered location (Schmidt 1997). He argues that an excavated site should be left untouched, and museums are the right place to satisfy the needs for historical and cultural interpretation and reconstruction for visitors (Schmidt 1999: 66-7). Schmidt, therefore, refers to what Pearce defines as _“simulated environments”_, in which reconstruction activity should be placed away from the excavation site (Pearce 1990: 178).

The term site reconstruction is used in both fields of heritage interpretation and conservation. Uzzell distinguishes between the two approaches in the field of interpretation, reflecting two schools of thought. The first is re-creation of the past that raises certain questions in relation to authenticity and objectivity because it attempts to create an authentic atmosphere of the past to attract visitors (Gable & Handler 1996: 557-68). It attempts to bring the past to life, where a typical period is represented and history can be interpreted by costumed demonstration. The second is reconstruction where there is no need to maintain an attempted authentic atmosphere, or offer visitors a slice of the past of different periods and introduce comparisons with today. Reconstruction can aid objectively by highlighting doubts about the past rather than pretending to dubious certainties. It creates a channel between the past and present, and allows people to be more critical and analytical by provoking, questioning, and using mentally stimulating material. It requires constant change and reappraisal to reflect the continually changing assessment of the past (Uzzell 1994: 296-7). This latter definition may be confused with other definitions in the interpretation field such as the outdoor museum, which is an off-site reconstruction relocated away from the original location of an archaeological site (Anderson 1985: 5). The definition can also be confused with the simulated site, which is a nomenclature for a re-creation site according to Uzzell’s definition (Pearce 1990: 178). In the conservation field, reconstruction, often used to refer to re-creation, is to be avoided at archaeological sites when it implies the use of similar materials to the original structure that are indistinguishable, irreversible,
and may be based on conjecture (Baranski 1993). Hence, only anastylosis or distinguished additions sympathetic to the setting can be accepted (ICOMOS 1964: articles 15, 9; Starosta 1999; Sanpaolesi 1972:160).

In general, heritage concerns are the results of promoting heritage as a commodity, which led to the creation of falsified heritage, or to what Fowler refers to as antiquing and what Ucko refers to as a free-floating heritage (Fowler 1989; Ucko 2000). Therefore, the success of a choice of a presentation approach by which new interventions can contribute to the understanding and intelligibility at a site depends on contextualizing the decision-making processes in an overall planning framework aimed at effective presentation of a site. Effective presentation avoids falsifying the past, does not create bogus heritage, and achieves effective educational experience for the visitor. As will be discussed below, current approaches and paradigm shifts in the fields of archaeology and cultural heritage to achieve these goals vary, but are essentially related to careful heritage planning based on the quality of investigative approaches.

1.3.1.3. Retrospectives, viewpoints and approaches addressing dilemmas of site presentation

The current discourse on authenticity of archaeological sites as records from the past, and the critical views toward commercialization or falsification of heritage places have induced approaches, means and priorities in the processes of planning for the presentation of excavated or ruined material remains. Although these approaches still largely remain on the critical and theoretical levels, they will stand the test of time for their practical effectiveness at sites. Nevertheless, theoretical approaches form contemporary methods in the fields of archaeology, heritage conservation, and site presentation. Despite their differences, these approaches correspond to various issues that are similar in nature; indeed, they are mostly concerned with dealing with the notion of objectivity in the decision-making process, and how best options can be adopted after thorough research processes.

The theoretical debate about the subjective views of archaeologists on their excavated material and questioning the truth in interpretation raised issues such as the consideration of multiple versions of the past. Hodder and Shanks illustrate a shift in the direction of archaeological activity in the last decade and a desire among archaeologists to come to terms with objectivity in interpretation of archaeological evidence. They critically recognize how past researchers imposed their own value systems on the evidence they presented (Hodder et al. 1995). Post-processual archaeology generated a fundamental critical view toward positivity, characteristic of new archaeology, which turned the emphasis on relativity that is devoid of rational and objective approaches to the past. This latter approach, which characterized processual archaeology in the 1970s and 1980s objectified the past and separated it from the present (Trigger 1995).

This contemporary perspective in the fields of conservation and archaeology has had various implications. First, it has placed further emphasis on acknowledging the limitations involved in interpreting the past, thus necessitating critical evaluation of the issues involved in interpretation in order to reach the best possible presentation results. Second, it centred on addressing the nature and concepts of presenting an archaeological site as a particular and distinct type of heritage form. Third, it has given focus on the important responsible role archaeologists have to play at the various stages of the conservation process. Finally, it generated an unprecedented amount of focus on the crucial role of the cultural dimension of heritage and a priority to involve the public at all stages of the conservation process (section 1.3.2). The following sections introduce these implications.

1.3.1.3.1. Limitations of knowing the past: possibilities for site presentation

Despite acknowledging the limitations involved in knowing the past (Eco 1990b), current discourse has not always considered them when archaeological sites are presented to the public. Stone and Planel (1999) argue that it is impossible to know what the past was like with certainty; instead they state that it is possible to reconstruct images of what archaeologists think the past may have been like. They further explain that these images can be obtained by using fragmentary remains at hand, and argue that these images are influenced to a degree by present cultural perceptions and norms. Those representing the past to others are responsible to ensure that they represent the most likely truth and reality of the past, and that representations are not used as manipulations for contemporary causes. Contrary to this perspective, while every heritage display is subjective, one should be honest about the constraints involved rather than trying to convey a bogus self-righteous objectivity (Stratton 1995: 167). These limitations, however, developed a more focused approach on the depth of investigative processes and admitted the possibilities of having various versions of the past in the participatory processes of site interpretation and presentation (See also section 1.3.2). It thus became necessary to agree that authenticity of interpretation is not a primitive given, but is negotiable; it is not an absolute, but a relative and dynamic entity (Cohen 1988: 379; McBryde 1997: 96-7; ICOMOS 1994a; article 12).

Acknowledgement of the complexities concerned with authenticity should, therefore, not only remain in the archaeological academic domain, but also should be explained to the public in order to increase their awareness of the issues involved. In order to achieve a better public understanding of the unity of archaeological processes from site discovery to site display, this information can be communicated by means of in situ information, exhibitions, and participation in the excavation and interpretation processes (Stanley-Price 1987: 289).

One of the interpretative considerations, which are driven by methods of effective communication with the viewer, is to relate the interpreted past to the living present. The coincidence of the past with the present forces the audience to ask critical questions. The lack of this link expressed in chosen presentation
methods may not make the past relevant to the public. Laenen argues that it is most important to illustrate this continuity and to point out the strands of cultural continuity. The lack of this demonstration was the cause of failure of interpretative provision in the museum field, where the subjects have been dealt with in isolation from real life (Laenen 1989: 88–96). Hence, static objects of the past should be listened to, and the contemporar y role of presenters (such as the artists’ or conservators’ role in designing new interventions) is to find ways to speak with them (Morin 1999: 192). Indeed, limitations in knowing the past, and presenting slices of the history of a site may not be as effective for public learning; therefore, sensitive presentation of a site is bound to contemporary presentation means, which can link the past with the present.

1.3.1.3.2. Understanding the nature of archaeological sites: establishing guiding principles for site presentation

In the conservation doctrinal field, the notion of authenticity has been discussed with relation to various cultural and thematic heritage contexts; these contexts are crucial to understanding the particularities of each archaeological heritage place or object. In the particular field of conservation of archaeological sites, following the Nara conference and the emergence of the Nara document on authenticity (Larsen 1995), the declaration of San Antonio states that:

“Only through study and research of the physical evidence can these sites and their objects once again manifest their values and re-establish their links to our present cultural identity. However, the interpretation of these sites can authentically reflect only fluctuating interests and values, and in itself, interpretation is not inherently authentic, only honest and objective ... for these reasons the intactness of the physical evidence in its entirety demands the most thorough documentation, protection and conservation so that the objectivity of interpretation may respond to new information derived from that fabric.”

ICOMOS National Committee of the Americas, San Antonio, 1996

With relation to archaeological sites, discussions of authenticity have been related to materials as sources of evidence and historical qualities (Jokilehto 1985). Therefore, the intactness of material remains as continuous sources of information is a fundamental criterion in the preservation process, since artistic characteristics are embedded in the historically-based investigative research and interpretation (Riegl 1982, 1996; Berducou 1990). This perspective has conditioned the debate about the objectivity of interpretation and the methods that accompany it. Nevertheless, certain archaeological sites, such as sites of continuing living traditions, sacred, and aboriginal or indigenous sites, have a fundamental cultural dimension that is gaining importance and is brought to a broader context (Jokilehto 1994; Layton 1989a; Stanley-Price 1996; ICOMOS 1996b). This dimension takes into account aspects of cultural diversity. Such a cultural dimension has become necessary in assessing the values directing policies for the conservation of archaeological heritage.

Nonetheless, this does not imply that sites which have their functional and living traditions disrupted do not gain the interest of or are not to be valued by local inhabitants and societies. In fact, knowledge of qualities of these static sites that are uncovered by archaeologists may raise interest among people who may have a stake in them. The social values and meanings of these sites are less important than messages ascribed to them by archaeologists or experts. Consequently, when speaking about authenticity of archaeological sites, one refers not only to historical, art-historical dimensions, but also to cultural or socio-cultural scope. Quality of interpretation and derived values are necessary in the decision-making processes aiming at presenting these sites in the course of the conservation process. Discussing interpretation objectivity of an excavated site, and cultural dimensions in interpreting archaeological sites is, therefore, necessary for understanding the particular qualities, and, as a result, the values leading to their presentation and physical conservation.

The spirit of a site or its genius loci as a source of defining sources of authenticity of a site has gained importance in recent discussions about the nature of historic places (Norberg-Schulz 1980; Morin 1999: 193). Criteria defining the authenticity of a site were based on the authenticity of materials, craftsmanship, design and setting; however, the Nara document on authenticity added two other sources from which authenticity may be better understood; including authenticity in spirit and function (Feilden and Jokilehto 1993: 17; ICOMOS 1994a). In the North American context these criteria form elements of the commemorative integrity of a site (Parks Canada 1997). Authenticity in spirit at an archaeological site or a ruin is derived from a present state, not from a site’s past reality. The character of a place, its natural setting and time, and its inherent meaning collectively determines this spirit, which also has to be understood in relation to present requirements. Such a dynamic concept of spirit of place is the sole foundation for creative adaptation to an existing setting. Morin argues that presentation of the past involves refinement of images of authenticity to communicate the complex realities of ancient sites. His conclusions are based on the fact that the mere intention of preserving authenticity spoils its naivété (von Schiller 1966). In interpreting an excavated or ruined site, archaeological activity aims at establishing a scientific image of a site and reducing its reality to tangible facts based on material evidence. The incompleteness, abstraction, and partiality of the site characteristic of this image or semblance leaves the presenter to create an image of a site’s true spirit of authenticity and to translate qualities into a form people can freely perceive and understand (Ibid 1966; Fitch, Ch. 14). Indeed, understanding the past represents the point of intersection between material evidence and the spirit of an historic place (Bergson 1908). Moreover, however honest one would be in relation to the work of art, its enjoyment is bound to be personal and partial. Umberto Eco has noted that art has two aspects; the first
is the creative process of the artist, and the other refers to its enjoyment by a plurality of people representing different cultural and social backgrounds, and the different requirements that may occur each time. Eco states that the presenter should take into consideration the various conditions of fruition, and must produce an open dialogue between the work of art and the person involved. Therefore, he calls art *opera aperta* (an open work of art) (Eco 1958). The dialogue that a presenter freely produced between a site and the public has been a basic principle in Tielten’s heritage interpretation. Tielten sets the concepts of revelation and provocation as chief aims of site presentation; he, additionally, demonstrates that interpretation is not instruction, but is based on information (Tielten 1977: 32-9).

1.3.1.3.3. Professionalism: the responsible role of archaeologists in site presentation

The objectivity of archaeological interpretation has raised questions about the responsible role of the archaeologist in the discipline itself and towards the public (Hodder et al. 1995). Ucko in questioning the present practice of human performances and re-enactments at sites, calls for further enhanced engagement of archaeologists so as not to present a “free-floating” past, which is usually driven by commercial endeavour and results in a past that is not situated in time and place (Ucko 2000). In fact, the practice of commercializing heritage sites has been highly criticized in literature. For example, Lane and Tilley saw the effect of tourism as a series of creative local choices offering a commercial “image of a mysterious, exotic and remote society”, legitimizing new interventions and representations that they consider, anyway, distinguishable from the old (Lane 1988: 66-69; Tilley 1997: 67-89). This view has been offered without qualification or relevance to the qualities of the past. Cohen (1988), on the other hand, warns that recreational tourists in their minds may authenticate a cultural product, and may accept certain new interventions and products as being authentic. Thus, presentation of a cultural site with its variety of kinds of evidence falls within the role of archaeologists as educators about the past; however, archaeologists, who should be in charge to guide presentation decisions, must also be able to listen to other voices in the interpretation process.

1.3.2. Socio-cultural meanings, values, and significance of archaeological sites:

“The object-oriented interpretation that for decades dominated conservation theory and practice is now yielding to other interpretations, such as the continuity of ... cultural values. This does not necessarily mean that conservation of objects should be abandoned: the objects will remain important carriers of information on cultural values as well as being important sources of information themselves” Laenen 1998: 1

Central to the implications discussed above on the objectivity and authenticity of interpretation of archaeological sites, and the responsibility of the archaeologist in the various stages of the archaeological activity from discovery to presentation and conservation of a site, is the interface with the public. This interface constitutes not only the contributory role the public plays as receivers of archaeological findings, but also as participants in the interpretation, conservation, and presentation processes. Admitting the plurality, multivocality, and participation of the public in the archaeological inquiry has unprecedently been emphasized in the last decade (Leone, 95; Potter 1997; Bender 1998). Stressing the dialogue between archaeologists and the public has been a result of challenges in addressing the social, political, and ideological contexts of archaeology. In particular, conceiving the past as a construction of the present has instigated concerns about the socio-political context influencing archaeological interpretation and about objectifying the past. In addition, the political dimension resulting in manipulating the values of sites for political, nationalistic, and colonialist interests has raised concerns about the objectivity and western hegemony in using and abusing the archaeological evidence (Trigger 1984; Layton 1989b; Arnold 1995; Diaz 1996; Byrne 1991; Ucko 1995). Incorporation of cultural concerns into the processes of interpretation and conservation of the past has been viewed as a way by which avoidance of the distortion of meaning and of neglect of other possible versions of meanings can be achieved.

Public involvement can promote multiple ways of telling and experiencing the past (Bender 1998; Duncan & Le 1993). Indigenous populations can be part of the process of understanding their past (Preucel & Hodder 1996), and would allow archaeology as a profession to have a self-reflection with the local audience (Potter 1997). Authenticity of sites has been seen as a social dialogue rather than a scientific activity in many cases,
where the public and audience can be partners in the process of understanding the past and promoting its preservation (Shanks & Hodder 1995; Davis 1997). While public evaluation has been a focus of study in the last decade (Merriman 1991; Fowler 1992; Walsh 1992; McManus 1996; Jameson 1997; Bender 1998), issues related to participation rather than satisfaction of the public in the interpretation process have gained ground.

The recent discourse on the universality of heritage overlooking cultural diversity even within the same culture has raised the issue of who owns the past. The world heritage ethic has generated an argument of dispossession of indigenous cultural heritage and accusations of neo-colonialism (Simmonds 1997; Langford 1983; Condori 1989). Questioning the universality of principles resulted first in the emergence of the Nara document on Authenticity in 1996, where emphasis in the discussions was related to the cultural dimension of heritage (Larsen 1994 1995; McBryde 1997) and, second resulted in the view of world cultural landscapes (Cleere 1995: 63-68) not merely as past entities, but as continuous spaces constructed through time and perceived by present societies and local communities (Bender 1998).

Decisions for the future and conservation conditions of archaeological sites have been culturally associated. For example, the sacredness of an archaeological place may make it incompatible with uses that might include visitations (Stovel et al. 2005). Walsh examined the past as part of a living experience, arguing that post-modern representations contribute to the destruction of a sense of place; he suggests ways to enable societies and communities to decide upon their heritage (Walsh 1992). While management and conservation processes aim to achieve better future conditions of a site (Fowler 1992), preservation may alter the meaning of certain sites (Lowenthal 1992). Therefore, what has become clear is that decisions and management of the future conditions of a site can be taken only if the site is culturally contextualized (West Burnham 1994). In addition, conservation and management criteria cannot be universally applied.

This cultural perspective incorporated in the conservation process is not entirely new, but has gained more impetus that resulted from post-modern views of the “other” as developed by Edward Said. Said illustrated the western ways of interpretation of oriental and eastern cultures (Said 1978). In fact, rather than adopting an approach to conserve the materials and fabrics of a heritage place, eastern conservation philosophies generally focus on spiritual aspects of heritage, and on the form and spirit of a site (Wei & Aass 1989: 3-8); For example, Islamic cultures, and aboriginal societies of New Zealand and Australia are more concerned with traditional continuity where materials constituting heritage places can be habitually modified (Arkoun 1994: 45-49; Allen 1998: 144-151; Bowdler 1988: 517-23)

Cultural heritage has also been seen as a means to impose power, and a way of manipulation where tradition has been invented to serve purposes of nationalism and political consolidation in the hands of state bodies who disregarded the interest of local communities and cultures (Hobsbam & Ranger 1985). In the fields of archaeology and cultural heritage it has resulted from self-reflexive initiatives within the disciplines themselves (Hodder (ed.) 2000; Potter 1997; Matero et al. 1998).

However, acknowledging the need for public participation and cultural dimension in the field of archaeology has practical difficulties in its application. Preucel and Hodder argued that the language of communication between the archaeologists and the public may create difficulties in developing this dialogue (Preucel & Hodder 1996). Some lessons have to be learnt here when the public ability to understand maps was overestimated in the fashionable public participation programmes of the 1970s in urban planning process because a common language between the public and the planners was lacking (Stringer 1982). In addition, the resulted multiple versions of meanings may create difficulties in the decision-making process (Australia ICOMOS 1993, 1995), which necessitate development of standards and guidelines for solving problems of contestation. Domicelj and Marshall introduced examples of diverse and conflicting values to be identified and protected within a management plan for a single cultural place that bears several meanings. They outlined steps and effective ways to handle conflicting values, and presented a code of ethics of co-existence for the conservation of cultural places (Domicelj 1994: 28-33).

1.3.3 Interventions at archaeological sites: Principles and levels

1.3.3.1 Principles

The development of conservation philosophies, approaches, and perspectives contributed to the formulation of conservation principles and guidelines throughout the modern conservation movement of the twentieth century. Being general in nature, conservation guidelines address very broad issues, linking philosophical background to practical application. These principles can be found in charters and conventions forming established dicta to parcel up conservation problems and help decide upon intervention levels. Conservation guidelines and principles essentially reflect conservation philosophical approaches, largely of periods of critical conservation and contemporary thought. In view of the late modern and contemporary philosophical conservation background discussed above, most conservation principles share one common factor. This factor is related to the truthfulness and honesty used in interventions, which, as discussed, are fundamental in achieving basic conservation objectives. Inversely, these principles censure misleading alterations to the historic fabric, where fakery and deliberate destruction are basic errors in conservation.

In fact, general conservation principles have usually addressed basic issues in the fields of heritage interpretation and presentation as discussed earlier (Appendix 1). These issues are relevant to heritage values, quality of archaeological investigations, and
use of scientific methods to increase the objectivity in decision-making processes. Hence, typical broad conservation principles found in charters primarily include:

- careful recording and thorough research before intervention;
- maximum retention of the original material;
- minimal intervention, alteration, and damage to the historic fabric;
- distinguishability of new additional material;
- reversibility or re-treatability of interventions;
- sympathy of new interventions to the original and sympathy in use;
- respect for the quality, context, and setting of an historic place;
- longevity in the finished work.

Moreover, the philosophy of conservation approaches developed during the conservation movement of the twentieth century, largely aimed at balancing issues of ethics and aesthetics (Warren 1996). Ethically, a conservation work can be judged as truthful or deceitful; aesthetically, it can be satisfying or unsatisfactory. Ethics involve responsible behaviour and a sense of responsibility in holding past creations in trust for future generations. However, there are difficulties in the temptation to pursue aesthetic objectives at the expense of ethics (Warren 1994). Therefore, in modern conservation guidelines it has only been possible to have an ethical principle ameliorated by aesthetic considerations and to have aesthetically driven conclusions taking an ethical overtone. Thus, ethics have increasingly been underlined in contemporary value-driven, truthful, and honest conservation decisions.

Nevertheless, the first-established modern conservation principles of the twentieth century are different from the social precepts a sensitive contemporary conservator interprets in his work. For the conservator, conservation is a matter of judgement, not only ethically and aesthetically, but practically in what is achievable and socially right for the present generation. More importantly, since conservation is case-specific, contemporary conservation thinking acknowledges the fact that existing guiding principles should be dealt with only as general guidelines. Indeed, these principles are not themselves absolute: decision-making processes have to encompass contemporary socio-cultural interests and protection of messages and values utilizing a systematic methodology.

Therefore, it can be said that principles of contemporary views of heritage conservation have formed the foundation of more recent charters and conservation guidelines. In addition, since implications of a culturally based approach are related to changing values of time and viewpoints, newly emerging conservation charters help describe the mechanisms by which value judgements are reached or compared (Australia ICOMOS 1988; ICOMOS 1990; ICOMOS New Zealand 1993).

Above all, these contemporary principles are based on the fact that the act of conservation is one of compromise and cultural agreement. In addition, a conservation decision becomes unacceptable when it is carried to excess or biased, and when it involves historic falsification (Wärren 1996: 42). In this context, however, the conserving generation may make creative statements that are collectively seen as appropriate, by reaching decisions that are methodologically negotiated and introducing new interventions linking the past with the expressions of the present (Al-Jabiri 1991: 40-41). However, emerging general conservation principles set various limitations to such levels of interventions decided upon collectively.

1.3.3.2. Levels of Interventions

Levels of intervention in a conservation strategy at an archaeological site include preservation, restoration, reconstruction, and adaptive use (Australia ICOMOS 1988). The conservation process may include a combination of more than one level. Based on contemporary conservation philosophy, limitations at each of these intervention levels in emerging conservation charters essentially include:

At the level of preservation, interventions are limited to the protection, maintenance and, where necessary, the stabilization of the existing archaeological fabric, without introducing a new addition to the form of the fabric itself. Preservation can also be limited to keeping the fabric intact in a fixed position by maintaining it regularly. Reburial is a main form associated with preserving an archaeological site. Additionally, new construction may be carried out in association with preservation, without direct intervention on the historic fabric itself (Fig. 1.3) when it is aimed at physical protection, when it maintains an appropriate visual setting and when it does not reduce or obscure the cultural significance and meaning of a site. Conversely, preservation of a site may also lead to a decision where interventions are totally excluded and a non-intervention policy may be adopted (ICOMOS New Zealand 1993: article 14). Therefore, strategies of reburial, structurally or materially independent new construction as described above, and non-intervention are associated with site preservation.

At the level of acceptable restoration, interventions are concerned with removing accretions, or reassembling existing components aimed at the recovery of an earlier form and integrity of a site. Anastylosis can be a form of restoration where a sufficient evidence of an earlier state of an archaeological site is known (Starosta 1999; Sanpaolesi 1972:160; Dimacopoulos 1985). Appropriate restoration stops where conjecture begins.

1 Definitions of these intervention levels may vary between one conservation charter and another. However, there are various regional attempts to utilize similar terminology in principles that are derived from the original Venice Charter [Petzet, 1992; ICOMOS, 1990b].

2 Anastylosis is permitted in the Venice Charter. It is the reassembling of existing original parts of a monument [Starosta, 1999: 84], or the re-erection of a dismembered historical structure or one part of it, in which every recovered element takes up its original position and structural role [Mertens, 1984]
Acceptable reconstruction is distinguished by introducing new additions into the fabric itself to complete a depleted entity, but should not constitute the majority of the fabric. It constitutes a reproduction of fabric the form of which is known from physical or documentary evidence. It should not be confused with conjectural reconstruction, which is outside the ethics of conserving an archaeological site, for reasons associated with presentation principles discussed earlier. Introducing new structures of original forms to the old is the main type of acceptable reconstruction. Conservation charters state that reconstruction and new additions should be distinguishable (Australia ICOMOS 1988: article 8 and 19; ICOMOS Canada: 57).

Adaptation should be limited to what is essential to a use of a place where contemporary functional standards are introduced. It is determined in a conservation policy based on cultural significance and physical condition of a place (see 1.2.4.2). The use of an archaeological site by visitors constitutes a main form of adaptation to new visitation or concepts of reversibility, minimal intervention, and distinguishability; they also should be sympathetic to the setting.

1.3.3.3 Protection versus enhancement: old and new architecture relationship

“...The genius loci constantly demands new interpretations in order to survive. It cannot be ‘frozen’ but has to be understood in relation to the needs of the present. Such a dynamic concept of the term ‘place’ represents the sole basis for a creative adaptation to an existing setting.”
Norberg-Schulz 1980

At intervention levels, conservation is confronted with a spectrum of options ranging from preserving and protecting the historic fabric to enhancing and developing a site by inserting new additions. For archaeological remains, preferences in policy making have often concentrated on maintaining and consolidating the historic fabric. However, at the other end of the spectrum, as so dramatically shown by the work of Carlo Scarpa at Castlevecchio, Verona, by inserting a modern addition that enhances the new adaptive educational use of the building, new opportunities appeared that helped explain the intention of the building layout (Murphy 1990). Between these extremes, the spectrum of options is also broad. As discussed, new additions in a historic context often require justification, guidance, and negotiations.

Through additions and changes, buildings and environments grow, change and mature (Brand 1994). Today, with the weight of the past, both heritage professionals and the public are often uncomfortable about developing sites anew. Yet, with a sensitive understanding of the needs and values of the past, new insertions in the spirit of the time could be a way of improving physical conditions, utilization, and accessibility, and bringing the past into interaction with the present.

In the field of architecture, the issue of building in a historic context has often been addressed (National Trust for Historic Preservation 1980; Bayerische Architekturnkammer 1978; Warren et al. 1998). The role of the architect has focused not only on retaining past creative works, but also on adding to our understanding of the past and opening up opportunities for the future. To this latter end, the pertinent criteria for designing new architecture in historic settings have been based on concepts of beauty that may be a result of requirements of a good design. These criteria have included: (1) honesty of the new construction: (1.a) truthfulness of expression of the function of the building and its spatial unity, (1.b) integrity and intelligibility of a new design in relation to its function, thus, responding to needs like energy efficiency, and in relation to articulating details of construction and materials; (2) simplicity of the design introducing unity, balance, and order; and, finally, (3) harmony in the relationship with the wider historic environment (Cantacuzino 1998). Namely, the preservation of order, scale, texture, and harmony rather than a return to original styles or unmistakably modern designs to make the building legible have been advocated (National Trust for Historic Preservation 1980: 186). Ultimately what makes a
good new architecture is enlightened architectural patronage that is based on the fact that design is a research process founded on quality scientific investigations carried out at an historic place (Steemer 1996). All these viewpoints have formed the basis for contemporary approaches: principles of enhancement, maintenance of appropriate visual settings (Australia ICOMOS 1988: article 8 and 19; ICOMOS Canada: 57), and processes for contemporary management approaches to the historic environment that do not adversely affect the cultural significance of the place.

In this context, opinions and philosophies argue from different perspectives for continuity (Laenen 1989: 88-96; see also section 1.3.1.3.1), and believe that good environments are results of attentive designers in direct dialogue with stakeholders. Based on hermeneutics, as a value judgement theory, Ganiatsas refers to possible approaches for new additions categorized into neutral intervention, creative imitations, and harmonic contrast (Ganiatsas 1993: 14-20). However, tensions rise first when local communities see their sites threatened by aggressive modernism and, second, when tension stemming from demands of progress and visions of the future is relentless. Significantly, both sides of the debate are valid, but the crux of the argument is how to avoid producing chaotic effects on an archaeological setting. Ultimately, it is in the hands of a good designer to provide appropriate and ethical solutions to the welfare of both the historic environment and the society (Fig. 1.4).

Thus, in various disciplines (archaeology, architecture, conservation), decision-making based on this type of perceptive judgement has become fundamental. This judgement is based on understanding the needs of the community and an analysis of requirements for the welfare of the historic environment. Decision-making could therefore be driven through evaluation processes of collective contemporary requirements, forming a rationale for management processes in the field of heritage conservation.

1.3.4 Conclusion: the use of management and evaluation processes, and planning models

Based on contemporary conservation views and implications, and the rationale discussed in this paper, emerging heritage planning models field have emphasized the assessment of the above-mentioned elements in of the conservation process. Similar to contemporary conservation charters, these emerging heritage conservation and management models consider the assessment of significance, values, and meanings of a site as central elements to the decisions made about levels of protection. While the significance of management approaches lies in their comprehensiveness, a failure of heritage management planning rises when an element concerned with a key discipline, an area of expertise, or an involvement of some
stakeholders are excluded as basic issues in the planning process (Sullivan 1997; Sease 2001).

Therefore, planning and management processes devised for the conservation of archaeological heritage have been increasingly used, developed, and emphasized in the late 1990s onwards (Cleere 1989 & 1990; Cunliff 1994; Sullivan 1997; Council of Europe 1992). Planning procedures were best incorporated in a theoretical framework in the illustrated Burra Charter of Australia (Australia ICOMOS 1999; Truscot & Young 2000; Marquis-Kyle & Walker 1992). These planning procedures for heritage places, including archaeological sites, have become systematically developed in the heritage field. The first charter addressing this specific area of planning for archaeological heritage sites was the Charter for Archaeological Heritage Management (ICOMOS 1990a).

1.3.4.1 Applying conservation rationale in systematic planning models

Thus, emerging conservation planning or management models (Fig. 1.5) are based on the logic and implications discussed in this paper. Conservation is value- or culturally-based, is case-specific, and is a design research process. After an archaeological site is identified as an historical document or evidence, the management process in these models begins with the identification of stakeholders and interest groups at a site (Sullivan 1997; Australia ICOMOS Burra Charter 1988; Cunliff 1994). Cultural significance and profound knowledge of the site, physical condition assessments and evaluation of administrative contexts are necessary steps to decide on the why and how a site is managed and, therefore, protected in a long-term vision. In light of this assessment, management strategies concerning conservation, presentation to visitors, and maintaining future research can be defined. According to contemporary conservation philosophy embedded within this process, these strategies have to be agreed upon by the various stakeholders for whom the site has certain values and meanings. Moreover, since management is an iterative dynamic process, these strategies have to be monitored and re-assessed (ICOMOS 1990a; Sullivan 1997; Truscott & Young 2000).

Fig. 5 The process of heritage management applied at planning levels for a group of sites or a site, and at levels of design & intervention
1.3.4.2 Conservation and management plans:

The concept of a conservation plan essentially refers to the main conservation objectives, and, particularly, to the cultural meaning and values of a cultural site. Conservation plans consider the cultural significance of a place fundamental for its care (Kerr 1996; Sullivan 1997; Burman 1997). The Burra Charter envisages that the planning process involves three stages: understanding the significance of the place, developing a policy and priorities, and managing the place according to the policy (Truscott and Young 2000). The conservation plan is concerned with the first two of these phases, while management plans incorporate the three stages. The aim of these plans is to avoid future problems and to devise sustainable solutions necessary for the future of a heritage site. This paper has provided a rationale of, and philosophical base relevant to, these plans, which can guide decisions, criteria, and implementation of new interventions and additions in historic contexts.

Nevertheless, applying conservation objectives in planning for the future of archaeological sites has been very rare in practice. Indeed, despite being apparent to heritage professionals, notions of cultural values, significance or meaning, material durability and long life of a site, presentation of these values or accessibility to cultural messages have been treated in an isolated manner. Still, it is clear that the rationale for using such a planning methodology in conservation illustrates the complexity of the issues involved. The study of this rationale has further illustrated that following this conservation planning process is crucial in protecting archaeological heritage places for future generations; and, above all, it is also fundamental to the achievement of informed conservation objectives in the planning of new interventions at archaeological sites (ICOMOS 1990a; Feilden and Jokilehto 1993; Sullivan 1997; Avrami 2000; de la Torre, M. (ed.) 2002). Moreover, the understanding of this rationale, discussed through research and investigations presented in this paper, forms fundamental theoretical and philosophical reference to the design of physical interventions at archaeological sites.

References

Australia ICOMOS. 1999. The Australia ICOMOS Charter for the conservation of places of cultural significance (The Burra Charter)
Bergson, H. 1908. Matière et mémoire, avant-propos (7th edn.). Paris: PU de France


Parks Canada. 1997. Guidelines for the Preparation of Commemorative Integrity Statements


Winckelmann, J. 1764. Die Geschichte der Kunst des Altertums


Considerations on Authenticity and Integrity in World Heritage Context

Jukka Jokilehto

Abstract

The scope of this paper is to examine the relationship of universality and relativity in the concept of truth and in value judgements in different cultural contexts. Reference is made to traditional and modern philosophies, as well as the international conservation doctrine. It is observed that while the sources of information may vary from one culture to another and over time, the notion of truth appears to have universal relativity. This is important in the notion of authenticity considering that it is fundamentally understood as being true to oneself. The paper further explores the verification of authenticity and the definition of integrity in different types of cultural heritage sites, exemplified in selected properties nominated for inclusion to the World Heritage List.

1 Universality vs. Diversity

The World Heritage List is based on the definition of the outstanding universal value (OUV). In defining cultural heritage, the World Heritage Convention notes that "monuments" and "groups of buildings" should have outstanding universal value (OUV) from the point of view of history, art, or science, while the "sites" are also seen from the ethnological or anthropological points of view. The Operational Guidelines for the Implementation of the World Heritage Convention (2005) indicate that:

"Outstanding universal value means cultural and/or natural significance which is so exceptional as to transcend national boundaries and to be of common importance for present and future generations of all humanity." (art. 49)

Furthermore, there are ten criteria defining OUV in the Operational Guidelines (art. 77). The first six refer to cultural heritage that can represent: i) a masterpiece, ii) important interchange of values, iii) exceptional testimony to a civilization, iv) a type of construction or site, v) traditional land-use, and/or vi) association with traditions or beliefs. The criteria from vii to x refer to natural heritage.

The above definition of OUV may require some further clarification especially in what is or should be intended with the notions: ‘exceptional’, ‘national boundaries’, and ‘common importance for all humanity’. These notions should obviously not be taken literally considering that national boundaries can enclose extremely variable territories, they are subject to political changes over time, and they rarely coincide with the boundaries of culturally coherent regions. Furthermore, the exceptionality of a property does not mean that it should, for this reason alone, have outstanding universal value. Even the notion of ‘common importance to humanity’ may require fundamental thinking and understanding what is seen as universally shared values. In fact, a clearer definition is provided in the report of the World Heritage strategy meeting in Amsterdam in 1998:

“The requirement of outstanding universal value characterizing cultural and natural heritage should be interpreted as an outstanding response to issues of universal nature common to or addressed by all human cultures. In relation to natural heritage, such issues are seen in bio-geographical diversity; in relation to culture in human creativity and resulting cultural diversity.” (see Droste, et al. 1998: 221)

So, it is more the issues or themes that are of universal nature and common to all humanity, while the heritage itself is defined as a response characterized by its creative diversity. This is clearly also indicated in the UNESCO Declaration of the cultural diversity where heritage is again seen as a result of the human creative process:

“Culture takes diverse forms across time and space. This diversity is embodied in the uniqueness and plurality of the identities of the groups and societies making up humankind.” (art. 1) ... "Creation draws on the roots of cultural tradition, but flourishes in contact with other cultures. For this reason, heritage in all its forms must be preserved, enhanced and handed on to future generations as a record of human experience and aspirations, so as to foster creativity in all its diversity and to inspire genuine dialogue among cultures." (art. 7)

The ICOMOS report on the representation of the World Heritage List (The “Gap Report” presented to the World Heritage Committee in 2004) is built on the recognition of cultural diversity and the attempt to identify issues of universal nature, related to anthropological, historical, aesthetic and scientific views. The critical judgement for the identification of the outstanding universal value of a particular property should be seen in relation to two distinct issues, i.e. that

- the adequacy (or extent) of the relevant “cultural region” or “area of human knowledge” fully justify representation on the World Heritage List;
- the “intrinsic quality” and cultural-historical genuineness of the nominated property meet the expected level of excellence.
The fundamental conditions for the qualification of cultural sites to the World Heritage List include the requirement to satisfy the notions of authenticity and integrity. The List is also subject to heritage diversity, and the trend in the past several years has been towards larger areas of nominated properties, particularly cultural landscapes or historic towns. This increasing attention to a more holistic approach in the definition of the sites thus necessarily emphasizes the importance of the identification of the integrity of a site.

2 Philosophical issues

Over the centuries, philosophers have been discussing concepts such as continuity and change, and the notion of truth, all of them relevant also when touching the notion of authenticity. A well-known case is the debate about the ship of Theseus, as told by Plutarch (Vita Thesei, 22-23). The ship was kept by the Athenians as a memorial for a long time. Due to gradual replacement of rotten planks, the ship retained its original form but its material was entirely renewed. The question was then raised: was it still the ship of Theseus? In modern times, the issue has been posed as two alternative problems. In the example just given, we can think that the gradual renovation over time still provided a spatio-temporal continuity for the ship, thus retaining a certain identity. In another alternative, one could imagine that the materials that were removed would have been re-assembled elsewhere in another ship. What would then be the significance of this other ship? Concerning historic structures, one can also propose an additional question on the difference between gradual renovation of an ancient monument (which is often the case with old buildings) compared with the reconstruction of a building or part of a building in a particular moment in time (e.g. Frauenkirche in Dresden).

In ancient Greece, the concept of mimesis played a central role in the perceptions of Plato and Aristotle regarding poetry, drama, painting, sculpture or music. Even architecture and town planning referred to the same concept. Mimesis can be translated as: ‘imitation’ as well as ‘representation’. Plato proposed the concept of forms or ideas, which were eternal, changeless and incorporeal. The purpose of the artist was to imitate or in fact represent these forms in our reality. Vitruvius, on the other hand, even speaks of architecture representing forms that could be found in nature. Through the philosophy of Plotinus, who lived in the third century AD, these concepts were taken over by Renaissance artists, such as Raphael. In the seventeenth century, Bellori interpreted the artistic ‘idea’ leading the way towards the ‘ideal’. He wrote: “Originita dalla natura supera l’origine e fassi originale dell’arte” (originating from nature, exceeds its origin and becomes the origin of art). (Bellori, 1976: 14; see also Panofsky, 1968: 105) When discussing the issue of mimesis, even if often interpreted as imitation, it has not meant merely copying but rather a learning process imitating the ancients. It was a form of representation or re-representation of ideas and themes, a response that could guarantee continuity as well as elaborating and creating new of forms.

In a recent article, Dr. Seung-Jim Chung from Korea has claimed that the Venice Charter is too strongly based on European cultural values, and “thus not sufficiently universal to be unequivocally deployed in societies outside Europe and European based cultures”. He argues that the European values emphasize mainly visual beauty, while East Asian societies determine their values in relation to spiritual and naturalistic sensibilities (2005: 68-9). It may well be true that Europeans have often given serious attention to aesthetics, but this is by no means their monopoly. We can take note, for example, that the Japanese aesthetics have been subject to much research (e.g. Marra, 1999), and in fact the Japanese and Chinese art philosophies have long had an important influence in the world, including European art. A western scholar having studied Japanese aesthetics, Bruno Deschênes, has concluded:

“My understanding is that for Japanese, a good artist is one who knows how to structure the flow of time, which is expressed through his or her artistic and aesthetic grasp of ma [space, time], using je-ha-kyû [the division and development of a play, or a musical piece, each segment progressively and dynamically flowing into each other]. The role of art lovers is to perceive, grasp and make sense of these aesthetic principles embedded in artistic expression.”

(Aesthetics in Japanese Arts, Internet1)

Still, due to the global information flow of today, evaluating cultural heritage in relation to its spiritual and environmental values has become a widely diffused policy sustained by international doctrine, relevant to the eastern as well as the western world. At the same time, each culture has its own ways of obtaining information and of representing its values. This is part of the cultural diversity as declared by UNESCO: “Culture takes diverse forms across time and space. This diversity is embodied in the uniqueness and plurality of the identities of the groups and societies making up humankind.” (UNESCO, 2001, art. 1) At the same time, this does not mean that there would be nothing in common. On the contrary, yet, it is necessary to accept that different cultures may have different ways of expressing themselves about issues such as truth and authenticity.

In his doctoral dissertation, Dr. Mehdi Hodjat from Iran has analysed the approach to heritage and history as proposed in the Qur’an and in the Islamic societies. He mentions that while the concept of ‘history’ is generally translated as ‘Tarikh’, it refers not only to an epoch but also to fixed habits. (Hodjat, 1995: 25) However, this word is not used in the Qur’an, which instead explains the meaning of history with words: Qasas, Hadith, and Nabaa. Qasas means to follow up, to be in search of reality and to find it. Hadith refers to making a new statement, being creative and innovative. Nabaa means news that is free of lies, is sequential and has the Divine as its reference. (idem, 26) These different meanings

associated with the idea of history tend to refer to concepts that are generally related to the idea of authenticity in cultural heritage, i.e. truth free of deviation, as well as something new and creative.

In fact, Hodjat concludes about these concepts:

“To use words which give different meanings to history, proves that the interpretation of history by the Qur’an is not only to state past events for the sake of increasing our historical information. The Holy Qur’an describes an idea, which has hidden meanings, as well as an immediately apparent reality. In this way, the revealed history in the Qur’an is a truth free from deviation (Nabaa), not only in stating events but in their hidden substance; forming a new statement (Hadith) which does not look at subjects because they are new, but its interest is how to face and apply them; and is to be researched and perceived (Qasa), which leads mankind from a physical reality to a spiritual one.”

(idem, 26)

Most histories of philosophy start with ancient Greece and end up with European contemporary thought. What happened outside this region has been generally ignored apart from some references to the ancient Orient. Yet, when we speak of the so-called western philosophy, we might more correctly refer to its our contemporary philosophy, considering that many of the ideas are now shared across the world. There is an increasing number of publications where the specificity of various regions is discussed. For example, this is the case with African contemporary philosophy. While developing their own thinking, African philosophers have been faced with the particular problem of defining their cultural identity without losing the rationality and truth that characterize modern philosophy in general. At the same time, it has been recognized that African thinking merits being dealt with like any other views (Teffo, L.J. et al. in Coetzee, 2002:164). It is also noted that Africa is a vast continent with many traditions that are still part of the local contemporary cultures. It is therefore natural to explore the commonalities and specificities in the various reflections.

It has been observed that African thought differs from the general European approach in its emphasis on the strong relationship with community and environment. Typical European dualisms such as those between the natural and the supernatural, or between matter and mind/spirit/soul, do not seem to appear in African metaphysics. The essence of African metaphysics, then, is the search for meaning and ultimate reality in the complex relationships between the human person and his/her total environment.” (idem: 165) For example, in a study of the concept of truth in the Akan language (a language group in Western Africa, including Ashanti), Kwasi Wiredu (in Coetzee, 2002:39ff) has emphasized the strong community involvement in the definition of what is truthful. Similar questions are emerging also in relation to the concept of rationality and memory, which would need to be viewed taking into account the multicultural context in modern world. Such issues are obviously relevant in trying to clarify policies in the context of the World Heritage Convention, which addresses the concept of universal value, as well as recognizing cultural diversity as an essence of the heritage of humanity.

To make briefly a reference to ‘modern’ philosophy, we can recall that Martin Heidegger (1993: 143ff) speaks about two fundamental components in a work of art, i.e. the earth (matter) and the world of significances (idea). He gives the example of a Greek temple enclosing the figure of the god, and states: “By means of the temple, the god is present in the temple. This presence of the god is in itself the extension and delimitation of the precinct as a holy precinct.” (p. 167) The physical presence of the temple and the god’s image in themselves do not yet ascribe the significance to the site, but it is the god’s presence, the spiritual or the intangible dimension, when evoked, that gives the real meaning. The physical aspect of the temple Heidegger calls the earth, and he states: “In the things that arise, earth occurs essentially as the sheltering agent.” The stone material represents the ‘earth’ aspect of the work, but it is not the ‘world’. However, the temple sets up a ‘world’ that gives the meaning to the work. Heidegger further states that truth happens in the temple’s standing where it is in its environment; standing there the temple shines in its beauty. Beauty is one way in which truth essentially occurs as unconcealment. (p. 181) And, furthermore, Heidegger states: “The more essentially the work opens itself, the more luminous becomes the uniqueness of the fact that it is rather than is not. The more essentially this thrust comes into the open region, the more strange and solitary the work becomes.” (p. 190-1) In other words, we could say that the more a work represents a creative and innovative contribution, the more truthful and the more authentic it is. The preservation of the work happens through knowing its truth, and it can occur at different degrees of scope, constancy and lucidity (p. 193). Even when the work has lost its original functioning, it can still offer a remembrance of this, which contributes to establishing its meaning in the present. Conservation of a work therefore is a process requiring understanding and appreciation of the world of significances, not just limiting to the material.

We can take these ideas into the context of Cesare Brandi’s Theory of Restoration (English translation in 2005). Brandi refers to the work of art as a whole or as ‘oneness’. A work of art is the result of a creative process, where the artist creates the physical reality of the work on the basis of the form given by the pure reality in the artist’s mind. The art aspect of the work remains intangible but is there to be experienced in the physical reality of the work. Once created, such a work has an independent existence; however, its appreciation and therefore also its conservation depend on the recognition of its art significance every time the work is contemplated. The restoration of a work must be based on such recognition, taking note of its historic and aesthetic instances (understood almost as legal cases put forth on behalf of the work). Brandi’s definition of restoration of a work of art states: “Restoration consists of the methodological moment in which the work of art is recognized, in its physical being, and in its dual aesthetic and historical nature, in view of its transmission to the future.” (2005: 48) For Brandi, as well as for Heidegger – and for Alois Riegl for that matter, the art aspect of a work of art is in the present, i.e. in the mind of the person recognizing it. This art aspect of the work of art is fundamentally intangible, and it can be experienced through critical observation and understanding of the spatial-material reality that it puts forth.
All heritage of humanity has its intangible dimension, whether a work of art, a historic building, a historic town, or a cultural landscape. Japan is noted for being maybe the first country to have passed legal protection for intangible cultural heritage. Such protection is referred to as “art and skill employed in drama, music and applied arts, and other intangible cultural products, which possess a high historical and/or artistic value in and for this country”. The same law also defines the concept of “folk-cultural properties, consisting of “manners and customs related to food, clothing and housing, to occupations, religious faiths, festivals, etc., to folk-entertainments and clothes, implements, houses and other objects used therefore, which are indispensable for the understanding of changes in our people’s modes of life”. (Japanese Law for Protection of Cultural Properties, 1998, Chapter 1)

In 1998, UNESCO adopted the Proclamation of Masterpieces of the Oral and Intangible Heritage of Humanity, which established a list of such heritage. Referring to the Japanese law, we can note that the UNESCO list can include both intangible and folk cultural properties. The inscription should be based on the notion of outstanding value “from a historical, artistic, ethnological, sociological, anthropological, linguistic or literary point of view” (1998, Regulations, Criteria). Properties can qualify for inscription if they:

- have outstanding value as a masterpiece of the human creative genius;
- have roots in the cultural tradition or cultural history of the community concerned;
- have a role in affirming the cultural identity of the communities concerned;
- have excellence in skills and technical qualities;
- be a unique testimony of a living cultural tradition; or risk disappearance due to processes of change.

The question of the relationship of tangible and intangible heritage has been recently taken as a topic of discussion so as to clarify the relationship of the two UNESCO conventions, the World Heritage Convention, 1972, which speaks about monuments, groups of buildings and sites (in terms of cultural heritage), and the Convention for Safeguarding the Intangible Cultural Heritage, 2003. This latter convention emphasizes the intangible processes and functions, but also includes their physical attributes in the notion of the intangible cultural heritage:

The “intangible cultural heritage” means the practices, representations, expressions, knowledge, skills – as well as the instruments, objects, artefacts and cultural spaces associated therewith – that communities, groups and, in some cases, individuals recognize as part of their cultural heritage. This intangible cultural heritage, transmitted from generation to generation, is constantly recreated by communities and groups in response to their environment, their interaction with nature and their history, and provides them with a sense of identity and continuity, thus promoting respect for cultural diversity and human creativity.

Taking note of the way the concept of cultural heritage has evolved in recent decades it is obvious that there are issues in these two conventions that overlap. While the World Heritage List would focus on a living historic town, such as Marrakech, it would certainly recognize that life goes on in the town and that this life and the social functions are essential elements in the definition of the universal value of the place. In such a case, the list of oral and intangible heritage instead focuses on the activities and processes that have traditionally been and continue taking place in a specified cultural space of the town, the principal marketplace of Marrakech. On the other hand, many of the practices recognized in the 1998 List are not necessarily associated with a particular space but can take place anywhere.

In 1994, in the context of the World Heritage Convention, Japan hosted in Nara an expert meeting on the issue of authenticity. Understanding truthfulness of information sources as a fundamental prerequisite for the definition of authen-
ticity, the Nara Document on Authenticity (1994) makes special reference to cultural diversity as an irreplaceable source of spiritual and intellectual richness and the need to judge cultural heritage within the cultural contexts to which it belongs:

Conservation of cultural heritage in all its forms and historical periods is rooted in the values attributed to the heritage. Our ability to understand these values depends, in part, on the degree to which information sources about these values may be understood as credible or truthful. Knowledge and understanding of these sources of information, in relation to original and subsequent characteristics of the cultural heritage, and their meaning, is a requisite basis for assessing all aspects of authenticity. (par. 9)

In 2004, another UNESCO expert meeting in Nara concerned the integration of the approaches for safeguarding tangible and intangible cultural heritage. The declaration resulting from this second meeting recognized the importance of the 1994 Nara Document in emphasizing the specific cultural context of a heritage resource when interpreting its authenticity. Nevertheless, the declaration also stated that this term could not be applied in the same way when assessing intangible cultural heritage even though the tangible and intangible heritages were often interdependent. In fact, in the debate, some people defending the intangible heritage openly refused to consider the idea of authenticity as it had been defined in the 1994 Nara Document: as the essential qualifying factor concerning values. The claims related to ‘intangible cultural heritage’ were justified on the basis that this was constantly being recreated and could therefore not be seen in the light of historical authenticity, which was understood as ‘static’. It looks evident that there should be some indifference in judging authenticity of a physical structure compared with a traditional practice. However, this does not mean that the notion of authenticity in itself should be changed.

It may be worth taking a look at the etymology of the concept of ‘tradition’, which derives from Latin (traditio; tradere, trado), giving up, giving over, delivery, surrender, handing down, such as religious doctrine. The Oxford English Dictionary gives to ‘tradition’ the following definition: “The action of transmitting or ‘handing down’, or fact of being handed down, from one to another, or from generation to generation; transmission of statements, beliefs, rules, customs, or the like, esp. by word of mouth or by practice without writing.” Another word of the same origin is ‘to betray’, referred to giving up important documents into the hands of an enemy by treachery or disloyalty. While not claiming that ‘living tradition’ should be necessarily related to ‘betrayal’, one can still note that to be alive also means change. Each generation should regenerate the values inherited from the past, and re-interpret them reflecting the notion of cultural diversity. Sometimes such re-interpretation takes place in new situations, therefore calling for change.

The notion of ‘culture’ itself derives from the concept of cultivation, i.e. raising of plants and animals, training of human mind and body. It is also associated with the concept of ‘cult’, i.e. worship. The notion of ‘culture’ has been given many definitions. Cultural inheritance therefore would concern all these different aspects of culture, traditionally handed down from generation to generation. Culture in itself involves both continuity and change, and due to the intrinsic human nature expressed increativity, traditional handing down of know-how and skills would often mean some change while at the same time building up and keeping its cultural identity. In extreme cases, such change could lead to the falsification or even extinction of cultural traditions. It may thus not be by chance that tradition and betrayal have the same origin. The question is whether a tradition has kept the essence established through continuity in time, and what is the rate of change and the limits tolerable without losing its values. Such concepts would necessarily need to be taken into account when discussing the issue of authenticity and truthfulness in relation to the intangible aspects of heritage.

CAIRO: The historic medieval town of Cairo, Egypt, has been inscribed on the World Heritage List of UNESCO amongst the first properties, in 1979. Nevertheless, it has remained in the shadow of the older monuments, the pyramids and ancient temples. More recently, serious efforts have been made to revive and conserve the old city, including the restoration of the medieval walls and rehabilitating the adjacent residential quarters, a project carried out by the Aga Khan Trust.
4 Authenticity

Since 1994, much has been written about authenticity. This notion has also become fashionable as a qualifying aspect of all types of commercial and tourist products, not necessarily reflecting genuine traditions. This may in fact be one of the reasons for the reluctance about authenticity by the people dealing with the 2003 UNESCO Convention on Intangible Heritage. Another reason may be the definition given for authenticity in the earlier version of the World Heritage Operational Guidelines. Before the recent revision, published in 2005, the ‘test of authenticity’ was referred to four parameters: design, material, workmanship and setting. In fact, it was seen basically in reference to the tangible material of the heritage. As a result of the 1994 expert meetings on authenticity, first in Bergen and then in Nara, the revised Operational Guidelines have given a new definition for the ‘conditions of authenticity’: Depending on the type of cultural heritage, and its cultural context, properties may thus be understood to meet the conditions of authenticity if their cultural values (as recognized in the nomination criteria proposed) are truthfully and credibly expressed through a variety of attributes, including …” There follows a list which, in addition to the previous parameters, now also includes: traditions, techniques, language and other forms of intangible heritage, as well as spirit and feeling or other issues (par. 82), showing a much broader recognition of the different aspects of culture and heritage.

Reflecting on the above discussion on philosophies, we can recall that etymologically the concept of ‘being authentic’ refers to being truthful, both in terms of standing alone as an autonomous human creation as well as being the true evidence of something. The concept of truth, of course, is one of the principal issues discussed in philosophy. We can find it in the various sacred texts, such as the Bible and the Qur’an; it is discussed in the ancient Asian philosophies, such as Taoism and Buddhism; it was an essential criterion for the ancient Achemenid kings in their policies in the Persian Empire; it is present in African thought; and it is still fundamental in modern philosophical thought. In terms of human creation, over the past three centuries, Western thought has proposed that the truth represented by human creation, i.e. cultural heritage, should be verified in the cultural context where it has been generated. The questions related to the verification of historical and cultural truth in the cultural context had already been discussed, for example, by Ibn Khaldun in the fourteenth century and by G.B. Vico and J.G. Herder in the eighteenth century. The theory of mimesis can also be seen to imply, not a simple copy, but the representation and creative interpretation of a particular idea or theme. In the late nineteenth century, Friedrich Nietzsche saw that the only way for humans to generate truth and values was through a creative process, guided by the ‘will to power’. This idea would not only be related to works of art but to all human activity, where one takes his/her full responsibility in setting forth a creative contribution. Alois Riegler coined the concept of Kunstwollen to indicate the relationship of human creative activity with the relevant cultural context. Kunstwollen also referred to the regeneration of representational forms that contributed to what could then become a ‘style’.

The first of the World Heritage criteria for the definition of outstanding universal value (OUV) refers to a “masterpiece of human creative genius”. To exemplify such human creativity, we can select some properties from the World Heritage List, in the history of architecture in the Middle East. In their royal ensembles, the Achemenid kings chose sacred symbols, such as the form of a ‘square’ already present in ancient Egypt, on which to base the design of their representative buildings. An outstanding case is the Royal Terrace of Persepolis with the palaces built in the sixth and fifth centuries BC. A thousand years later, the Sassanians designed Tath-e Soleymān in northern Iran as the principal Zoroastrian sanctuary implementing similar elements. The design of this ensemble reflects a conscious re-representation (mimēsis) of some of the forms already used by Achemenids, such as the fire temple with its perfectly square plan. Other elements include the iwān with its vast round arch, and the rectangular court built around the artesian lake. With the emergence of Islam, these forms became constituent elements in the design of mosque ensembles. Particular attention was then given to the ingenious design of the dome, and the connection of the square plan of the room with the circular dome. An example of this is the mausoleum of Ŭlājīyun, built in 1302-12 in the city of Soltaniyeh, the capital of the Ilkhanid dynasty. Its particular structural feature was the innovative design of the double dome that later became characteristic in Islamic architecture. The next phase of development includes Timurid architecture, where an important masterpiece is the Mausoleum of Khwaja Ahmed Yasawī, built at the end of the fourteenth century in the city of Turkistan in Kazakhstan. This multi-purpose ensemble was built by Persian masters and it became a prototype for design in the capital city of Samarkand. Yet another example in the same region is the Meidan ensemble in the Safavid capital of Isfahan, created in the seventeenth century as a highlight of the development of this type of architecture with a wealth of refined details and colours sustaining its spiritual, spatial, and environmental qualities. Here the emphasis in the test of authenticity should be on the creative aspect, but it obviously also requires verification of the relevant historical and cultural context. Referring to this concept of authenticity, in this sense, it seems useful to refer to the definition by Paul Philippot (art historian and the former Director of ICCROM): “the authenticity of a work of art is in the internal unity of the mental process and of the material realization of the work”. The notion of “authenticity by creation” emerges as the creative and innovative quality in each of these examples.

The fourth criterion for OUV refers to “a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history”. This is the most frequently used criterion and it can have different functions. It can represent a type of construction that has become a prototype, or anyway a construction that is recognized as the most representative example of a particular typology. The examples mentioned above can also be referred to this criterion, and it can also be used for “groups of buildings”, such as historic towns, and sites, such as designed gardens and cultural landscapes. However, here, the emphasis in the definition of authenticity is especially in the excellence of design, and the further development and perfection of a particular typology. When dealing with a vernacular type of site, authenticity would need to be verified not only in the constructions but also in the continuity of tradition, spirit and feeling, i.e.
the more intangible qualities of the place.

The third criterion for OUV refers to "testimony to a cultural tradition or to a civilization," and criterion five to "a traditional human settlement, land-use, or sea-use which is representative of a culture (or cultures), or human interaction with the environment". Both these criteria denote material evidence of the history of a place. The test of authenticity should thus be made in reference to this evidence and what it signifies, i.e. verification of the truthfulness of the sources of information. For example, Bamiyan Valley, where the two large Buddha figures were destroyed by the Taleban regime, was a crossroads of civilizations over many centuries. This site extends several kilometres along the valley with hundreds of caves and other evidence of its rich history. Even though the spectacular, standing Buddha statues were destroyed, the valley can still be considered to have retained its archaeological significance as a place of outstanding and exceptional testimony to cultural activities taking place for centuries as a result of inter-cultural communication. Another question is how much it is possible or even desirable to put the fallen fragments of the Buddha statues back in place. Yet another question is whether or not it is desirable to build another Buddha, a modern one in a suitable place in this valley? It is obviously not possible to allow re-carving a new figure going two to three meters deeper in the same niche, where we still have the authentic testimony of the original statue. These questions require a critical examination of all the factors in order to reach a balanced judgement both in terms of the authenticity and integrity of the place.

In the case of Mostar, the sixteenth century Old Bridge was destroyed as a political act. Now it has been rebuilt with the support of UNESCO on the original site. The importance of the bridge is seen even in the name of the locality, referring to 'most' that means bridge. After the destruction of the bridge, the original parts that remained in situ were kept, but the arch of the bridge was entirely rebuilt anew. The historic town centre also suffered substantial destruction and has now been rebuilt. The World Heritage Committee inscribed the site on the basis of criterion six, emphasizing the significance of the site as: "a symbol of reconciliation, international cooperation and of the coexistence of diverse cultural, ethnic and religious communities". Considering that much of the original bridge and buildings were destroyed, the site has certainly lost part of its authenticity. On the other hand, it still retains its significance as an archaeological testimony to its history, associated with a strong symbolic value. Therefore, the most appropriate criteria would be six for the symbolic value and three for the value as exceptional testimony to the interaction of different cultures in a frontier place. In fact, both these criteria can be confirmed to meet the test of authenticity.

Writing about the relationship of the tangible and intangible aspects of cultural heritage, Prof. Nobuo Ito has stated:

"Intangible culture is the mother of all cultures. As etymology shows, culture is the human product moulded and matured in an inspired or cultivated brain. In this sense, all kinds of culture are, in the earliest stage, intangible, and, therefore, extremely private in nature. So, many intangible cultures are apt to disappear or change to another one."

Man has sometimes been called the 'language-animal', which refers to the importance of language not only as an instrument of communication, but also to its power to assign meanings to places and things. In African traditions, man has the power by giving name to an object to assign it particular force and qualities; man can also take away that quality by de-naming it and thus removing the meaning. In traditional belief in Finland, knowing the name of a thing implied knowing its origin and therefore also having a power over it. It is symptomatic that many cultures have given anthropomorphic names to natural features, such as the nose of the peninsula, the arms of the river, thus implying the effort to take control. God's word is understood to have created the world and everything in it. Human creativity is obviously less powerful, but the recognition of human creative diversity by UNESCO implies that we see this to have been characteristic in all cultures and in all times. We can see that such creativity cannot simply be a question of meeting certain practical purposes, but that there is human creative spirit that inspires one to be innovative in re-interpreting and re-representing certain universal themes while responding to specific needs. In his book on Real Presences (1991), George Steiner has analysed language and its significance to human society. It is obvious that language is fundamental in preserving our traditions and our knowledge making it available for successive generations. Steiner states (Ibid: 56) that:

"Language creates: by virtue of nomination, as in Adam’s naming of all forms and presences; by virtue of adjectival qualification, without which there can be no conceptualization of good or evil; it creates by means of predication, of chosen remembrance (all ‘history’ is lodged in the grammar of the past tense). Above all else, language is the generator and messenger of and out of tomorrow. ... I believe that this capability to say and unsay all, to construct and deconstruct space and time, to beget and speak counter-factuals ... makes man of man."

Steiner further notes that the traditional relationship that had always existed between the word and the world had been broken by the emergence of modernity, which “constitutes one of the very few genuine revolutions of spirit in Western history and which defines modernity itself” (Ibid: 93) This statement is also in line with what Nietzsche intended about the “death of God” and the risk of elimination of the higher values. For Steiner, the presence of ‘Logos’, i.e. the Word, also means the presence of God, the Sacred. “… All mimesis, thematic variation, quotation, ascription of intended sense, derives from a postulate of creative presence” (Ibid: 101). In ancient time, language was seen to represent the intangible or invisible, a gift of gods. Writing made language visible, and it was thus a vehicle, a ritual act allowing access to the intangible (Herrenschmidt 1996). The Achaemenid king, Darius The Great, reworked the Mesopotamian cuneiform writing so as to meet his wish to use Old Persian language in monumental and public declarations. The difference from the earlier cuneiform writings was in its being based on alphabetic signs and diphthongs so as to eliminate the possibility of mistakes in reading the text. Such sacred texts were intended to be read out in public. The first important example in ancient Persia is the Bisotun monument, of which the text of great political significance was copied to various parts of the empire. In fact, Iran nominated it for inclusion to the World Heritage List in 2006. The Canadian philosopher Charles Taylor has treated the problem faced in the modern world and particularly in present-day
multicultural society in relation to cultural identity and the risk of losing the capacity to generate shared values. The problems are related to: a) over-emphasis of individualism, b) the disenchantment of the world due to instrumentalization and excessive priority given to the most economical application of means to a given end, and c) the restriction of choices by the institutions and structures of the industrial-technological society. (1991: 1-12) In this thesis, Taylor refers to the ethics of authenticity, deriving from Descartes and late eighteenth century thought and based especially on Romanticism emphasizing individuality. “Being true to myself means being true to my own originality, and that is something only I can articulate and discover. In articulating it, I am also defining myself.” (p. 29) Taylor further claims that the general feature of human life is fundamentally dialogic in character. Therefore, language in a broad sense is vital for society. In modern society one feels the need for recognition of individuality probably because of fear of losing one’s identity. The worst enemy of authenticity is its association with social conformity (p. 63). So, while modernity on the one hand involves creation and originality, on the other hand it also requires openness to horizons of significance and a self-definition through dialogue. (p. 66) Values and significances can only be built up in communication and dialogue with the others in society, thus forming cultural identity for a community. This was the case in traditional society and can be considered an important part of heritage particularly concerning traditional settlements and many types of cultural landscapes. We can here speak of traditional social-cultural authenticity, which when it exists will justify the continuation of traditional forms of life and traditional treatment of the built structures. Such characteristic is particularly relevant in cases where the traditional form of society has survived intact to our days. For example, in the case of the historic town of Harar Jugol, in Ethiopia, where the social organization of this Muslim community has been traditionally based on neighbourhood associations and a strong, practical and spiritual relationship with the surrounding land, forming a socio-environmental whole. In modern society, the tendency has rather been towards fragmentation and a decrease in dialogue. Recognising that the regeneration of values and meanings require dialogue, the problems can clearly be seen in the loss of common horizons for shared values, which should go beyond the over-emphasis of one’s personal individuality and stress common responsibilities.

BAM: The ancient Citadel of Bam, Iran, developed particularly in the Early Islamic period. It was badly damaged in the earthquake in December 2003, and has since been subject to an international conservation project. At the same time, it has been recognized that the Citadel is part of a vast cultural landscape, where life is based on a traditional water management system. The site was inscribed on the World Heritage List of UNESCO after the earthquake, in 2004.

5 Integrity

Another key issue in the identification and definition of a heritage resource is certainly its integrity. The World Heritage Operational Guidelines (2005) require that a property nominated to the World Heritage List meet the conditions of integrity (par. 88):

Integrity is a measure of the wholeness and intactness of the natural and/or cultural heritage and its attributes. Examining the conditions of integrity, therefore requires assessing the extent to which the property: a) includes all elements necessary to express its outstanding universal value; b) is of adequate size to ensure the complete representation of the features and processes which convey the property’s significance; c) suffers from adverse effects of development and/or neglect.

Integrity must necessarily be related to the qualities that are
valued in a particular property. We can take the example of Bam in Iran, inscribed on the World Heritage List in 2004 after having been seriously damaged by the earthquake at the end of December 2003. This emergency nomination was first focused on the ancient citadel, perhaps the most visible and best known feature of the site. Subsequently, after contact with the authorities, it was decided to extend the boundaries of the nominated area and also include the ancient irrigation system, the underground qanats, which in themselves were an important archaeological evidence of this traditional technique, as well as a vital element in the development and survival of this settlement at the crossroads of trading routes in the desert environment of central Iran. Part of the qanats have been in use for more than two millennia and are the fundamental basis for the existence of this oasis. They need constant maintenance and consequently are also subject to gradual change. However, some areas have been preserved as an archaeological testimony from the earliest phases. The proper functioning of the qanats has required and continues to require a system of strict social coordination for regular maintenance and care. The significance and protection of the area should thus be defined on the basis of vital social functions and processes, including those related to management of water resources, farming and agricultural production, trading and production of goods, residential and defence functions.

Regarding the urban areas of Bam, we can recall that, since the nineteenth century, the citadel had only been used for military purposes and was mostly in ruins, though partly restored over the past three decades. While the earthquake clearly caused much damage, especially in the restored parts of the fortification, it also revealed some historical phases of construction that had been hidden, thus increasing the archaeological interest of the site. One of the issues under discussion after the earthquake will obviously be related to the limits of restoration and reconstruction in view of the presentation of the site, without losing its historical authenticity and archaeological interest. Much of the modern town of Bam was destroyed in the earthquake, and that is where over 26,000 persons lost their lives. The modern area is not part of the nominated World Heritage core zone though it is included in the buffer zone. Now it is subject to new planning and reconstruction. The example of Bam shows how the functional integrity of the place can enhance a better understanding and clearer definition of the outstanding universal value of a place.

Another case is James Island in The Gambia, where the nominated area consisted of the colonial forts and trading places built to protect the entrance to the river, and to facilitate traffic on this first trading route into the hinterland of Africa. While the nomination only concerned the extant ‘monuments’ as relics of the past, the justification of the inscription needed to be based on a broader definition of the site. In fact, the significance of this site is fundamentally associated with The Gambia River as a cultural route, which has motivated all the various built structures so as to facilitate the exchange of commerce and goods. The history of this activity probably started with the Phoenicians and Romans, then continuing with the Arabs, and finally with the European colonists. Today, it is always the river that has been the basic reference for the modern political definition of the country as well as forming the framework of its current economy.

The definition of integrity was fundamental for the World Heritage nomination of Assisi, the birthplace of Saint Francis in central Italy. The original nomination consisted of the
Cardinal Joseph Ratzinger, now Pope Benedict XVI, published a series of speeches dealing with values in contemporary Europe (Ratzinger 2005). During his predecessor’s tenure (John Paul II), Cardinal Ratzinger had the task of defending the doctrine of the Catholic Church. In many ways these speeches are related to doctrinal problems. He discusses the issue of individual freedom vs. shared values in society, and the fashionable question of relativism distinguishing present-day multicultural society. He summarizes the evolution that has characterized European qualities and values, particularly those founded on Christianity, the dominating religion in Europe. Three issues emerge as the most essential. The first is the need to recognize human dignity and human rights as absolute values that must be respected. In fact, he objects to cloning and genetic manipulation. The second issue deals with marriage and family. He considers the family, formed of a legal union of man and woman, as the core nucleus of society, which needs to be defended. Finally, he is concerned about respect for what is perceived as sacred and holy. Ratzinger maintains that freedom of opinion should not be interpreted so as to destroy other people’s faith. In the same line, respecting other people’s faith and beliefs should not lead to total relativism and annihilation of one’s own values.

Pope Benedict XVI is an intellectual with deep cultural awareness, and he is seriously concerned about the trends towards ‘absolute relativism.’ This trend was already feared by Nietzsche one century earlier, i.e. the annihilation of higher values and the abolition of human dignity. Historically, this tendency can be taken to the ethnocentrism that emerged with European colonialism, i.e. interpreting the values of other cultures in terms of one’s own. Cultural relativism emerged, as a counter-act, from the German Enlightenment and the development of anthropology in the twentieth century. Simplifying this view, all beliefs would be equally valid; truth itself would be relative to the situation, the context and the individual concerned. He is concerned about the tendency by cultural relativists to refuse that the values associated with Western culture could have

Basilica of San Francesco and the walled medieval city. Subsequently, the nomination was revised by adding several monuments outside the town, critical for the spiritual maturity of Saint Francis and for the foundation of the Franciscan order. Furthermore, we can recall that nature as God’s creation was of particular significance for Saint Francis. Throughout his whole life, he spent much time in nature, as is well illustrated in Giotto’s fresco celebrating his preaching to birds. Assisi was also important from pre-Roman times. In the centre of Assisi, there are remains of an important Umbrian temple, later used by the Romans. The cult processes on the site generated the establishment of a communication network. Later on, as a result of the Franciscan movement, Assisi became a pilgrimage place, and the new functions generated communication routes in the entire territory. At the same time, the farming system remained practically intact until the 1960s, though policy changes have made it vulnerable since then. Due to far-sighted urban planning in the 1950s, the municipal area has, however, retained its overall traditional integrity to this day.

Taking an overall look at these examples, we can see that, in each case, the significance of the World Heritage nomination was enhanced by an in-depth examination of the social-functional integrity of the site in the light of its values. In the case of Bam, the site was initially proposed as a monument but it was then redefined as a cultural landscape. As a result, its values were consolidated and extended. The core zone was defined so as to cover a large part of the most important qanat area, while the rest of the oasis, including the new town of Bam, was enclosed in the buffer zone. In the case of The Gambia, the river was the driving force as a major trade route, and the forts and trading places were a documentary evidence for the past functions and processes. The property was considered of outstanding universal value due to the way it provided exceptional testimony to crucial periods in the evolution of world trading and slave traffic. In this case, the boundaries of the nominated area were limited to the structural elements, but the buffer zone covered a long strip of land along the river, thus symbolically reinforcing the significance of the site as a cultural landscape. In the case of Assisi, the question was again about a cultural landscape, which has several different parameters. It is significant for having preserved traces of the communication network and the buildings as testimony to the social, spiritual and economic functions that defined its system of land use. Most importantly, the landscape represents the spiritual association of the life of Saint Francis and the relationship of the Franciscan movement with nature.

The social-functional integrity of a place refers to the identification of the functions and processes on which its development over time have been based, such as those associated with interaction in society, spiritual responses, utilization of natural resources, and movements of peoples. The spatial identification of the elements that document such functions and processes helps to define the structural integrity of the place, referring to what has survived from its evolution over time. These elements provide testimony to the creative response and continuity in building the structures and give sense to the spatial-environmental whole of the area. Visual integrity, instead, helps to define the aesthetic aspects represented by the area. It is on such dimensions of integrity that one can base the development of a system of management so as to guarantee that the associated values would not be undermined. In many cases, it is not enough to focus on the limited World Heritage area, but rather take into account a vaster territorial context. This was the case, for example, in the Valley of Noto, in Sicily, where the eight historic urban areas were integrated into a territorial management master plan. The purpose here was to lay emphasis on the economic and functional aspects of the regional economy and relevant land use, which could not be suitably managed if only limited to the nominated World Heritage sites.
universal meaning. In fact, cultural relativism has at times been confused with moral relativism; taken to an extreme, it would mean that there are no universal moral standards and no values. Instead, while recognizing that each culture will have its own dignity and value structure, we can claim that there are issues that can be taken as a measuring stick against which specific qualities and characteristics of particular cultures are ponderable.

We can also observe that the identity, on which the values and the individual ‘personality’ of a particular culture are based, cannot be defined in isolation. Rather, identity is generally founded on the cross-fertilization of different cultures and values. Therefore, for example, Western culture has certainly obtained its characteristics as a result of contacts and interactions between different cultures, such as those existing in Europe itself, but also with those in the Middle East and North Africa. European identity is thus the result of pondering and regeneration of the values over time. We can also note that even science has not been without cultural linkage. In his Structure of Scientific Revolutions, Thomas Kuhn has argued that science is not simply a logical outcome of rationality, not something objective outside value judgements. Rather, the question of understanding natural phenomena is necessarily related to human understanding, experienced in the light of new paradigms resulting from intellectual revolutions. Science therefore is not just rational, but it is also based on cultural parameters. This debate has also relevance in the World Heritage context and particularly in the identification of the outstanding universal value, implying a degree of the absolute.

Taking the discussion back to cultural relativism, we may agree with the idea that each culture has its own characteristics and identity. Obviously the meanings of related issues, such as cultural heritage, need to be verified in relation to relevant cultural contexts. Still, this does not mean that all values should be equal. The question is about identifying universally valid issues in relation to which the specific qualities can be weighed. It is in this light that we should see the ICOMOS Gap report, where the thematic framework is presented as an attempt to identify issues of universal validity for evaluation of the nominations. Recognizing the creative diversity of the human mind, the question is to identify genuine/authentic examples of such creative and spiritual responses. Considering also the notion of cultural diversity, we can observe that different cultures can have generated comparable responses. It is therefore necessary to raise the issue of representivity, making sure that the significant responses to particular themes in the different cultures are adequately represented on the List. At the same time, it is not enough to select the most representative, but also to agree about the minimum quality criteria required for World Heritage properties, as well as ensuring integrity of the nominated areas. Critical judgement is required based on research and documentary evidence to decide about the quality, integrity and values of the cultural responses represented.

References


Herrenschmidt, Clarisse. 1996. L’écriture entre mondes visible et invisible en Iran, en Israël et en Grèce. In Jean Bottéro et al. L’Orient ancien et nous; l’écriture, la raison, les dieux, Bibliothèque Albin Michel Idées, Paris, pp. 93-188


The Socio-Cultural Aspects of Conservation
Notes on the Effect of Modernization in the Arab Region

Hossam Mahdy

1 Duality of Attitudes

The Arab region has a rich cultural heritage. Many archaeological sites in the region are of international significance. Authorities at national and local levels in all Arab countries endeavour to safeguard this great wealth. Academics, professionals and decision-makers are making every effort to contribute to the conservation of their cultural heritage.

However, a participatory approach seems quite difficult to achieve. It is not unusual to observe indifference, carelessness or even hostility by local communities towards archaeological sites. If the man in the street does care about his cultural heritage, why then, doesn’t he share in the efforts to conserve it? On the other hand, if he doesn’t care, for whom then are we conserving cultural heritage?

Like many aspects of civil societies in the Arab world there is an obvious duality in social, economic and cultural points of view. Intellectuals, professionals and decision-makers make up the formal sector, whereas ordinary people compose the informal sector. The difference in attitudes between formal and informal sectors is quite alarming. This is not a simple problem of lack of awareness. It goes right to the heart of social and cultural value systems.

2 The Process of Modernization

Conservation of cultural heritage in pre-modern traditional Arab communities was carried out mainly by the civil society. Even when sultans, amirs or other officials initiated an intervention to a historic building, it was always a personal or communal effort. Almost all maintenance and repair works to significant buildings were executed through the waqf system, which was applied through non-governmental organizations under the supervision of the qadi. As far as we are able today to understand pre-modern attitudes, there was no obvious difference in attitudes between different sectors of society, formal or informal.

The modernization of the Arab world brought about profound changes in attitudes. One major change was the duality in society, culture and economy. Another change was the development of passive, if not hostile, attitudes towards cultural heritage by the masses who belonged to the informal sector. It is therefore essential to understand the process of modernization in order to understand the duality of attitudes that we see today.

Modernization was forced on rather than adopted by the Arab region. The majority of Arab countries were colonized by modern Europeans. It was modernization and the changes that it brought to Europe, such as industrialization, that urged Europeans to go out and colonize other nations. Then, the European colonizers imposed modernization on the nations that they colonized. In a way, modernization was used to justify or legitimize colonization. Europeans claimed that they only came to the region to introduce modernization (Said 1978).

It is quite understandable that colonization caused a split in attitudes to occur in the Arab region. The informal sector consisted of the masses that resisted the colonizers in every possible way. The development of a parallel informal economy and socio-cultural trends was a patriotic resistance mechanism.

Independence and the establishment of modern nation states in the region were supposed to eliminate the duality of attitudes. Although colonization was no longer existent, and the officials and decision-makers were Arab nationals, the split in economy, society and culture did not disappear. They continued to use modernization. Sometimes the wording was different but the essence was the same. Words such as renaissance, enlightenment, development and awakening were used instead.

3 Colonial Regimes and Cultural Heritage

The use of architecture is a well-known political tool. Umayyads, Fatimids, Mamluks, Ottomans and others built grand monuments to enhance a political agenda. Cultural heritage was also used for the same purpose in a more limited manner. Many Muslim rulers brought remains of the Prophet, such as pieces from the cover of the Ka‘ba, and restored historic buildings of religious and political importance such as the Ka‘ba, the Prophet’s mosque in Medina, the al-Aqṣa mosque in Jerusalem, and the al-Azhar mosque in Cairo.

But the European colonizers used the cultural heritage for political purposes in a much more sophisticated, academic and professional way. The following actions were done for cultural heritage with a political agenda in mind:

- the discovery of cultural heritage by archaeological excavations, search for sites, manuscripts and artefacts;
- the documentation of cultural heritage with an unprecedented precision and attention to detail;
the study, analysis and comparisons of cultural heritage. For example, in the case of the heritage of the ancient Egyptian civilization, the language was deciphered. Consequently many papyri, mural paintings and carvings on architecture and artefacts were understood;
• many cultural heritage buildings and artefacts were restored;
• the interpretation and presentation of cultural heritage by publications, museums and the heritage in-situ were carried out;
• cultural heritage was sometimes reconstructed from old sources or even invented from the imagination or mythology. Paintings were made of historical events, people or places. Buildings were constructed according to an idealized style.

Artefacts from the Arab region in European museums today bear witness to a systematic and consistent appropriation of the cultural heritage of the region by European colonizers during the nineteenth century and the first half of the twentieth century. Restoration works of historic buildings and constructions that were built according to the neo-Arab style throughout the Arab world represent the expression of power and control by the colonial regimes over the region and its cultural heritage. Intangible heritage was also used for political purposes. The supremacy of French language and culture over Arab or Berber cultures in many communities of the Maghreb today is the legacy of heavy-handed French colonization.

European colonial regimes understood very well the strong relevance of cultural heritage to local and national identities (Anan 1999). Their control over the nations and communities that they colonized was always much more profound if they managed to reinterpret or reconstruct the identity of the people and place. The use of modern technology such as the printing press and the “modern” concept of mass media made such practices possible and more convincing than ever before.

4 Post-colonization and Cultural Heritage in the Arab Region

The newly independent nations in the region had a huge vacuum as a result of the departure of the European colonizers. The Arab national intellectuals, professionals and decision makers who took over the running of the institutions of their own countries continued the same practices of the colonial regimes that they rebelled against. They had no time to develop their own modern philosophies, theories, strategies, policies and practices. And it was out of the question to revert to pre-colonial traditional or pre-modern concepts and ideals. The result was huge national mechanisms that appeared quite up to date and modern. But in reality there was a total loss of direction and lack of understanding as to why, and for whom things were done. This was the situation for every aspect of civil life, including the management of cultural heritage.

Legislations, administrative bodies and academic institutions were translated into Arabic and operated by nationals who were hardly prepared for their new responsibilities. Once in office, they carried out business as usual. While technocrats and bureaucrats working in the field of cultural heritage lacked the vision, politicians were
fully aware of the magnificent power of cultural heritage as a tool for reconstructing national identities and collective memory. In some Arab countries they reconstructed and in some cases invented ancient monuments. Images, statues and monuments were depicting [what?] and cultural heritage was used (Al-Khalil 1992).

Globalization and the post-cold war political situation alienated the layman in the Arab world. The multinational firms were, and are, sweeping away local, small traditional businesses. Satellite TV channels and internet sites are spreading Western culture at the expense of almost every other culture. No wonder, then, that the man in the street in the Arab region didn’t abolish his informal alternatives after independence, and more so in the era of globalization. His indifference towards his cultural heritage continued as he saw it as a part of a propaganda machine that served political oppressive regimes, foreign and national.

Participatory projects in the Arab region are often seen by local communities as a cosmetic operation managed by formal sectors. While it is formally accepted that negative attitudes by local communities are due to lack of awareness, the reality is much more complex. With the exception of a few of monuments of strong religious meanings or associations, cultural heritage resources were and are associated with the formal sector and its values and culture.

5 The Way Forward

The existence of an informal sector is a fact that should not be ignored. The identification of stakeholders should include informal ones. The significance statement for cultural heritage sites should be defined by all stakeholders, formal and informal. And urban conservation should be practiced as the sustainable development of areas that are of cultural significance. It is in the interest of everyone, and the guarantee for sustainability of conservation for cultural heritage, to bridge formal and informal interests and attitudes (Larkham 1996).

References


Documentation and Condition Assessment of Heritage Sites
Improving Capacity of Conservation Professionals: Integrating Heritage Information Activities to the Conservation Process

A. Almagro Vidal and M. Santana Quintero

Abstract

This paper describes a training approach aimed at improving capacity of conservation professionals in the Arab World, specifically to understand the integration of heritage information activities with the conservation process of archaeological sites. Heritage information plays an essential role in the adequate preparation, implementation and monitoring of conservation strategies. Good decisions in conservation are based on the information available and, in this sense, a systematic approach for the timely and relevant collection, storage, management and presentation of this information is crucial. Currently, the Arab region in general lacks essential guidelines and procedures for heritage information practice. The approach described here seeks to set guidelines for training activities covering this issue.

This work is based on Robin Letellier’s (1944-2007) role-play approach for Recording, Documentation and Information Management (RecorDIM) in conservation of cultural heritage. These lines are dedicated to his memory and they are a tribute to a heritage specialist who devoted his life to the training of conservation specialists around the world.

1 Introduction

1.1 Background

The report prepared by UNESCO’s World Heritage Centre on periodic reporting in the Arab region has demonstrated an increasing number of critical issues in implementing the Convention and managing World Heritage Sites. In this regard, among the most relevant issues revealed are:

- lack of an appropriate long-term management strategy for the protection and conservation of the sites, including periodic condition monitoring (maintenance), periodic values assessments, prevention, and presentation to visitors;
- lack of capacities in conservation techniques and monitoring activities.

These statements are based on the poor or non-existent definition of territorial boundaries and buffer zones of the sites, which prevents control of their deterioration factors (urban expansion, road systems, agriculture, etc.).

Furthermore, ‘hardly any site has coherent and on-going documentation and monitoring systems’ (Extract of paragraph 1.4. Management and conservation of the World Heritage Sites – Document WHC-03/27.COM/INF.20A: Regional Programme for the Arab States). The ATHĀR programme seeks to tackle these critical issues by developing training on information management in the Arab States in order to provide adequate capacity for documentation of the sites and to promote management and information exchange capacities in the region.

The approach presented here is based on Robin Letellier’s teaching experience and on hands-on experience of previous ATHĀR courses:

- 2005: ‘Heritage Site Management’ (Bosra and Damascus, Syria): documentation lectures
- 2006: ‘Documentation and Management of Heritage Sites in the Arab Region’ (Umm Qais, Jordan and Bosra, Syria)

Fig. 1  Recording elevations during ATHAR course 2006 in Umm Qais, Jordan. Photo by Dima Chanin.

1 ‘Information management includes the collection and processing of documents and information enabling better implementation of the Convention and the effective management of the properties inscribed on the World Heritage List... The nomination dossiers prior to 1997 rarely contain up-to-date topographical maps, geographic coordinates, photos, recent bibliographies, etc., provided by the Conservation Services and the sites. With rare exceptions, the sites have not produced appropriate maps or measurements defining the boundaries and buffer zones. This lack of information is very detrimental to the conservation of heritage properties, because it prevents the establishment of a coherent system of legal protection, monitoring and maintenance.’ (Extract of paragraph 1.6. Information management - Document WHC-03/27.COM/INF.20A: Regional Programme for the Arab States).
1.2 Heritage Information basics: learning through a role-play approach

The approach reflects in this paper relates to the understanding of the role of information in making decisions about the conservation of archaeological sites and how this can be applied in hands-on exercises.

Information plays an essential role in decision-making for conservation, so an adequate strategy for capturing, storing and managing the data that not only fulfils technical requirements, but is also adapted to institutional and staff potentials will be the most effective way.

The course prepared for ATHAR consists of a role-playing exercise, where the participants are challenged to produce an 'integrated project dossier' of an area of the site. The instructors play not only the role of facilitating information about recording techniques, but are also clients with expectations about the result of the assessment. This approach ensures that the course participants focus on producing records with a pre-established format and within a timeframe.

The resulting project dossiers are a collection of assessments ranging from the state of conservation to the interventions carried out on the building, and the level of detail is fitted to the requirements. The results of these assessments will serve as the basis for the client (instructors) to make a decision about the conservation of the site.

2 Training approach

2.1 Course contents

The course is designed as a dynamic sequence of lectures (30%), the role-play exercise (60%), and a final presentation of the integrated project dossiers prepared by the participants.

Lectures cover the following issues:

- international principles for recording, documentation and the use of information systems for heritage resource conservation;
- overview of applications of information used in making decisions about the conservation of sites;
- understanding of the different levels of recording;
- overview of recording and documentation techniques, placing emphasis on their constraints and benefits in conservation of archaeological sites;
- specialized training on recording techniques, including direct and indirect techniques (photographic and non-photographic):
  1. hand-survey and sketching;
  2. REDM Total Station;
  3. photogrammetric systems: digital photography and plotting systems;
  4. GPS (mapping grade);
  5. panoramic photography

These sessions were conducted throughout the course and were introduced in more detail with specific lectures, field exercises and the work carried out at the recording facilities.

3 Levels of recording

The participants are exposed to the understanding of levels (approaches) of recording, permitting an adequate assessment of the resources available for the documentation process (time, budget, survey team and equipment) to address the specific needs identified in a conservation project.

Depending on the extent, accuracy, and quantity of information requested in the documentation process, three levels of recording were considered:

- reconnaissance recording;
- preliminary recording; and
- detailed recording.

Each of these recording levels may be partial (that is, tailored to specified needs), or complete.

3.1 The Reconnaissance Record

Usually, the reconnaissance record is an overview photo survey that will allow conservationists to visualize, in its entirety, a site and its related buildings and features in sufficient detail to understand the site’s overall general characteristics. It should permit rapid identification of significant features and problem areas. The quantity of photos taken will vary with the size of the site and related structures and features, and the client’s requirements. For a building, a reconnaissance record would normally include elevations together with significant details. More complex sites such as cultural landscapes or archaeological excavations will require general views from all compass points and at various elevations (that is heights of land), supplemented, as needs dictate, by representative details.

---

2 This concept was developed by R. Letellier and was part of his RecorDIM course notes.
3.2 The Preliminary Record

Preliminary recording will complement the reconnaissance record by providing more complete information pertaining to the most significant elements of a site. The purpose of this record is to produce an overview of the resource’s major features. Additionally, the preliminary record could include data necessary for preliminary analysis, and define areas for further investigation and future ‘detailed recording.’ The accuracy of data is approximately ± 10 cm for plans, elevations, and cross-sections, and ± 2 cm for structural details.

3.3 The Detailed Record

Detailed recording may take place prior to, during, or after a conservation activity so as to record a site’s physical configuration, condition and significant features. Detailed recording occurs when a highly significant resource becomes the subject of directed research and analysis, or intervention planning and conceptual design. To ensure cost-effective detailed recording, completeness should be tailored to the immediate needs of a conservation team. Detailed recording may be phased over a number of years depending on planning requirements and related budget. The accuracy of a detailed record can vary between approximately ± 5 mm (for details) and ± 25 mm (for building plans).

3.4 Recording techniques

Prior to any conservation decision or intervention work in cultural heritage, extensive analysis of the object, building and/or site must be carried out as a preliminary step to gather as much information as possible before taking any decision.

The most appropriate recording process to identify the most relevant information should take into account the time, and the human and technical resources available, as well as the final purpose of the study (documentation, decision-making, conservation works or monitoring).

In the conservation field, the work essentially deals with the safeguarding of consubstantial values contained in every historical or archaeological object, so it is important to take into consideration not only the material object itself, but also the conservation and restoration of other immaterial meanings related to it. These are more difficult to ascertain because they can only be known through a very careful study and analysis of material elements and often disappear when those elements are modified or even destroyed.

These values relate to historical, environmental and cultural aspects, that is to say, everything the building or archaeological site represents and may have represented to the society that produced it and used it, and finally, to our society, which is responsible for the conservation, the increase and the transmission of the significance of all these values to future generations. These values should enable the conservation specialists to be more cautious and careful before undertaking any action and assuming the responsibility of dealing with data and information that constitute proper heritage values. So there is a commitment that entails preserving, promoting and transmitting these values, and this must be kept in mind during the recording process.

It is obvious that to document means to understand precisely the situation of the building or site before any action. In addition to the literary, historical and artistic description or the images we obtain through photography or video, there is no doubt that documentation based on measured drawings is fundamental, as it links the im-
age of the building – and all the information contained in the image such as colour, texture, weathering, etc – to its dimensional data, providing information about spatial values and the scale of the object, building or site.

In addition, there is a wide variety of methods and techniques available depending on factors that have to be considered in advance. The measured survey has two clear and well-defined phases. The first one deals with acquisition and is carried out on the site using various techniques. The second deals with processing, and comprises the representation, analysis and dissemination of the information collected in the field through drawings, maps or any other kind of graphic information. This second step is developed later on in the laboratory (office). The adequate balance of these two parts of the process will have a direct result on the measured material prepared. And this balance is usually related to the equipment, time and budget available for every single recording process.

3.5 Hand survey and sketching

Drawing is a key tool in heritage documentation. It trains participants to record what they observe. This skill is often neglected in training courses, but in the approach described in this paper, it played an essential role.

It demands development of analytical skills, ranging from analysis, selection and transmission of information using a single platform (the drawing), ensuring a complete understanding of the object before it is drawn. On the course, participants should work with a surveyor, who will be responsible for carrying out this work. The training focuses on applying three essential rules for the preparation of adequate drawings:

- producing good sketches;
- taking measurements always referred to an origin;
- reducing every single space that has to be measured to triangles, the unique geometric figure that keeps its shape.

During the ATHÁR course, participants were asked to draw preliminary sketches for recording hand measurements taken with tapes and hand-held laser meters; these also served for use as an auxiliary document to identify control points taken with the total station for further survey work. Additionally, photographs were taken of details to enrich the information in the preliminary sketches. Once back in the office, these helped in the drawing of the final measured maps, using CAD, Photoshop and other applications.
3.7 Photogrammetric systems

measurement of objects, buildings, sites or earth surfaces using perspective images obtained by photographic methods. It is a very accurate technique, as it is based on the fact that the photographic image is a perspective generated from a centrally-projected system and, therefore, follows geometric and mathematical principles.

In defining the position in space of a certain point, the use of a single image is not enough to provide the information required. But if two perspectives or two photographs are taken from two different points, enough information to assess the spatial position of every single point visible in both images becomes available. It will be enough to determine the intersection of the two projective bundles as we do when a certain measurement is taken with a total station from two different positions.

The so-called 'stereo-photogrammetry' method uses pairs of photographs obtained with approximately parallel axes, so that it may be possible to look stereoscopically at the photographs. If we obtain two images of the same object taken at a certain distance one from the other in relation to the distance between the eyes, and we look at them through a stereoscope, the brain merges them into a single image, increasing the perception of relief, so the content of the image is received in 3D.

The introduction and development of digital cameras have opened a new future linked to digital photogrammetry based on the use of digital photographic images. Digital cameras have the advantage of the unalterable permanence of the images through time, either chromatically or dimensionally. Therefore, it is enough to make one calibration process in order to have the position of the projective centre and the parameters for the distortion correction to use them for photogrammetric purposes. However, they have the inconvenience of low resolution compared to traditional silver-salt photographs, whose grain is slightly smaller than the pixels of most CCDs. But this field is continuously developing and nowadays there are affordable 8-10 Mpixel cameras, apart from the fact that resolution will also depend on the kind of images we need for the final result.

4 In fact, a photographic image together with its centre of projection, situated in the space with the same orientation it was taken, permits the definition of a bundle of directions in the space corresponding with every single spot that is represented in it.

3.7.1 Data acquisition in photogrammetric techniques

In order to do the plotting of a single photograph or two photographs we must have, together with the photographs themselves, data about their orientation, that is, we must know the position from which each photograph was taken in relation to the reference system. These values can be obtained either directly – measuring them when the photographs are taken – or indirectly – through the measurement of control points with a total station. The second way is the most usual system, and it provides the most accurate results. Orientation data can be computed by the software if we know at least four clearly visible points for a single image – if we use a rectified photography system – or each pair of photographs – if we use stereo-photogrammetric systems. Coordinates of these points can be measured by hand if we use single images (we will consider that all the points are contained in the same plane) and we will get quite good results in terms of accuracy, but there is no doubt that the best option is to measure them with a total station, by radiation or by visual intersections. Control points should be chosen so that the area to be plotted is inside a perimeter whose vertices are those points. Control points can be signalled and measured before taking the photographs or can be mere points of the object that can be measured while or after photographs are taken. In both cases, special care should be taken to ensure that points can be easily identified on the photographs.

5 This fact will depend on the kind of instrument we have at our disposal: an infrared theodolite will need a prism to give the real measurement, otherwise we will get only angles and we will have to take the same measurement from two different positions in order to calculate the intersection of bundles. If we use an RDEM total station we will automatically get the angles and the distance, and that will facilitate enormously the field work and the post-processing.
There are different processes to compute the position of the points we want to measure from photographs. They can be organized into two main types: processes based on the use of single images (rectified photography) and processes that use multiple images (stereo-photogrammetry and orthophotography). During the ATHAR courses both techniques were introduced but participants were trained only to use the first one. Among the different image-based recording techniques, rectified photography is the one based on the use of single photographs. The object to be recorded must be flat or mostly flat. In architecture, we can apply this technique to flat façades where emerging elements, such as cornices, balconies, etc., are few. The documents that can be obtained from single photographs are rectified photographs at scale, also called photo-plans, and drawings, that require the further step of drafting on the rectified image. To rectify photographs, it is enough to have a digital image of a flat element, even if the image is oblique, and know the flat coordinates (x, y) of at least four points. These coordinates can be obtained by topographic processes or simple direct measure-
ments made with hand tape, triangulating the quadrangle defined by those four points. From that data, a rectified image is obtained, an image in scale that allows measurements to be taken and contains all the information of the photograph as well.

These products can be printed with a raster printer or used as a base to obtain vector drawings made on-screen using CAD software or similar. This is a valid and advantageous system for surveying street façades at not too large a scale, so that the scale distortion of projecting elements not situated on the scaled plane is not significant. Flat elements are common in architecture (façades and floors) and rectified images are a simple and fast way to document them.

On this image, once it is within the CAD programme, we can draw boundaries, identify construction phases or materials, produce condition mapping, and so on, and print it with any appropriate device. Together with the software mentioned, Photoplan, Trectify, and Homograph are other software packages developed for rectified photography which provide good results.

During the ATHAR training courses the rectifying software ASRix was used because of its ease of use. It requires little training and provides great possibilities in the field of heritage documentation. 6

6 This software was developed by Steve Nickerson http://nickerson.icomos.org/asrix/index.html (last accessed: 02/06/2007)

3.8 Global Positioning System: mapping devices

Global Positioning System devices are widely used for mapping of large terrain in applications ranging from civil engineering to environmental studies. In the case of ATHAR, the use of GPS mapping devices (English Heritage, 2003, p. 97) was taught using devices equipped with ArcPad, a Geographic Information System application that creates maps in real time by the mapping of points and vectors (polygons).

The precision of these devices can range from 2 to 7 meters. In the course, they were used to define the location and boundaries of the site.

7 Mapping-grade GPS. Map accuracy and absolute accuracy down to 1 m can be achieved, either in real time or if post-processed. Suitable for mapping up to 1:2500 scale but not suitable for site survey. English Heritage, Where on Earth are We? The Global Positioning System (GPS) in archaeological field survey, English Heritage, Swyndon, 2003, pp. 9.

3.9 Panoramic photography

This type of photography is aimed at creating ‘images with exceptionally wide fields of view’ (Wikipedia, 2007) by the merging of a wide strip of overlapping photographs creating a 180° or 360° view of an environment.

This technique is widely used in environmental studies. In ATHAR, it was used for illustrating the areas of study. The product of this technique is non-metric information but allows a direct understanding of landscapes. The software used is Real Viz Stitcher, an off-the-shelf application that allows the correction of a sequence of overlapping images taken with digital cameras.

3.10 Role-play exercise: producing a preliminary record

Participants are divided into groups in a way that ensures a good mix of disciplines (interdisciplinary representation should be a course profile requirement when selecting candidates).

The role-playing exercise is carried out around the idea of preparing a preliminary assessment of the site that can be used to understand the significance, integrity, strengths, threats and opportunities offered by the site, as well as the works required to improve its conservation.

The exercise defines a set of roles (client, heritage recorders, and information specialists) and specifications for the preparation of the preliminary report.

4 Roles

4.1 The Client

Depending on the situation, the client could be a representative of the government and/or the private sector, responsible for the prioritization and allocation of funds for conservation activities in the country. The participants are hired to produce a preliminary record and report that will provide an initial description of the architecture, the heritage character / value, and the condition of the sites (Letellier 2007).

The preliminary record report should allow the Client to understand:

- the main elements of the heritage place (i.e. plan, section & elevations being studied)
- some wall openings and architectural details (if existent)


In other words, the preliminary recording reports produced by the participants are meant to provide the client with an ‘Understanding Tool’ and a ‘Management Decision-Making Tool’ that will help to appreciate the scope and levels of problems, prior to delineating the need for other more sophisticated assessments (sounding, stability studies, masonry inspection, etc).

4.2 The Heritage Recording Team

The Heritage Recording Team, depending on the context of the course, should be composed of a multidisciplinary group, including architects, engineers, archaeologists, historians, computer specialists, and surveyors.

The composition of the recording teams will, however, depend on the course students’ background, training and experience. This important issue is prepared by a skill matrix that should be developed according to the participants’ backgrounds. It provides for an evaluation of the composition of each single team. This team should be capable of:

- reviewing the site and structure assigned, and understanding the Client’s needs;
- defining the scope and level of recording required to meet Clients’ specific needs; and
- producing a preliminary record as defined in the guidelines/examples provided during the course (best practices by other organizations).

4.3 Specialist

Additionally, the role-playing exercise can make use of a ‘specialist’, in this case using the instructor’s skills. The heritage recording team can hire one of these specialists to carry out specific survey and/or assessment tasks for them. This illustrates the role of delegating work to subcontractors and its impact on a real project.

5 Preliminary Record Report specifications

The Integrated Project Dossier gathers the information about the site and should provide a preliminary overview of:

- site Project ID Sheet (location, extend, administrative issues);
- significance statement;
- integrity overview, considering significance assessment;
- condition assessment: weathering forms and processes (onsite inspection and identification of weathering forms and processes);
- risk assessment (threats and hazards);
- identification of potentials and recommendations;
- other relevant issues as per discussion with the Client.
6 Scope of work: report content

The report, subject to the course timeframe, participants, and availability of equipment should contain the following representations:

- a site plan (of immediate area only to be used as ‘photo key plan’) (i.e. showing the structure in its context, with some site features);
- a small area plan of the designated area;
- an architectural detail (doorway, bas relief, etc. if available/time permits);
- a cross-section;
- a wall elevation using rectified photography (as described hereafter under ‘main challenges’).

The level of detail of the representations should be defined according to the course and assessment needs. Ideally a building can be split into a number of sub-areas, and each group will work in one of these areas preparing the report.

In addition to the measured representations, the team will organize the report in an ‘information container’. This can be designed using the web or other techniques that allow hyperlinks. Usually the container will include:

a) field notes;
b) CAD drawings (of the field notes);
c) a written report (3 pages minimum);
d) a photo report divided into 3 parts containing:
   1. architectural photographs,
   2. record photographs, and
   3. condition photographs.

c) scale-rectified digital mosaics of elevation(s):
   1. with CAD overlay condition assessment of the elevation,
   2. with a minimum of five ‘condition photographs’ per elevation.

6.1 Results

Participants reached a global and, at the time, detailed understanding of the role of information in conservation practice, especially in the preparation of preliminary assessment for management plans.

Feedback from participants and instructors showed:
- rising awareness of the need for recording and documentation in the protection and management of archaeological sites;
- understanding of levels of recording and their link to answering management needs;
- understanding of the different types of tools available for recording, including their constraints and benefits;
- increasing awareness of planning for documentation, un-
derstanding the constraints of the site and potentials offered by the range of tools available;
• instructors were capable of showing in a relatively short time the potential and range of recording and provide a hands-on experience to participants;
• instructors are now aware of the outstanding skills of the participant group and therefore empowered to continue training experts in the region;
• participants had a clear understanding of the potentials offered by the sites recorded, since the role-play approach offered an effective framework for learning by doing.

6.2 Closing remarks

The role-play approach presented in this paper illustrates a didactic and dynamic package that allows illustrating and learning by direct experience the role of information in conservation of archaeological sites.

In addition, the course provided the framework to understand the strengths and weaknesses of the participants, enhancing ICCROM’s understanding of the gaps that need to be filled by further training activities.

6.3 Future work

The role-play exercise should in future cover other more advanced levels of recording, providing participants with the opportunity to carry out more detailed recording of sites and experience first hand their benefits and constraints.

In addition, further training activities should also provide preventive maintenance approaches, where information is collected to prepare baseline information of the site and to subsequently carry out continuous recording of the effectiveness of interventions.

7 Acknowledgements

The authors wish to acknowledge and thank the support of ICCROM’s ATHAR Programme for providing this opportunity to participate in the programme. In addition, we would like to thank Zaki Aslan and Ruba Saleh for support in the preparation of this report. Special thanks to Christian Biggi, Rahel Wolde Mikael, Yasmine Makaroun, Isabelle Skaf, and May Shaer.

It is also important to acknowledge the cooperation and enthusiasm of the participants attending these trainings. Finally, we would like to thank all those individuals and institutions that in one way or the other helped with the completion of this paper.

References


CIPA, *Proceedings of the International Symposia*, http://cipa.icomos.org (last visited 02/05/07)


English Heritage: *Developing Data Standards* http://www.english-heritage.org.uk/server/show/nav.8331 (last visited 02/02/07)


ICOMOS charters http://www.international.icomos.org/centre_documentation/chartes_eng.htm (last visited 02/02/07)


Nickerson, S. *ASRix V2.0 Digital Image Rectifier*, http://nickerson.icomos.org/asrix/index.html (last visited 02/06/07)


Wikipedia *‘Panoramic Photography’*, 2007 http://en.wikipedia.org/wiki/Panoramic_photography (last visited 29/05/07)
Documentation of Archaeological Sites and Monuments: Ancient Theatres in Jerash*

Naif Haddad, Talal Akasheh

Abstract

Modern technology has changed matters in documentation significantly and promises to continue to bring change. This paper attempts to present:

1. How we should understand documentation of archaeological sites, historic buildings and monuments according to their particularities, categories, types, components of documentation, taking into account the internationally agreed standards for the documentation of the cultural heritage.

2. The potential of the application of 3D laser Scanner and Photomodeler in documentation of the immovable cultural heritage. As a case study, the ancient theatres of Jerash (the Southern and the Northern) will be presented. The purpose of using different methods of documentation is to compare the advantages, disadvantages, and accuracy of the traditional method – total station – to the 3D scanner method, and Photomodeler method.

1 Introduction

As cultural heritage is a unique expression of human achievement, and since this cultural heritage is continuously at risk, documentation is one of the principal ways available to give meaning, understanding, definition and recognition of the values of the cultural heritage. As such, it constitutes an important basis of orientation for subsequent restoration and maintenance measures. Furthermore, all interventions acquire the character of evidence themselves and therefore, have to be documented. Article 16 of the Venice Charter emphasizes that in all works of preservation or excavation, there should always be precise documentation in the form of analytical and critical reports, illustrated with drawings and photographs. Every stage of the work, including technical and formal features identified during the course of the work, should be included. This record should be placed in the archives of a public institution and made available to research workers. It is recommended that the report be published. Thus documenting the Cultural Heritage not only describes the context in which the materials were found, and their relationship in space and time to geological deposits and large architectural features, but also as monitoring of the remains of past human activities. The documentation process, which may be undertaken as an aid to various CRM activities, such as protection, identification, monitoring, interpretation, registration of stolen cultural objects, can benefit tremendously from various modern techniques that are available to us nowadays.

2 Categories and Components of Documentation

Regardless of the location of the activity, its type or philosophy of art and historical conservation, the documentation should address three questions: what it is, where it is, and when! There are three Categories and Components of Documentation: Written: should comprise an architectural description, the state of preservation, an interpretation of the results of all tests and analyses, a summary of the results of all investigations, and a report on the interventions executed. Non-photographic (graphic documentation) Techniques based on conventional surveying to produce plans, elevations, and architectural details. Photographic e.g. photography, rectified photography, computer-rectified photography, photogrammetry, and 3D laser scanner. The photographic documentation should provide information on the important condition of a monument, i.e. before, during, and after restoration.

3 International Core Data Index

There are three internationally agreed standards for the documentation of the cultural heritage: a) The Core Data Index to Historic Buildings and Monuments of the Architectural Heritage (1992), b) The Core Data Standard for Archaeological Sites and Monuments (1995), and c) The Object ID (1997) which was developed to provide an international standard for the information needed to identify cultural objects, in response to the threat posed by the illicit trade in the movable heritage.

Evaluation of the documentation process can be carried out by comparison with such standards. Other considerations could be related to the particularity of the monument, the cost, the ability to benefit from modern digital techniques and the success in acting as a historical record of human activities.

* documentation, immovable cultural heritage, 3D laser Scanner, Photomodeler, theatres of Jerash.
Ancient theatres of Jerash

Few ancient towns are as well preserved and as complete as Jerash, a city complex that once was a thriving commercial zone and part of the Decapolis. Built in the second century BC, the city was conquered in 63 BC by the Roman General Pompey. The grand theatres and spacious public squares, plazas and baths, the Roman Cardo running 700 meters north from the Oval Plaza and flanked by sky-piercing columns on both sides in Jerash make this site truly an archaeological park.

The Southern Theatre in Jerash

The Southern Theatre (Exterior Diameter 70.5 m) today is one of the most impressive of Jerash’s public buildings. It was begun at the end of the first century AD (during the reign of Domitian) and completed in the early second century. On its completion, it became one of the most splendid civic monuments in the developing city and certainly the finest of its type in the whole province. The cavea of the auditorium was divided into two sections, with a wide terrace (diazoma) describing the full half circle between them. The lower half was built into the side of the hill, while the top half was built above it. Although the auditorium has survived remarkably well, the top rows of seats are missing, and one cannot be sure of the exact original number. (Fig. 1)

The front of the stage was divided into four sections with pedestals between them. Each section was decorated with a central pediment niche flanked by arched niches. These elaborate architectural compositions are a common feature of Roman theatres. The front of the stage is decorated with a pediment and arched niches. The wall rising behind the stage, the scenafrons is pierced by three doors used by the performers to enter and exit the stage from the sides. The scenafrons would have had a second storey repeating most of the decorative and architectural elements of the lower level. Much of the outer (north) wall of the theater is a modern reconstruction. The rebuilding, however, of the rear wall behind the scenafrons must be regretted, for we do not know what this wall was like and such suspect ‘restorations’ run the risk of endangering the validity of the whole structure; for how can one be sure what is genuine and what is not? Happily, the greater part of the theatre is completely genuine. (Browning 1982).

The Northern Theatre

The complex is composed of the North Theatre (Exterior Diameter 43, 47 m, orchestra Diameter 14,33 m) itself and a ‘plaza’ in front of it. A great deal smaller than the South Theatre, its orientation is determined by the northern decumanus upon which it opens and from which it is approached. The cavea shows the usual arrangement of four cunei in the lower half, and eight in the upper half. At the top of the upper section of the cavea there was scarcely room for a passageway and colonnade. (FIG. 2)

The theatre itself probably had two main phases during its lifetime. It was dedicated, and probably completed, in AD 64/65. It was probably a small theatre used for poetry readings, meetings or more modest performances than the large dramatic events that would have taken place in the city’s larger Southern Theatre. The theatre may also have been the city council’s meeting hall. It was modified several times and probably enlarged in the first quarter of the third century. It finally went out of use as a theatre by the fifth to sixth centuries. On some of the seats of the lower cavea are inscribed in Greek the names of the voting tribes (phylai) that were represented in the bouleutirium, or city council except one tribe named after the Roman Emperor Hadrian; the others are named after Olympian gods. The theatre’s expansion in the first quarter of the third century AD included the addition of eight rows of seats, doubling capacity to around 1600 people.
The three best-preserved external vomitoria, at the western end of the upper auditorium, show their original construction of three independent, semicircular arches rising towards the exterior with evidence of large wooden doors that could have been opened or closed to control access to the theatre. The original scena wall, facing the audience from behind the stage, was dismantled and replaced by a more complex one composed of two parallel walls. The elaborate scena frons was probably two storeys high, and was adorned with colored marble, free-standing Corinthian columns and broken entablatures, behind which were semicircular niches decorated with mosaics.

**7 Methods of documentation in Jerash theatres**

The purpose of using different methods of documentation of the Southern and Northern Jerash theatres was to make comparison of the advantages, disadvantages and accuracy of the traditional recording method, 3D scanner, and PhotoModeler. Accuracy is the correctness of the measurement, regardless of its precision. Precision refers to the fineness of measured distinctions. Results of the case studies are presented and compared. The aim is to give (mostly nongeodetic) users recommendations about which method is suited best for what kind of application, or even if a combination of 3D scanning and PhotoModeler is advisable. Criteria like quality of results, amount of cost and time, required equipment and occurring problems are to be considered. To investigate the advantages, disadvantages and accuracy of these methods, we carried out some case studies for the two theatres. Different typical objects were chosen and characteristically parts of them were recorded by tape, total station, PhotoModeler and 3D scanning. In this research project, we installed a number of different test targets that allowed an investigation in the quality of points recorded by laser scanners and the geometric models derived from the point clouds.

- **By using Total Station and AutoCAD Software:**

  Conceptually, total stations are different from most measuring systems used by archaeologists because they are effective over a great range of scales and have an accuracy that is unusual in our experience. Limits on drawing precision that were once inherent in the use of scaled drawings have been removed by CAD systems. For example, it might be measuring the position of a point 1 km away from the total station and be accurate at least to the centimeter. This is equivalent to the use of a tape to measure the distance to an object a meter away with .01 mm accuracy. The total station can be used to measure archaeological structures during an excavation. The precision with which a CAD system can maintain coordinates depends on the internal data structure chosen, but all standard CAD systems maintain coordinates at levels of precision beyond the scholar’s capacity to measure. A surveyor collecting data using pre-electronic techniques could have used a tape to take the measurements, together with cross-sections for elevation information and quantity estimates. Or, the survey could have been completed using such polar techniques as transit or theodolite/EDM surveys. Electronic data collection with total station instruments permits the quick acquisition of a large amount of field data, together with the efficient and error-free transfer of the data to a computer. Once in the computer, the field data can be edited and analyzed for completeness of coverage and accuracy.

  For the documentation of the Southern Theatre and the Northern Theatre of Jerash, more than 900 points were taken using the total station (Skoia). Tape measurement was conducted to record some of the dimensions of the theatre (the scene and some architectural details). The goal of these measurements was to collect more field dimensional measurements and other detail measurements for documentation of the theatres. Full documentation for the Southern Theatre of Jerash 2D and 3D was finalized with 2D documentation and reconstruction for the Northern Theatre of Jerash.

- **By using PhotoModeler:**

  While photogrammetry and metric surveying techniques can be suitable for archaeological sites and buildings, they present certain disadvantages for smaller and more complex objects. PhotoModeler is a windows software program that helps to extract measurements and 3D models from photographs. By using cameras as an input device, photomodeler is capable to extract accurate measurements and details. It is based on using several photos (FIG. 4) from different angles with known focal length, using control points (FIG. 5). PhotoModeler can create 3D models and export the measured data as a dxf file.

<table>
<thead>
<tr>
<th>ADVANTAGES</th>
<th>DISADVANTAGES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contains information about surface detail (e.g. weathering patterns). Photographs are easier to interpret and recognize than drawing.</td>
<td>Essential high-skilled photographers. The enlargement of images should do accurately. Photographic format (analogue).</td>
</tr>
</tbody>
</table>
PhotoModeler is one of the methods we used in documenting, measuring, and modeling the scene of the Southern theatre in Jerash. Several selected photos taken from slightly different positions were shot using digital camera. For calibration, some 3D points of the scene were obtained. For this purpose a modern integrated total station model Sokkia to collect more than 50 points to record the 3D points. These points were carefully chosen to be very well distributed on the scene in order to use them as GCPs (Ground Control Points). (FIG. 5) With these data, we produce a 3D model, Orthorectified images (Photogrammetry) and measurements (x, y, z) or lengths for the stage of the Southern theatre of Jerash. For more accuracy we produced a detailed model for the scene features- the left Gate- (FIG. 3) and then combined these detailed models together to produce the scene of the theatre.

- By using 3D scanner.

Laser scanning technology with its automated data capture capabilities is bringing new perspectives and can satisfy most requirements of this type of applications. 3D laser scanning represents today the most advanced technology available for measuring and documenting objects. Our scanner can measure on average about 1000 points per second.

Terrestrial laser scanning technology is based on active range sensors measuring directly the distance between the sensor and points over the surveyed object. Objects that can be documented by 3D scanning, range from the sizes of coins or potsherds to whole cultural landscapes. Traditional heritage recording methods like close range photogrammetry are not suitable for all kinds of objects. Particularly when the objects have very irregular surfaces and not a clearly defined structure, scanning will probably yield better results than photogrammetry. In contrast to photogrammetry 3D scanners directly produce a huge number of 3D points. The resulting point cloud can be used to extract CAD elements or - by using point triangulation - to create a 3D surface model. Additionally, images can be mapped onto the model to get a virtual copy of the real object. While both photogrammetric and laser scanning techniques can deliver similar type of products the end users are accustomed to have, other supplementary data such as line drawings, DTM etc.

A main advantage as compared to close range photogrammetry...
metry is the availability of near real time 3D coordinates for irregular surfaces. The striking capability of collecting hundreds or even thousands of points per second is praised by producers and operators. On the other hand, questions concerning the quality and accuracy of the recorded points receive little attention. Specifications stated by the producers are not comparable.

The main difference between scanning and photogrammetry is obvious: While photogrammetric surveying is an indirect data acquisition method (images are needed before measurements can be executed), scanning produces 3D points directly. As geodetic surveying instruments, scanners cannot be used when the object or the observation platform is moving. In these cases, photogrammetric images, which can be acquired with very short exposure times, are the only means of metric documentation. Although surveyors tend to see accuracy as a predominant consideration when comparing measuring equipment, for the practical use there are numerous other characteristics which may be decisive under certain project pre-conditions. Four stages for doing the work: scanning in the field, registration, segmentation, modeling.

To build up a precise 3D model of the South theatre and the North theatre we used the 3D laser scanner model “GS100 MENSI”. The results we’ve obtained were very precise and the first implementation of the new technology seems to be very useful and promising. The main advantage of scanning is the fast and direct collection of large numbers of surface object points. The measurement process needs no attendance except for the set-up required when establishing a new viewpoint.

The huge number of records formed a nice cloud of points, which very precisely matches the true 3D shape of the interested object (in our case the cavea and the scene of the two theatres). In the office there are two sophisticated software, which deal with the collected cloud of points. One of the software can import the clouds and get a nice three model of the object. The other software can also get the 3D model and rectify the model to get the measurements of the object. The final result can be exported to CAD software like Auto Cad or Micro Station. A couple of Million of 3D points were captured from different points of view. In addition to the 3D points, a set of 2D images were also been taken.

In the Southern theater three stations were sat up to capture points of the theater from different angles of view as shown in (FIG. 6, 7, 9). In the north theatre we used three stations to cover the whole theater and two stations to capture the surrounding area. All these stations and the cloud of points are shown in (FIG. 8, 10).

<table>
<thead>
<tr>
<th>ADVANTAGES</th>
<th>DISADVANTAGES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very precise measurements.</td>
<td>Very expensive.</td>
</tr>
<tr>
<td>A solution in situations where 3D measurement by other means may be difficult.</td>
<td>Practical limits on the object size and height.</td>
</tr>
<tr>
<td>Quick in data capture.</td>
<td>May have difficulties on some material surfaces.</td>
</tr>
<tr>
<td>On-sitescanning is possible.</td>
<td>May have difficulties on some Material surfaces.</td>
</tr>
<tr>
<td></td>
<td>Editing the data to produce meaningful results may be difficult.</td>
</tr>
</tbody>
</table>

Fig. 6  Mesh part of the Scene and the cavea of the Southern Theatre.

Fig. 7  Cloud Points of the Scene of the Southern Theatre.
8 Laser Scanner Data Acquisition

The laser scanner MENSI GS100 was used in this project and scanning was performed from various positions so that the full coverage of the surface will be achieved with sufficient overlapping (Fig. 10). The specific scanner has a recommended range of 2-100, with optimal range of m. The system’s horizontal and vertical field of view is 60 degrees. Reflective targets distributed over the site allowed the easy registration of the scans during data processing. Although the laser scanning software provides direct and immediate access to the scan data by visually inspecting the point cloud in situ to identify possible problem areas in the data sets, it proved that some parts of the site were excluded and larger overlap was required for the complete merging of all scans.

The office work included the use of two software packages:

1) 3Dipsos. Sophisticated software used to reconstruct 3D models from large sets of point cloud data captured by a 3D laser scanner. It is an intermediate data processing application between scanning and the use of environments reconstructed in other applications. The software has the ability to export the final models and solids to Auto Cad using the solid SAD converter.

2) Real Works Survey. Provides the user a set of tools for processing 3D point clouds and 2D images in order to obtain the necessary information. Generally, this processing can be divided into two modes: the Registration mode and the Office Survey mode. During the registration mode we register several scans simultaneously by using data captured during target scanning. Several test fields using white spheres as targets have been installed to get information about the accuracy of distances in scanning direction and across. We also use the Geo Referencing tool to put the scanned data into a known coordinate system. During the office survey mode, we segment the point clouds into logical parts. We also extract measurements or different types of 2D drawings from the point clouds. These extracted results were exported into CAD systems.

Starting with the question of accuracy, it must be understood that total stations have built-in limits on precision that are often ignored and that affect ultimate accuracy. Accuracy refers to the agreement of a value with the “true” value. Whereas the problem was once measuring as precisely as possible or as precisely as a scaled drawing could display, the problem is now
Table 1

<table>
<thead>
<tr>
<th>N</th>
<th>Tape Measurement (CM)</th>
<th>Photo Modeler Measurement (CM)</th>
<th>3D Laser Scanner GS 100 MSENSI</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>253</td>
<td>248.8</td>
<td>254.153</td>
</tr>
<tr>
<td>B</td>
<td>50</td>
<td>50.2</td>
<td>49.1</td>
</tr>
<tr>
<td>C</td>
<td>187</td>
<td>187.4</td>
<td>186.445</td>
</tr>
<tr>
<td>D</td>
<td>314.45</td>
<td>311.9</td>
<td>319.096</td>
</tr>
<tr>
<td>E</td>
<td>315</td>
<td>310.2</td>
<td>314.948</td>
</tr>
<tr>
<td>F</td>
<td>186.7</td>
<td>186.7</td>
<td>188.310</td>
</tr>
<tr>
<td>G</td>
<td>49.5</td>
<td>50.2</td>
<td>48.80</td>
</tr>
<tr>
<td>H</td>
<td>71</td>
<td>71</td>
<td>68.4690</td>
</tr>
<tr>
<td>I</td>
<td>253</td>
<td>249</td>
<td>251.149</td>
</tr>
</tbody>
</table>

The documentation of the Jerash theatre was implemented by a combination of photogrammetry and 3D laser scanning. Generally, laser scanning requires viewing the surveyed object from several viewpoints to resolve shadows and occlusions.

To achieve the best accuracy in PhotoModeler:
1. Ensure that a well-calibrated camera is used for the project.
2. Use photos with good resolution.
3. Ensure that the angle between the camera stations is as close to 90 degrees as possible.
4. Ensure that all points appear on three or more photographs.
5. Ensure all point and line markings on the images are precise, and do not guess at a point location if it cannot be seen, is not distinct, is fuzzy or is hidden by some other object.

Nevertheless, the precision supplied by total stations or photogrammetry software and recorded in CAD models must not exceed the limits on accuracy of the total system and must be appropriate for the job at hand. As already stated, every project has its own particularity. Those needs should be carefully determined, explicitly stated, and properly met by the survey methods and procedures. Laser scanning provides dense 3D information that can be implemented for the DEM and also for the determination of the ground coordinates of pre-signalized control points. The large sets of data obtained are an impediment to virtual computer visualization. Often it is very difficult to deal with the data without large RAM memory of the order of two GB.

Concluding Remarks

Acknowledgements

ERATO (ICA3-CT-2002-10031) Research Project is being supported by the European Commission, within the “Confirming of International Role of Community Research – INCO MED.” The permission of the Department of Antiquities to work in Jerash is gratefully acknowledged.
- Documenting the Cultural Heritage Edited by Robin Thornes and John Bold, Getty Information Institute, 1998
- WWW 2001: An extensive collection of links to laser scanner producers and reports about applications in cultural heritage is maintained by the authors at http://scanning.fh-mainz.de
- www.international.icomos.org/recording_fre.htm
- Carl H.Kraeling/ Gerasa City of the Decapolis/ Yale University/ Published by the American Schools of Oriental Research/ New Haven, Connecticut/1938.
Integrating Documentation in the Process of Site Management
Condition mapping, weathering forms and processes

May Shaer

1 Introduction

Documentation is an integral part of the site management process that includes condition recording, the latter being a very important tool for monitoring the state of heritage sites and monuments and for planning their conservation. In order to be able to conduct condition mapping properly it is necessary to have knowledge of the conventions and guidelines used for mapping the physical condition of monuments and sites, in addition to an overview of weathering forms and processes.

Mapping the physical condition of a heritage property helps in providing an understanding of the degree of weathering and deterioration at a particular site and hence its state of preservation. It also helps to arrive at the proper diagnosis regarding the causes of deterioration, which is necessary for planning the most appropriate conservation interventions.

The importance of documentation in conservation has already been mentioned in article 16 of the Venice Charter (1964), which states that: “In all works of preservation, restoration or excavation, there should always be precise documentation in the form of analytical and critical reports, illustrated with drawings and photographs.”

Moreover, the Principles of the Recording of Monuments, Groups of Buildings and Sites (1996) mentions that “Recording is the capture of information which describes the physical configuration, condition and use of monuments, groups of buildings and sites, at points in time, and it is an essential part of the conservation process”; hence it focuses on the notion of documenting the condition of monuments. It furthermore mentions that “Recording should be undertaken to an appropriate level of detail in order to: a) Provide information for the process of identification, understanding, interpretation and presentation of the heritage...”, and that one part of the information to be included in a set of records is the current condition assessment of a heritage site.

2 The Methodology for Mapping

The methodology for mapping the condition of a monument should include a close observation of the monument, followed by determining its state of conservation, identifying the different forms of decay and mapping the different forms in order to describe and register the type, degree and distribution of the damage that is visually apparent (Fitzner, Heinrichs & Kownatzki 1996: 41) (Fig. 1). After these actions are completed, it then becomes possible to identify the causes of decay with scientific analysis and testing, and hence planning the conservation can begin.

Before conducting the necessary on-site investigations and recording of the current state of conservation, it is important to first understand the context in which the heritage exists and the types of deterioration factors. Causes of deterioration include water, salts especially soluble ones, climatic elements and anthropogenic factors, such as, for example, incorrect interventions. All of these factors can cause processes that could be chemical, physical or biological (Borelli 1999; Torraca 1988).

Chemical weathering can occur as a result of the interaction of rocks and minerals with environmental changes such temperature, pressure and moisture; physical weathering is characterized by changes that do not change the composition or structure (Borelli 1999; Torraca 1988).

In order to be able to conduct condition assessment in the field, as well as to record it, it is necessary to understand the processes of weathering and deterioration, the different forms of decay, and the techniques necessary for recording. Establishing a glossary for the mapping of damage is important prior to beginning the actual activity of conducting the recording process. These glossaries should include the name of
the damage, a description of its appearance and sometimes its causes, a figure to illustrate it and a legend for mapping. Until now, there are no established international standards or glossaries, although several glossaries exist and have been used quite effectively (Grimmer 1984; Fitzner & Heinrichs 1994, 2004; Fitzner, Heinrichs. & Kownatzki 1996; NORMAL 1/88). The ICOMOS working group on stone is currently working on a common glossary (Vergés-Belmin et al. 2004). Damage forms can be classified into groups according to their main common characteristics. Fitzner, Heinrichs and Kownatzki (1996) classify damage forms into the following groups: loss of stone material, discoloration/deposit, detachment and fissures/deformation. Additional damage forms can include structural deterioration and the deterioration of plaster and mortar.

Digital mapping can be conducted by means of recording damage as an overlay to rectified photographs, i.e. photographs that contain metric information and are free of distortion. To begin with, photographs are essential for understanding of the current condition of the heritage. Additionally, and upon conducting the field investigation, digitized mapping can be done as “layers” of information mapped over rectified photographs. Alternatively, and if a detailed survey already exists of the heritage, then the layers of information can be done over the CAD survey (Fig. 2).

3 Conclusion

Mapping the condition of a heritage site is not only a tool for recording and capturing its current state of conservation, but also a method that helps to assess its condition and diagnose the causes of its deterioration. It is an indispensable tool for the conservation and management of sites and monuments.

References


Science in the Service of Conservation

Ziad Al-Saad

1 Introduction:

The conservation and preservation of our cultural heritage is a crucial concern. Its physical part is deteriorating faster than it can be conserved, restored or studied. Assets are being lost or are at risk through natural processes of decay (sometimes accelerated by poor environmental control) combined with human factors. The latter include the direct effects of enhanced public access (without commensurate conservation measures), conservation/preservation procedures whose long-term effects were and are not understood, and simple negligence, looting and war.

2 Key to effective conservation

The key to devising and implementing effective conservation measures is to understand cultural materials in terms of their nature and composition, manufacturing technology and deterioration behaviour. Such critically needed information can be best obtained by employing a wide range of scientific methods of analysis.

3 Scientific methods of analysis

Scientific and technological research are essential to determine the nature and properties of the materials found in artefacts, to identify the causes of deterioration, and propose ways by which it can be controlled. The analytical methods used in this field of research are identical to those used at the cutting edge of modern science. Techniques developed for advanced physics, chemistry and biology have a commonality of application to both ancient and modern materials, since problems encountered in both the advanced technology and cultural heritage areas are similar. However, there is one essential difference between the analysis of ancient and modern materials.

An art object or ancient artefact cannot be replaced, and the consumption or damaging of even a small part of it for analytical purposes must be undertaken only where vital data cannot otherwise be obtained.

4 Selection of appropriate techniques

Depending on the information required, one might use a combination of:

- Truly non-invasive techniques (i.e. those which do not require a sample to be removed from the object, and which leave the object in essentially the same state before and after analysis);
- Micro-destructive techniques (i.e. those which consume or damage a few picoliters of material and which may require the removal of a sample).

The distinction between these techniques and types of analyses is of particular importance in the conservation field. Nevertheless, research scientists generally use the term “non-destructive” for any of the above-mentioned analysis methods. In all cases, however, one should aim at the maximization of information and the minimization of the consumed volume.

5 Analysis and characterization of artefacts

The basic aim of the analysis of an artefact is to identify the materials from which it was made, and to measure accurately the relative quantities of its constituent minerals or chemicals. When this information is interpreted it may be possible to define the sources of the raw materials, to suggest a place of manufacture, and to deduce techniques involved in the manufacture of an object. Analysis is not restricted to objects, however; structures such as buildings offer many possibilities for the analysis of stone, bricks and mortar. There are many ways in which scientific investigation can help us to understand and conserve objects. This may be in the form of simple questions such as What is it made of? How was it made? Is it genuine? How does it work? and Who made it?

6 Scientific techniques

To help us answer these questions, a range of scientific techniques can be used for the examination and analysis of archaeological objects. The most effective and common techniques in conservation are given below.
6.1 Raking and transmitted light

Light shone at an angle across the surface of an object is called raking light, and the shadows that are cast show up any surface irregularities. When light is shone through an object from the back, it is called transmitted light. This method is used to reveal flaws in gems and watermarks in paper.

6.2 Infrared light (IR)

Infrared light is not visible to the naked eye but if a painted object is illuminated with IR, the paint layers appear more transparent than with normal (incandescent) light. This enables underdrawings, signatures, or inscriptions to be revealed. This new information can be recorded by photographing it with IR sensitive film.

6.2.1 The use of IR in the technical analysis of artworks

Infrared light can reveal the underdrawing that lies below the paint surface. This is due to the transparency of certain paint layers. Only radiation from the near infrared region of the spectrum is used, which has only a slightly longer wavelength than visible light.

6.3 Ultraviolet light (UV)

UV light is also invisible to the naked eye, but it can be useful since UV directed at certain substances, such as resins, will cause them to glow (fluoresce). This can reveal repairs, tears in canvases under darkened varnishes, and overpainting (as old and new areas fluoresce differently). Even areas of paintings or manuscripts where pigments have faded or been lost can be enhanced. UV also has uses in the examination of wood, ceramics and other materials, but as it is damaging, it is only used for very short periods of time for investigative purposes.

7 Microscopy

The microscope is the conservator’s primary investigative tool, enabling observation of the details of an artefact. The microscope reveals dirt, damage (whether recent or ancient), cracks, and evidence of use and of original technology such as incised decoration and gilding. Also revealed on metal artefacts is the presence of mineralized organic remains of flesh, textile, or hair. Higher magnifications are used to reveal more information, such as the identification of the weave of a textile and the differences between types of pigments and media, fibres, wood and other materials.

8 X-radiography

Conservators use X-radiography (X-rays) on artefacts ranging from coins to mummies and paintings. The X-rays penetrate materials at different rates. It is the density, rather than the thickness, of the object that determines the strength of the X-ray used and the quality of the image produced. Just as in medical use, X-rays reveal the structure beneath the surface of an object and this can provide the conservator with useful information on the following areas:

- metal structure: indicating the technology used in manufacture; different metals used in construction; details of decoration hidden by corrosion;
- mummies: revealing breaks and cracks which indicate fragile areas; the presence of amulets; different burial practices; bone structure indicating gender, age, or illnesses;
- ceramics: structure and technology used in manufacture; contents, such as cremation remains in funerary urns; and
- paintings: structure; preparatory drawing; underpainting; presence of lead pigments; and previous repairs.
9 Beta radiography

This technique is mostly used for recording the watermarks in paper, especially where the mark is obscured by printing or drawings. The paper is sandwiched between a sheet of plastic that has been impregnated with a radioactive form of carbon and a sheet of film that is sensitive to the radiation given off. It is left in darkness for several hours. Radiation passes from the carbon-impregnated plastic, through the paper, to the sensitive film. More radiation can pass through the area of the watermark because the paper is thinner at that point, and so an image of the mark is made on the film.

Fig. 9 Beta Radiography.

10 Techniques used for the analysis of archaeological materials

10.1 Proton Induced X-ray Emissions (PIXE)

When a focused beam of protons (positively charged particles) is aimed at an object, the atoms near the surface emit X-rays. These X-rays are detected and displayed on a graph as a series of peaks. The peaks each represent particular chemical bond energies, enabling a conservation scientist to identify the chemical structure of the sample.

10.2 Fourier Transform Infrared Spectroscopy (FT-IR)

FT-IR is a method of analysing the composition of organic materials based on the fact that every chemical bond has a characteristic energy level. In FT-IR, an infrared laser beam is focused on a small sample from the object, which then absorbs energy. The energy that has not been absorbed is detected and displayed on a graph (spectrum) as a series of peaks. These peaks each represent particular chemical bond energies, enabling a conservation scientist to identify the chemical structure of the sample.

10.3 X-ray Fluorescence (XRF):

XRF is also based on characteristic energy levels. Here, it is the energy produced when an X-ray beam directed at the object causes the electrons (negatively charged particles) in an atom to jump to a higher energy level. As the electrons return to their original state they release energy characteristic of that element. This is detected and is used to determine the elements present.

XRF is mainly used for the identification of metallic elements, such as the quantities of silver, copper, and lead in a coin and for the compositional analysis of ceramics and glass.

10.4 Scanning Electron Microscopy (SEM)

Optical microscopes use lenses to focus light to produce a clear magnified image. Similarly, SEMs use electromagnets to focus a beam of electrons that is directed at a sample. The focused electrons are detected and displayed on a screen. SEM is useful to conservation as it provides a greater depth of focus and higher magnification than the optical microscope and, in addition, analytical equipment can be attached for the identification of chemical elements.

Fig. 10.4 The SEM machine Image is taken by Kamyar.
10.5 Preservation and prevention

10.5.1 Detection of previous improper conservation treatments

Conservation treatments are no longer carried out as a matter of course, but only in those cases where the conservator considers intervention is necessary for the stability of an item. The need can often be a consequence of earlier treatments that have not withstood the test of time and have broken down, damaging the object.

10.5.2 Laser Cleaning

Cleaning with laser radiation is a conservation technique increasingly used for removing dirt from the surfaces of many objects made of organic as well as inorganic materials (such as marble, terracotta, painted wood, ivory, paper or leather). Laser (an acronym for Light Amplification by Stimulated Emission of Radiation) is energy in the form of extremely intense light emitted in a highly collimated beam. This means that the beam is highly focused, it does not lose light out to the sides as is typical of other light sources. Such energy breaks the bond between surface dirt and an object and consequently removes the dirt. However, this technique works better on some materials than others and is heavily influenced by the wavelength, pulse length and energy density used. Lasers are also used for other purposes such as 3D scanning.

10.5.3 Authenticity

How are curators and collectors to detect the difference between what is authentic and what is not? The answer lies in the detectives of the art world who are either conservators, historians, or scientists in the laboratory. From the laboratory perspective the scientist has many tools to draw upon. A few of them are scanning electron microscopy, ultraviolet light, infrared, and varying types of X-rays.

If visual examination of a piece fails to reveal whether it is authentic or forged, investigators may attempt to authenticate the object using some, or all, of the forensic methods discussed below: X-ray fluorescence can reveal if metals or pigments are too pure to be genuine, or newer than their supposed age. Or reveal the artist’s (or forger’s) fingerprints. Ultraviolet fluorescence and infrared analysis are used to detect repairs or earlier painting present on canvasses. Atomic Absorption Spectrophotometry (AAS) and Inductively Coupled Plasma Mass Spectrometry (ICP-MS) are used to detect anomalies in paintings and materials. If an element is present that the investigators know was not used historically in objects of this type, then the object is not authentic. Dendrochronology is used to date a wooden object by counting the number of tree rings present in the object. This is of limited use, though, as the wood needs to have about 100 rings for accurate dating. Stable isotope analysis can be used to determine where the marble used in a sculpture was quarried. Thermoluminescence (TL) is used to date pottery. TL is the light produced by heat; older pottery produces more TL when heated than a newer piece.
Conservation of the Archeological Fabric: Methods and Techniques
The Conservation of Archaeological Sites: Notes of a Practitioner

Gionata Rizzi

Abstract

The article deals with the conservation of archaeological sites from the architectural point of view. Following an introduction on the nature of ruins, specific aspects that characterize the work involved in their preservation are described. Technical challenges, theoretical contradictions and aesthetic problems of the work on fragmentary remains are discussed.

Identifying the character of a site – its most relevant values, its strengths, its weaknesses – is most important to developing an appropriate conservation and presentation strategy; the process that leads to the recognition of these values and of crucial choices can hardly be framed in standard procedures, and yet needs to be given due attention.

The types of intervention that can be used in the conservation of archaeological sites ought to be properly understood and mastered by professionals involved in the field. Masonry repair, structural re-integration, stitching, capping, partial reconstruction, grouting, treatment of lacunae in wall faces are mentioned as possible tools to conserve surviving architectural fragments.

Anastylosis and roofing are two types of intervention that deserve special attention for the importance they have in archaeological conservation. Anastylosis is described in its theoretical and practical frame; the problem of shelters is discussed in its contradictory requirements: to provide fragile remains with effective protection and to be as invisible as possible.

1 Introduction

The conservation of fragmentary monuments in archaeological sites can be deemed as the last conservation battle, the last line of defense against deterioration phenomena: ruins are the only bulwark against the victory of entropy over the traces of the past.

The excavation stage, which in many cases represents the “birth certificate” of a site, already, constitutes a first violation of the integrity of structures. Indeed, the stratigraphic reading imposes the sacrifice of newly-discovered strata for the sake of observing those lying underneath them. The archaeological narrative follows an inverted process, as the excavator proceeds deeper: it is like reading a book from the end, yet without being able to turn the pages unless one tears them out.

What about conservation? One might be tempted to imagine that, since the purpose is to preserve as far as possible the authenticity of the original materials, the problems involved are essentially of a technical nature. Indeed, one might think that, given that the purpose is neither to restore the functionality of the building nor to assign to it a new one, the architectural choices would be very limited.

In fact, this is not the case. Various problems emerge when one considers the treatment of a ruin. Let us see why.

First, there is a major technical problem: a ruin is a structure that has lost major elements of its architectural shape and, therefore, no longer functions as an edifice. In other words, one is dealing with a structure that has lost its natural defense system (roofing, windows, and coating) for example and which has become more exposed than it has ever been before to the destructive power of time. Yet, our purpose is to protect it from further degradation. However, in order to protect an edifice in this state of degradation, one has either to restore its natural defense system, or equip it with a newly devised one that had not originally existed. Hence, our first dilemma: to what extent is it legitimate to alter the original in order for us to preserve it?

There is another enigma: we seek to preserve archaeological sites as documents of the past; yet archaeological remains, due to their partly decayed state, are also very evocative items, as powerful spatial-temporal icons. It is the pleasure – a very romantic one rooted in our culture – of witnessing the devastating impact of time that undoes what man makes. It is the most extraordinary memento mori one can face. Here is the second dilemma: although we may wish to preserve the ruin, yet we do not want to erase the signs of the ravages made by time: although we want to prevent it from pursuing its course on the path of decay, yet we must not lose sight of its state, which is suspended between architecture and nature.

Then, should ruins be restored?

The answer remains uncertain, of course, not in the sense that they ought to be brought back to their original state. Besides, the very notion of conservation involves substantial changes; so much so that, in order to preserve sites as they were in the past, many of these have been on various occasions, retouched, altered and modified. In actual fact, and in many cases, archaeological sites are, somehow, “invented” sites.

Many interventions have been carried out, rightly or wrongly, for conservation purposes; a typical example is the buttress
built by Valadier in the Colosseum of Rome. What is more, the works were conducted for the sake of “improvement”: the sight of some old pictures – I am thinking of the Parthenon, the Basra Theatre, Herculaneum, Babylon – suffices to measure the extent achieved by such works.

These rehabilitation projects served sometimes to convey political messages, such as la via dei Fori Imperiali in Rome or the reconstruction of the surrounding walls of Babylon, and this provides an eloquent example of the underlying symbolical value of archaeological remains. In other cases, the intervention was rather motivated by a didactic desire to determine the architectural part. This is the case of Herculaneum, which, during the period of Amedeo Maiuri, was largely rebuilt in accordance with a truly museographic approach.

Identification of the features of an archaeological site

In the course of my work on archaeological remains, it has always seemed to me that the most delicate moment, maybe the most crucial one, in the phase of site analysis, is when you try to identify the basic character of the overall structure under consideration.

It is the moment when – if I may be permitted to utter a word which is a bit fanciful and yet very evocative – one has to spot the genius of the site. Indeed, I have often felt that I have yet to get to the meaning of a site if, after having explored it thoroughly, I do not have the impression of having grasped the specificity of its nature... If, despite all the collected details on the archaeological history and consistency of the monument, I am still incapable of answering such questions as: what is special about this site? What is it about?

Yet, why should it be so difficult to identify the character of a site? As a matter of fact, unlike the disorderly condition of structures, stone degradation mechanisms and climatic factors, we are dealing with non-measurable entities. More than that, we are dealing with entities that often elude any sort of definition, such as the aesthetics of the architectural fragment stripped of its functionality, the relationship with the natural environment, the feeling of the passing of time, the evocative power of the past, or the archaeological evidence.

One has to acknowledge that this type of research cannot be subjected to any fixed criteria, parameters, or standard procedures. That is so because to identify what a site has to offer is a cultural activity per se.

This is not all. The search is difficult because it does not suffice to note what impresses us during a visit, what we consider as most striking, or what remains stuck in our memory after we have gone. It is also important to identify the potential of a site, that is, the elements that might constitute its gem but are nonetheless hidden, the area on which our enhancement efforts ought to be focused.

One may wonder: but can’t we consider that to search for some hidden value, to identify the elements that need to be enhanced, or in short, to imagine those basic components that will likely underpin the interpretation of a site, is already tantamount to developing the conservation project?

For my part, I find it difficult, to draw a demarcation line between analysis and project. In actual fact, the search for basic features is set astride between the two. It is better to admit it, for the search cannot be conducted in a “neutral” or objective manner. In fact, identifying the specific character of a site and determining what it is really about will have major consequences on the choices of the project, on the site enhancement criteria, as well as on its conservation methods.

Yet what do I mean, basically, by the “character of a site”? If I were to rely on standard notions and practices in the professional field of patrimony, I would be tempted to recall the “statements of significance” which are hence an essential component of any application file for the registration of a site on any list. Another approach that can help us shed some light on this matter is based on what the Anglophones call “SWOT” analysis (strengths, weaknesses, opportunities, threats). The idea is to determine the basic features of a site by observing its strong and weak points, opportunities and the threats to which it is exposed. Besides, all too often, these statements, immersed in bureaucratic formalism, do not reach out to the core of the problem. Indeed, very often, they seem to have been drafted for a single and same monument (always a sprinkling of historical value, a bit of cultural value, a bit of symbolical value...) and thus are unable to grasp the specificity of the site.

Then what should we be aiming at? Where must we direct our attention to at this stage of work?

It is important to see what our site has to say, what aspects must at all costs be brought into prominence and those that may be sacrificed; our purpose is to identify what will make its gem in the future. In order to do so, we must at first gain knowledge about the historical and archaeological data. There is also need to take into account, for instance, the reasons why
this site was built at this very location. We need to focus our interest on ancient road lines and on the original access routes. In addition, we must observe the physical nature of the place (geology, rivers, the rise and fall of the landscape, natural incline and so forth) as well as the cultural scenery that developed across the surrounding area. We must integrate into the analysis the reasons that led to the abandonment, the manner in which the site has become a ruin (discovered through excavations after years of neglect or subjected to gradual transformations through successive alterations, by changes of vocation, yet still present in urban life?) The restoration history must be retraced, in so far as it often provides the site with a second life. The aesthetic aspects need to be addressed and, what may constitute an even more slippery ground, the symbolic elements have to be weighed. The list is far from exhaustive and is only meant to be an invitation to observe.

Yet is it enough to observe?

It should not be enough, although it is a good start. Yet, in order to start seeing something, one has to observe well, and to observe well one has to observe very carefully. Can we learn? Yes, we can. How? It is only by allowing oneself enough time to observe thoroughly and slowly.

This is perhaps the only advice I feel I am entitled to offer. I agree this is not much; however, considering the number of projects and management plans designed by specialists confined in their offices, I believe it is essential to recall the importance of observing a site.

3 Structural problems

The consolidation of archaeological remains raises a particular problem: should the structural intervention be mimetic or not? Has it to be visible or not? The traditional practice of replacing damaged stones, of re-integrating the lost portions of masonry, of dismantling and reconstructing unstable structures, necessarily involves a loss of original materials, which is hardly recommendable from an archaeological perspective.

In fact, if what we seek is to preserve the image of a ruin as such, with its decaying and unstable aspect, the intervention has to be invisible and, therefore, in most cases, requires the use of modern techniques. Besides, this choice involves the utilization of materials that are often incompatible, a strong deviation from the original static behavior and a loss of “structural authenticity”.

It has been shown by experience, for instance, that the use of cement grout, metallic gudgeons, epoxy resin requires a lot of care and a thorough knowledge of the behavior of such materials in the course of time. Failing which, one may, unintentionally, cause major damages or introduce potential causes of deterioration, which can explode at any time, just like a time bomb.

What can be done? It is not easy to provide ready-made recipes. Yet, as a general rule, which like any other rule has of course its exceptions, one has to seek solutions that do not alter the monument’s static behavior, but will nonetheless restore its functionality. This is not to be done by replacing the existing structure, but by helping it accomplish its task.

Bearing this in mind, it is essential to acquire a thorough understanding of the constructional nature of the monuments/remain concerned: first of all the nature of their materials, then their structural shapes.

Raw earth is an easily detectable material, which has been used everywhere for construction both across the Mediterranean Basin and in the Levant. No matter the variety of ways in which it has been used (cobs, rammed clay, raw bricks) clay has been until very recently the most widely used construction material. Due to its fragility, it is especially hard to preserve once the edifice has turned into a state of ruin and has become roofless.

Baked earth (tiles or bricks), also very commonly used, served for the construction of large-sized buildings, notably during the Roman era. In archaeological sites, where it is often soaked with water, it can suffer from crystallization of soluble salts and sometimes from frost.

Stone, a basic material of ancient architecture, was either used in small pieces as rubble infill, or served for the construction of bulky elements such as pillars, capitals or architraves. However, it is impossible to generalize as to its ageing process once it has turned into a state of ruin, for its degradation depends to a very large extent on its geological nature.

Lime and mortars have been used ever since ancient times for works of masonry, whether in the form of bricks, stone blocks, or rubble. Although this material is very efficient from a structural point of view, lime mortar poses serious conservation problems when it is exposed, as is the case, for instance, in a partly collapsed rubble infill wall. The preparation of good quality mortar is often a key element in the consolidation work.

As for structural forms, we should first mention the pillar. Despite its simplicity, it raises interesting questions that relate to stabilization or reassembling projects. It is interesting to observe that, according to recent studies, in the event of the occurrence of an earthquake, a monolithic column would be less stable than a column composed of drums, the swaying of which will partly absorb the energy generated by the quake.

The architrave is the simplest element that allows the linking of a horizontal space. When an edifice is in ruin some may get cracked in the middle. It is not a vain effort to stress how these can be turned into “platbands” yet without putting their stability at risk.

Arches are magnificent structural forms. Their caving in is in most cases due to the movement of supports. The geometry of an arch
— and consequently, the form of its line of pressure which varies in accordance with its thickness — provides us with many clues as to the stability of the structure. Similarly, vaults and domes must be carefully observed to detect the presence of dangerous cracks among others which are, so to speak, physiological.

Nonetheless, it is not enough to gain knowledge about the forms and materials of traditional architecture: we still need to consider that ancient buildings are hyper-static structures for which there are several possible configurations of stability; in other words, we can hardly locate the lines of strength running across the mass of walls, and therefore, detect the spots where the masonry is more strained. As far as the assessment of stability is concerned, a mathematical analysis (creation of a computerized replica) is certainly quite useful. Yet, one has to acknowledge, particularly in the case of a ruin where the structural nucleus may be partially jeopardized, that it is no easy task to select definite resistance estimates for modeled elements. It is therefore clear that, under these conditions, our calculations may prove to be very hazardous.

As for the interventions that can be useful for ensuring the stability of archeological vestiges, I shall restrict myself to mentioning those which are most commonly known (for it would be a whole book if I were to describe them in detail).

4 Anastylosis

Anastylosis — the term is borrowed from Greek and indicates the action of setting a pillar upright — is an intervention that allows the reintegration of fallen original elements into their exact original position. It should be noted in the first place that this type of intervention may, to some extent, be successfully carried out in the case of monuments built out of large blocks of hewn stones, the remains of which are similar to those three-dimensional puzzles that offer possible solutions enabling the utilization of all the pieces of the puzzle. However, when the construction is made out of rubble-stone, bricks or rubble infill, such an intervention cannot be successfully performed.

The archaeologists’ debate on anastylosis (and often on archeological restoration as such) has become focused on the philological accurateness of the proposed or implemented reconstruction. Given the fact that any anastylosis project is based on a precise knowledge of ancient architecture, discussions amongst the various schools may sometimes degenerate into a strong debate: is the number of blocks sufficient to determine with certainty the original shape? Has this particular item been placed in its correct position? Are we entitled to restore elements the exact height of which is unknown to us? Have the typological analysis and stylistic comparisons with similar buildings of the same period or the same area yielded reliable data?

In fact the problems linked to anastylosis projects go beyond the methodological rigor of the proposed restoration. Before starting the reintegration work, one has to wonder, for instance, how to deal with the pieces that are missing (there are always a few blocks missing) and yet are necessary for carrying out the restoration work appropriately. Are we to restore the identical form by using different materials in order to distinguish clearly the elements that are not original, or rather shall we emphasize the unity of the monument by indicating in a very discreet manner the newly added portions?

More still: how to deal with the structural aspects? Is it desirable to perform an anastylosis in cases where the components of a monument have lost a significant portion of their original shape, so much so that, in order for them to regain their former aspect, a modern structure of supports, whether visible or hidden, has to be fixed? Or should we limit ourselves to partial reconstruction when the original components are still capable of assuming their structural task, thus paying due respect to the constructional authenticity of the edifice?

Finally, it appears to me that, even if all the theoretical conditions for the implementation of an anastylosis project are met, one has to face a fundamental issue: What for? Is it worth it?

Of course, I do not mean to talk about the economic factor (although, very often, it happens that a large portion of the budget is allocated to reconstruction purposes, while a lot can be done in terms of site preservation and conservation) but of a prior issue that deserves to be carefully considered: why do we perform anastylosis?

In most cases, the purpose is to make a monument more legible, more understandable; sometimes, to bring into prominence an edifice otherwise invisible. Such an intervention is rewarding for the archaeologist and the architect; it is usually appreciated.
greatly by tourists and, in many countries, highly sought after by the various departments in charge of antiquities and tourism. Of course, it is not devoid of scientific interest either (one can understand a lot of things by trying to reassemble the fragments of a building).

There are a few aspects that need to be carefully taken into consideration. First of all, the context: a very thorough reconstruction of a site on which nothing has remained intact may give an awkward impression of artifice. Moreover, if one pushes the reconstruction works too far, one may very well lapse into conveying the effect of a “scenario for a costume film”. And if, by chance, the elements that one is seeking to reassemble have remained on the site for centuries and have had only their exposed side deteriorated, they will look weird once they are restored to their original place. Finally, when one decides to undertake an anastylosis of very damaged items, by reassembling them with the help of an internal metallic structure which will serve to maintain each piece at the right position, despite the state of its dilapidation, you need to be aware that you cannot help averting an impression of “museographic” production, as suggested by certain statues which have been stuck together with the help of devices made out of steel or Perspex in replacement of the missing pieces.

Before concluding, there are cases in which the sight of topsy-turvy architectural elements (I am referring to the state of the Temple of Zeus prior to its restoration, with column drums scattered here and there in a highly dramatic manner, as a metaphor of the collapse) is by far more evocative than that of the restored state. I wish to stop here, yet with an invitation to consider anastylosis as an extraordinary means offered to us for making the ruins of edifices built out of big blocks of stone talk better. However, this possibility has to be handled with care.

5 Shelters on archaeological sites

In archaeological sites, one often deals with elements designed and built for internal spaces (mosaics, frescos, stuccos...) and which cannot remain without roofing lest they should quickly disintegrate. It is in such cases as these that we may have to think of using a protective shelter. The recourse to roofing as a protection device, however, is not an easy choice to make, marked as it is by an internal contradiction: on the one hand, we seek to preserve fragile remains in an efficient and lasting manner, and, on the other, we want these vestiges to remain unaltered.

In point of fact, archaeological shelters have been the subject of a controversy amongst restoration professionals over the last century or so, with different circumstances and different results surfacing every now and then. No wonder! This issue seems to have posed in an exasperated manner all the difficulties and dilemmas surrounding work on patrimony in general. Stopping the degradation of vestiges yet without tampering with their authenticity; preserving the ruin yet without restoring the elements that once served as a protection; sheltering yet without obstructing the appreciation of the remains. Never has a solution – whether implemented or even merely suggested – ever gained unanimous approval on the part of the public and the scientific community at large. It is not possible to review all the works that have marked the evolution of thought on this topic. As such, I shall restrict myself to citing but a few examples that may give us an idea about the variety of issues and possible approaches involved.

Curiously enough, the New World is where we need to look in order to meet the first structures (1903) built for protecting an archaeological fragment. I am referring to the roofing achieved over the ruins of Casa Grande in Arizona to cover the remains of an archaeological monument made out of raw earth, conserved in its dilapidated state, almost as a relic. This structure stands out for what it is without any disguise, that is, a shelter; and perhaps for this very reason, it has almost become a symbol of archaeological protective shelter.

At Ephesus, the Austrian Archaeological Institute (which has been excavating the site for more than a century) has recently called in a multidisciplinary team to design a protective shelter for two large houses; the project, which was finally implemented, consisted of a large membrane pulled by cables. Although the device seemed to be efficient as far as conservation is concerned, it is raising some doubts as to its visual impact on the scenery.
A bit in the same spirit, although in a very different context, some sort of “tent” was erected over the Byzantine Basilica at Petra: it is a shelter supported by a metallic structure leaning outside the perimeter of the monument.

An almost opposite approach, which deserves to be noted, was developed in England for certain abbeys of Yorkshire which, given their picturesque worth, would have hardly coped with the presence of modern protection structures. By relying on regular maintenance, the specialists of English Heritage decided to restrict themselves to protecting the mosaics during winter months by covering them with straw upon the approach of each winter season.

In the archaeological area of Vesuvius, roofing experiences are countless, ranging from those “identical structures” achieved during the thirties to the opposite solution (total differentiation from the original) experimented at Pompeii a few years ago.

It is interesting to note in this regard that an attempt was made during the eighties to systematize the issue by applying three different solutions that correspond to three different levels of archaeological knowledge concerning the shape of the original roofing.

In view of the number of experiments that have been conducted to date, there has been of late a new awareness about the necessity for giving more thought to the conservation efficiency of roofing. Moreover, the emphasis has been increasingly laid on seeking a prior definition of the parameters that a given protective shelter must possess so that it will enable to meet the required standards, yet without generating any undesirable side effects. In this context, it is interesting to mention the case of a Mayan pyramid in Honduras which was subjected to comprehensive research conducted by the researchers of the Getty Conservation Institute. Once the analysis had confirmed the pathologies presented by the stone on a scientific basis, the need for a shelter became clear. The GCI team, therefore, identified in the specifications document for the architect the characteristics that the ideal protection structure should be endowed with from a conservation viewpoint.

There may be cases where the structure required for protecting vestiges is so large that it becomes a fully-fledged building that houses archaeological remains inside. In such a case, we are almost dealing with a museum which is sheltering the excavated monuments.

In a situation like this, the issues at stake, therefore, will be linked to the architectural choice (Modern? Mimetic of the scenery? Evocative of the lost shapes?) as is the case of the Roman Villa of Piazza Armerina in Sicily which has been at the center of a heated debate over recent months.

Excavated since 1929, the Villa was sheltered towards the end of the fifties under a project conducted by the architect Minissi who, probably for the first time, had resorted to modern materials (glass and plastic) in order to evoke the original volume in a transparent manner. The idea was to partially suggest the ancient form while showing in an unequivocal way the restored parts, in a sort of architectural translation of what the theoretician Cesare Brandi proposed to do during those years for the restoration of paintings. This intervention has somehow been recorded in the history of archaeological restoration and, as far as protective sheltering is concerned, one must say, has almost become a reference.

Unfortunately, what seemed to be a methodologically perfect approach revealed many weaknesses once it had been put in practice: from an aesthetic point of view, the reconstitution of the original volumes was unsatisfactory and hardly intelligible; from a conservation point of view, the roofing has been quite ineffective (the greenhouse effect and condensation have contributed to the deterioration of the mosaics); from the standpoint of duration, the structure has not aged well (the plastic elements have turned yellow and cracked, the metallic elements have become rusty); from the point of view of museography, the internal space is tantamount to disaster (the high temperature makes the visit very unpleasant and the powerful light prevents adequate observation of the paving).
When it was finally decided that something should be done to improve the situation, a lively debate started between those who supported the restoration of the Minissi project and the advocates of an altogether new project.

Once the proposal of protecting the Villa with a glass dome of 160 meters in width and 40 meters in height was rejected, a new project was presented. Based on a detailed analysis of climatic factors, the proposed roofing consists of an opaque (copper) and ventilated shelter, to be conceived in such a manner as to avoid any increase of the inner temperature. The supporting structure, light, reversible and manifestly modern (metallic poles), includes as well a lateral opaque enclosure along the perimeter of the Villa in such a way as to reduce the degradations of light at the interior of the entire monument.

The arguments presented in defense of this option have not, however, convinced its detractors, thus providing additional proof that, for the construction of such a large-scale shelter, there are various possible approaches and, inevitably, various viable solutions.

This will lead us to another subject that is beyond the scope of this presentation: the museography of sites. Nevertheless, I wish to conclude on this point by making a very personal observation.

In restoration programmes, communication – the didactic side, site exploitation, etc. is becoming increasingly important.

This is fine; yet I have noticed that each time we place a notice board, an interactive device, or toilet/parking/cafeteria signposts, the archaeological vestiges are losing a bit of their character: the atmosphere becomes more reminiscent of a museum than of a site. In other words, I have the impression that, in order to make a monument more understandable we tend to deprive it of its soul.

Sites will be sites. They are neither museums designed to serve a didactic purpose nor archaeological books.

In my view, they can (and must) only speak the language of sites: archaeological fragments, traces of the past, incomplete forms, lights, scenery ...
The Conservation of Mosaics on Archaeological Sites

John Stewart

1 Introduction

Mosaics are common features on many archaeological sites in Europe and throughout the Mediterranean region. They are most valued for their pictorial or geometric decoration, which constitutes a rich legacy of ancient art and culture.

The craft of mosaics originated in the Hellenistic period as floors decorated with stone pebbles. It evolved into a great art form in the Roman Empire, primarily as pavements (opus tessellatum) but also as wall and vault decoration (opus musivum) (Ling 1998). These latter forms were further developed within Umayyad and Byzantine architecture. On archaeological sites the survival of wall or vault mosaics is relatively rare.

Mosaics are perceived as surfaces applied to a building. Floor mosaics are actually composite structures. Multiple layers of stone and mortar serve as the structural support of the pavement, formed of small pieces of stone, ceramic and sometimes glass (known as tesserae), set in a fine layer of lime mortar. Mosaics with under-floor heating (hypocausts) are supported on brick or stone piers (Fig. 1).

Not all mosaic pavements contain decorative motifs. Some are plain utilitarian surfaces, others have simple geometric designs. The finest are formed of extremely intricate patterns or scenes. In grander Roman buildings a combination of styles was common: a simple, expansive geometric pattern framed a detailed central panel (emblemata), which was exhibited as an expensive and prestigious work of art (Fig. 2). It is believed that most ancient mosaics were laid by the direct method. The mortar bedding was first built up. It was then progressively covered with a fine layer of lime mortar, incised with the outline of the desired decorative pattern. This served both as the fixative for the tesserae and template for their placement. When all tesserae were in place a fine grout of lime was spread over the surface to fill the joints between them. Once the grout had set, the mosaic was mechanically polished to create a smooth surface.

The reverse method was probably employed only in the most detailed compositions, using minute tesserae and fabricated in a mosaic studio. In this case the design was first drawn onto cloth and tesserae were cut and fixed to it with adhesive. For ease of transport it was sometimes set on a stone tile or terracotta tray (Neal 1976).

Mortars for ancient mosaics were composed of lime with sand aggregates. Limestone would have been quarried locally and then burnt and slaked with water. Pure limestone (CaCO3, non-hydraulic or high calcium lime) needs contact with carbon dioxide from the air to harden, which is a very slow process also requiring progressively dry conditions. Limestone with clay impurities (calcium silicates and aluminates, or hydraulic lime) yields lime which hardens appreciably faster, due to an additional chemical reaction with water. Hydraulic limes can set in water, without carbon dioxide. In antiquity it was known that pure lime could attain a hydraulic set with the addition of reactive aggregates containing aluminates and silicates (volcanic ash, such as Italian ‘pozzolana’, and ground low-fired ceramics). These were used for parts of a building in damp contexts, such as the pinkish mortar with ceramic inclusions (opus signinum) common in Roman bath complexes.
Mosaics deteriorate from mechanisms inherent in their materials, and from external agents or events. Any damaged or weakened materials and structure provide a path of entry for other agents of deterioration (Velloccia 1978).

Mosaic pavements on archaeological sites survive because of their burial under a mantle of soil. Deterioration still occurs in burial conditions, for example from tree roots or burrowing rodents (Fig. 3). On some sites the mortar of mosaics is affected by the very slow dissolution of calcium carbonate by organic acids in the soil. This accounts for degraded mortar found on excavation. However, the rate of deterioration of buried mosaics is certainly much slower than in an exposed environment. Above ground, the greater variations in temperature and moisture content facilitate a host of aggressive processes. Water in its various forms acts as a catalyst for many forms of deterioration of exposed mosaics.

Soluble salts: certain soluble salts can cause the progressive breakdown of porous materials (stone, ceramic, mortar) through crystallization pressures of repeated wetting and drying. This does not occur in burial conditions. The variable pore structure of different materials means that some can be more degraded by salts than others (Fig. 4). Salts usually originate from the ground, but may be deposited as marine aerosols near the sea.

Freeze-thaw: similarly, water within porous materials expands upon freezing, causing pressures that can rupture their structure. Certain soils are also subject to heave upon freezing which can disrupt a mosaic above.

Expansion–contraction: different minerals undergo dimensional change from thermal gain or variations in moisture content. In some cases it can result in detachment of the tessellatum from its support, and bulging.

Biological growths: some, such as algae are not particularly aggressive, but facilitate colonization of higher, more destructive forms, such as moss which can penetrate porous materials to some depth. Root systems of all forms of plants, shrubs and trees cause major disruption to mosaics.

Burrowing animals: where they are present, the activity of burrowing animals can breach the surface of the mosaic, and undermine mosaic structure.

Poor conservation and restoration practice: countless mosaics have sustained serious damage as a result of the use of inappropriate materials, such as cement. This is excessively strong and cannot be removed without damage to the ancient fabric. When mosaics are lifted and re-laid in cement mortar reinforced with iron, corrosion of the iron causes its expansion and fracturing of the mosaic (Fig. 5). Damp conditions obviously accelerate this process. Another negative practice is the physical abrasion or polishing of surfaces of mosaics to highlight decorative patterns. This destroys the original surface and its archaeological integrity.

Site management: lack of adequate maintenance is responsible for the greatest loss of exposed mosaics on archaeological sites. The rate of attrition is often severe, but the lack of good records means that it cannot be easily quantified (Fig. 6).
3 Conservation Principles

Conservation is about caring for cultural heritage so it can be sustained for the benefit of future generations. In the case of mosaics this requires observation of underlying principles and procedures. In summary, these are:
- documentation of all mosaics, by means of an inventory
- determination of the relative significance of all mosaics
- recording the condition of mosaics and understanding causes of deterioration (Corfield 2003; Getty Conservation Institute 2003)
- prioritization of a conservation programme, according to significance and condition
- application of benign materials and treatments, which are fully recorded
- continuous maintenance and monitoring of condition

Good conservation is ultimately about good planning (Nardi 1992; Sease, 2003).

A value often ascribed to antiquities is material authenticity. This respects historical materials and their surviving form, as unique and irreplaceable creations of the past (Fig. 7). In the case of mosaics, authenticity is best maintained by preservation in situ (Vaccaro 2003). Sustaining material authenticity requires:
- the use of measures which prevent damage and deterioration (preventive conservation)
- stabilizing degraded materials and structure with new materials (remedial conservation) as necessary to restore structural integrity and prevent further loss
- In practice, these are complementary, but there should always be a presumption in favour of preventive measures before remedial ones are applied (Nardi 1992, 1994, 2003).

4 Conservation Treatments

4.1 Preventive Treatments
4.1.1 Site stabilization

In the wider environment, this may entail interventions such as flood defenses, improved drainage, or slope stabilization (Fig. 8) (see 'The Stabilization, Protection and Reburial of Archaeological Sites' in this volume).
4.1.2 Reburial

Archaeological pavements have survived through burial in soil. Reburial can be a cost-effective method of protecting excavated mosaics, if properly executed. It can be applied:
- for the short term (e.g., between excavation seasons);
- for the medium term (e.g., during planning for conservation, fund-raising, etc.); and
- for the long term (for mosaics that are not to be presented to the public).

Reburial can reduce the rate of deterioration, the cost of maintenance, and the risk of theft or vandalism. It allows resources to be focused on those mosaics identified most appropriate for public display. Even mosaics that are reburied for the long term should be effectively preserved for the future, when managers may then opt for their presentation.

4.1.3 Cover buildings

Cover buildings are either roofed frames with open sides (shelters) or fully enclosed. They should provide protection as well as access and interpretation. To be effective, their design needs to be based on an understanding of the local environment, the condition of mosaics to be covered and risks to them (Stewart, J. et al. 2003). A bad design can inadvertently lead to damage by creating a harmful environment. Any new structure on an archaeological site will invariably have a visual impact, but this may be mitigated by sensitive design. Yet ultimately, its primary function is to present mosaics for current public benefit, and at the same time preserve them for future generations.

4.1.3 Storage facilities

Mosaics that have been lifted and re-laid on new mobile supports require sound and secure conditions of storage. This is particularly important if the backing is reinforced with iron bars, which are very susceptible to corrosion. Basic requirements for a storage facility are:
- dry conditions, with storage units raised above the ground
- security against fire, flooding and theft
- access for recording, conservation and transport
- There should be an inventory of mosaics in storage, along with an assessment of their condition.

4.2 Remedial Treatments

Most remedial treatments entail the use of mortars. Portland cement mortars have been used extensively. However, these are not appropriate as they lack properties required of conservation mortars: good water-vapour permeability; negligible soluble salt content; and low strength (permitting removal). These properties are satisfied by traditional non-hydraulic (high calcium) lime mortars, and lower strength natural hydraulic lime mortars. Non-hydraulic lime mortars with reactive additives (low-fired, ground brick or tile, volcanic ash) are useful as low-strength alternatives to hydraulic lime. Sand for mortar should be well graded and be free of soluble salt and iron, to prevent salt crystallization and staining.

4.2.1 Filling borders and fissures

Unprotected edges of mosaics need to be secured, either by filling voids in the tessellatum, or applying borders with non-hydraulic or weak hydraulic lime mortar (Fig. 9). The mosaic needs to be thoroughly cleaned and pre-wetted with water before mortar is applied. The fresh mortar is covered with damp fabric to prevent rapid drying, which is kept moist as the mortar progressively dries and hardens (Roby 2006).

4.2.2 Cleaning

Algae or lichen are disfiguring and may lead to the colonization of higher plant forms. Tenacious growths can be killed through light exclusion over a period of time, for example with cloth sand bags. Cleaning is carried out with salt-free water, soft plastic brushes, sponges, and wooden or plastic spatulas. If used, any detergents should be non-ionic in nature. Biocides may be applied, but their effect is limited; and some are problematic as they leave residual salts.

Lime concretions can form on mosaics during burial, concealing the tessellatum. Mechanical removal with strong abrasive tools destroys the original surface of the mosaic. Specialist chemical pastes (with chelating or sequestering agents) can release calcium ions and allow for more gentle mechanical removal. Fine air-abrasive cleaning is also effective. However, both are specialist operations.
4.2.3 Emergency repair
Fragile areas of tessellatum can be protected with a cotton gauze facing applied with a reversible solvent-based adhesive (e.g., methyl methacrylate co-polymer, Paraloid B-72). This is useful for mosaics in storage awaiting full treatment. In external conditions adhesives are less durable and subject to softening in high temperatures.

4.2.4 Consolidation
Degraded tesserae of stone, ceramic or glass may benefit from application of conservation-grade consolidants chosen specially for them by an experienced conservator. Their efficacy in exposed environments can be very limited, requiring re-treatment. Inappropriate consolidants will accelerate deterioration.

4.2.5 Grouting
Fluid mortar grouts are injected into a mosaic to re-adhere a detached tessellatum to its substrate, and to fill large structural voids with the bedding. The area of voiding is identified by tapping and access holes are created with a hand drill. Ample amounts of water (possibly with ethyl alcohol) are fed to wash out any loose material, and pre-wet the ancient mortar to prevent excessive suction from the grout.

Grouting detached tessellatum utilizes very fluid grouts based on hydraulic lime alone. If only non-hydraulic lime is available, a reactive additive needs to be added (such as low-fired brick powder) to achieve a set in the absence of air, and possibly an acrylic emulsion. Large voids require grouts with reactive aggregates to prevent shrinkage. Grouts are fed into voids with hypodermic syringes until filled.

4.2.6 Lifting and relaying in situ
The lifting and relaying of the tessellatum on a new sound support is a major intervention. Ancient bedding mortars have to be sacrificed and the aesthetic character of the mosaic is inevitably changed. Therefore, it should only be undertaken if other forms of repair are not feasible. The most common justification is when ancient mortar is degraded and tesserae lack adhesion. Environmental threats are another reason, such as a high water table with aggressive soluble salts (however, reburial will also prevent further deterioration in this case).

Lifting and relaying on a new support will certainly stabilize a pavement, but it will not protect ancient tesserae from ongoing deterioration in an exposed environment, particularly if these are in a poor condition (Fig. 10).

There are two forms of lifting: in flat sections, or less commonly by rolling the entire pavement (Getty Conservation Institute 1991). For lifting in sections, the pavement is first traced on polythene sheeting with an indelible marker to provide a reference for reassembly. Separation or cutting lines are chosen, usually through straight border elements, to isolate manageable surface areas (e.g. under 4 m2). Tesserae along the lines are removed and retained. The surface is washed and cotton gauze is intimately applied with adhesive. This is followed by a stronger fabric, such as hessian. Water-soluble adhesives (e.g., polyvinyl acetate) have the advantage of ease of removal but poor grades may not remain easily soluble. The mosaic is then undercut through its mortar bedding, well below the level of the tesserae, with a long iron blade and mallet (Fig. 11). A wooden panel is slid beneath it and another on top. It is then turned over, and the facing fabric nailed to the panel to secure the mosaic in place.

Details of ancient fabrication are recorded, and unsound or excessive mortar still adhering to the mosaic is removed with a hammer and chisel. Mortar samples are also retained for eventual archaeological analysis. A new base is built on the site, if necessary with an impermeable layer (e.g., bitumen) and drainage. Each mosaic panel is progressively re-laid in fresh lime mortar, and tesserae from cutting lines are replaced. A fine fluid lime grout is spread over the mosaic to fill empty joints between tesserae, and any residue thoroughly washed off.
4.2.7 Removal of cement support

Many mosaics have been lifted and re-laid in cement mortar reinforced with iron bars. Such a backing needs to be detached if iron is corroding and fracturing in the panel. This is a slow and difficult process. The surface of the mosaic is faced with a strong fabric and solvent-based adhesive. Once lifted and reversed, a wooden or metal rig is built around and over the mosaic, to guide a rotary blade stone cutter. The cement is incised along parallel lines at regular intervals a few centimetres apart, stopping short of the tessellatum (Fig. 12). The cement is then gently undercut with a hammer and chisel.

![Fig. 12](image)

4.2.8 Treatment of lacunae

Areas of missing tesserae are conventionally filled with a lime mortar sympathetically coloured with natural sand.crushed stone aggregates. If any restoration of missing tessellatum is undertaken, this must avoid conjecture and be fully recorded.

5 Conclusion

Good conservation practice for mosaics requires a variety of complementary measures, both preventive and remedial. These should be chosen according to the significance and condition of the pavement, within a co-ordinated planning strategy for the site. Regular monitoring of condition with appropriate levels of maintenance is essential to preserve the material integrity of the pavement for the future.


The Stabilization and Protection of Archaeological Sites from Natural Processes

John Stewart

1 Conservation planning and risk management

Archaeological sites can be vulnerable to a variety of destructive natural processes or events, such as erosion or flooding. One critical objective of site management is the removal of the source of potential damage or mitigation of its effects, where possible (Fig. 1).

Fig. 1. Remains of an excavated Roman structure subject to seasonal flooding and ponding, which is typical of low-lying sites (Arles, France).

The conservation process is based on a sound understanding of archaeological resources, their extent and significance. It begins with an inventory of natural and archaeological features. A preliminary survey of the site follows, identifying potential natural risks within the landscape, the condition and vulnerability of known archaeological features, and the need for essential, more detailed surveys by relevant specialists (hydro-geologists, civil engineers).

Inventory and survey enable the critical process of risk analysis. This relates the historical frequency and intensity of specific natural events to the vulnerability of archaeological features. One output of risk analysis is the risk map (Accardo, Giani & Giovagnoli 2003), a useful planning tool which locates the geographical position of specific zones at risk, and ranks relative risks within the broader context (Fig. 2). It can also complement regional planning data on a GIS (Geographic Information System) database.

Preventive measures need to respond to the degree (potential severity) and scale (surface area) of risk. They can be simple, with very low environmental impact and cost, or large-scale, technical interventions requiring professional expertise. These fall into the following broad categories:

- stabilization of landscape;
- water management;
- vegetation management;
- management of livestock and burrowing animals;
- site capping and reburial.

Many sites require complementary interventions. For example, in temperate climes drainage and vegetation control are often integral to stabilization of landscape or reburial of archaeological features.

Measures proposed to protect an identified archaeological site, such as drainage, may put archaeological deposits at risk. Any such loss needs to be weighed against the benefits of the preservation of the site as a whole. The extent of buried features can be identified by means of remote sensing and trial excavation trenches. Rescue excavation may follow.
Materials for site stabilization and protection

Technical interventions need to employ materials which meet necessary performance requirements (e.g. physical and chemical properties, such as pH, porosity, compressive and shear strength, thermal values, transmission or containment of water). Soil, sand, crushed rock and gravel all constitute potential materials for site protection, sometimes in conjunction with fabricated products. Soil from an excavation is often a useful, economical resource, unless contaminated by industrial pollutants.

A broad range of fabricated materials is employed within civil engineering practice to stabilize sites from natural processes (Kavazanjian 2004). However, these are not necessarily essential in basic interventions. Locally-available materials may suffice.

2.1 Geosynthetics

These are planar materials made of synthetic polymers, serving as separation, cushioning, filtration, drainage, reinforcement or erosion control. There are also some equivalents based on natural materials. They constitute a variety of different forms (Fig. 3):

- geotextiles: sheets of polyester, nylon or polypropylene fibres of varying thickness. They are classified according to their manufacturing process, which also determines their principal properties (strength, flexibility, water permeability);
- geomembranes: impermeable sheets as barriers to water flow for waste management;
- geogrids: thin webs for soil reinforcement;
- geocells: stiff diamond-shaped cells filled with soil to provide erosion resistance;
- erosion control nets: synthetic or natural nets for soil reinforcement;
- geodrains: plastic panels with raised nodules, wrapped in geotextile.

Fig. 2 A risk map of damage caused by tree cover, including potential extension of roots, over the subterranean remains of the Domus Aurea, Rome. (© Giulia Caneva; from Caneva & Ceschin 2006)

Fig. 3 A variety of geosynthetic and natural products used for stabilizing slope surfaces, some of which also promote vegetation growth: a) permanent erosion control/surf reinforcement matting (Verdamat C350® Verdant Solutions); b) seeded mat (Covamat Plus® Greenfix UK); c) jute fibre mat (Geojute® Greenfix UK); d) straw and coir fibre blanket (Biomac® Maccaferri); e) geocell (Verdacell® Verdant Solutions); f) TriAx geogrid TM (“Tensar”).

92
3 Stabilization of landscape

Erosion of an archaeological landscape risks the exposure and loss of unexcavated deposits, as well as the destruction of exposed features. It is often associated with surface water (Fig. 4). This may be a result of complex inter-related natural factors, exacerbated by erratic or severe weather patterns, or human intervention (e.g. deforestation). The effects of erosion depend on the prevailing geography (geology, hydrology, topography) of a specific location and may be gradual and continuous, intermittent, or sudden (U.S. Army Corps of Engineers, 1992, Nickens 2000).

3.1 Soil slope erosion

Migration or collapse of unstable soil on a slope is prevented by surface or subsurface stabilization (Abramson et al. 2002). Surface stabilization (Fig. 3):
- geogrids, erosion control nets or seeded culture blankets;
- wire mesh.
These serve to contain and reinforce topsoil and some encourage rapid establishment of vegetation. As surface treatments, there is no disturbance to buried archaeology.

Subsurface works:
- modification of slope (reprofiling): lowering the slope, removal of unstable slope material;
- buttresses: removal of the base of a slope and replacement with rock fill;
- drainage trenches: catchment along levels of a slope;
- micropiles: reinforcement with parallel or radial piles;
- stone columns: reinforcement with vertical piles;
- ground nailing;
- geocells;
- soil grouting (cement, betonite).

Archaeological earthworks are ‘built’ structures and preservation of their profile is integral to their authenticity. Small-scale damage can instigate more substantial erosion, therefore consolidation is essential (Berry & Brown 1994; Rimmington 2004). This entails filling of erosion scars and reinstatement of ground profile, for example with soil-filled sacks, or concealed wooden revetments filled with local soil or gravel, and with turf or vegetation cover.

3.2 Rock slope erosion

Rock fall is a consequence of unstable rock face. The most common interventions consist of (Abramson et al. 2002):
- drainage: at the top of the rock slope or cliff;
- gabions: retaining walls of rock in wire mesh boxes;
- pinning: metal rods or anchors;
- metal containment nets (Fig. 5);
- consolidation: internal grouting, filling of exposed weak rock strata.

3.3 Shoreline erosion

Protection from shoreline erosion aims to dissipate the energy of flowing water or waves on exposed and sheltered coasts. (Fig. 6) This is particularly difficult on ocean or sea shores, as any construction transfers destructive action further along the coast. Protective measures depend on the context:
- exposed coasts (sea or ocean):
  - wooden revetments (at 90° to the coastline);
  - masonry sea walls;
  - offshore breakwaters: concrete blocks and boulders;
  - beach replenishment: import of sand.
Sheltered shorelines:
- landscape stabilization (revegetation);
- rock armour: rock piles, riprap (crushed rock);
- gabions (metal mesh cages filled with rock) (Fig. 7);
- seeded culture blankets.

In certain environments wind erosion exposes archaeological sites through depletion of soil or sand cover (deflation), or in others subjects exposed features to mechanical abrasion, by windborne particles. Mitigation of the wind effect entails the establishment of wind breaks which filter particles in the air:
- wind barriers: fences or screens (e.g. geosynthetic nets), usually perpendicular to the principal wind direction;
- revegetation: planting of trees, shrubs, or grasses.

If vegetation is to be effectively employed, it must be relatively dense, with a mature height sufficient to afford protection.

4 Water management

Water originates from natural sources (seas, oceans, rivers, streams, groundwater, and precipitation) or man-made features (water and sewerage mains, canals). It usually plays a destructive role on archaeological sites, causing damage from ponding or flooding, or serving as the catalyst for other forms of deterioration (e.g. soluble salts). However, water is essential to the preservation of waterlogged sites, where the survival of organic material requires high water levels to retain anaerobic (oxygen-free) conditions in the soil.

4.1 Removal of water: drainage

Drainage has a potential role in many forms of site protection, in removing or mitigating the effect of water in the ground. Effective drainage design requires determination of the source of moisture and the nature of drainage required. Landscape drainage is intended to intercept and evacuate water, reducing its level in the ground. The conventional drain is a trench with a perforated pipe at its base, which is filled initially with gravel, and progressively finer materials to act as a filter. The width of the trench is proportionate to the depth necessary to function adequately. The construction of drains obviously destroys archaeological deposits. This loss can be reduced by the use of modern plastic geodrains.
(Fig.8), which are much thinner than conventional drainage trenches. Most drains are prone to blockage by fines in the soil, and need to be renewed. There are multiple forms of drainage (Abramson et al. 2002):

Surface drainage:
- vertical wells: filled with aggregate to prevent ponding
- grading and berms: redirection of surface runoff

Subsurface drainage:
- drain blankets
- trenches
- cut-off drains
- relief drains
- drainage tunnels

Drainage can be installed over very large areas, such as a perimeter ring around a site, or alternatively around specific features.

Many waterproofing techniques are used in new construction (impermeable coatings, injection of hydrophobic chemicals, or insertion of an impermeable damp-proof course layer). These are not appropriate in archaeological structures, being damaging and irreversible.

Groundwater often contains soluble salts which cause deterioration of exposed structures of stone, brick, plaster and mortar. In general, perimeter drains cannot lower a high water table sufficiently to prevent such damage, and may only accomplish a small reduction in height of the *capillary fringe* (the level attained by capillary moisture rising within a wall). However, they can be useful to intercept water at the base of slopes, before it reaches an exposed structure (Collombet 1985). In rare cases, removal of groundwater by mechanical pumping may be justified, but this entails many risks, such as ground subsidence, structural settlement and mechanical breakdown of pumping equipment. Reburial is another method to prevent deterioration from soluble salts (see below).

4.2 Flood protection

Flooding occurs when the amount of water in a lake or river overflows its boundaries, when there is excessive surface runoff on a slope, or in periods of high river or coastal tides. Sites which are close to the source of flooding are particularly vulnerable, as well as low-lying areas. The latter is often a consequence of excavation. Prevention consists of:
- dikes: natural or artificial slope or wall along the course of a river;
- reservoirs: catchment and containment of water behind a dam;
- weirs: small over-flow dam raising the level of a river or stream.

Many preventive strategies developed for civil protection can be applied to vulnerable archaeological sites.

4.3 Maintenance of water table

Waterlogged or wetland sites contain organic artefacts or structural material in an anaerobic environment which prevents biological activity. Their preservation depends on maintenance of the level of the water table, or the zone of permanent saturation. This can be at risk from local water abstraction, pollution, drought, drainage, new construction, peat or mineral extraction (Corfield 1996). The stability of the site is measured by its *Redox* potential, which is the rate of chemical reaction (transfer of electrons) in an aqueous environment, influenced by the presence or absence of oxygen (Caple 1998). If at risk, the water table needs to be maintained by containment features, such as geomembranes.

5 Vegetation management

Vegetation can be destructive to buried archaeology and to exposed features through physical disruption from the growth of their woody root systems. Conversely, maintenance of existing vegetation or revegetation can be highly beneficial in the stabilization of archaeological landscapes (see soil slope erosion above). It is natural, relatively low cost, enhances biodiversity, and disperses wind and water energy (Thorne 1992).
5.1 Tree management

The role of tree cover on particular site requires a preliminary assessment of its protective or detrimental role (Fig. 2). This determines tree species, age, root size depth and extent, density, and location in relation to recorded archaeological features (Crow & Moffat 2005). Trees typically have shallow but widespread root systems. However, rooting depth depends primarily on soil conditions and individual species.

Tree root systems put shallow archaeology at risk. Another threat from trees is windthrow, or upheaval of the root plate in heavy storms, and uplift of archaeological deposits. The risk is dependent on tree species and soil type. Woodland management is the principal means to prevent overloading of tree cover/umbrella.

Planting of new trees in strategic locations may be one solution to stabilize a site. The potential risks of these to archaeological resources can be reduced by selection of tree species of known rooting depth, and which are appropriate for local soil and environmental conditions.

5.2 Vegetation and soil reinforcement

The removal of trees from a slope to protect archaeological deposits, or for other reasons, can result in soil erosion. Stabilization requires the establishment of a suitable vegetation cover with a root system which increases the resistance to mechanical shearing and erosion of soil (Thorne 1992). Plants should be native to the area, with shallow root systems capable of holding soil in place. Manufactured surface nets or blankets are designed to promote re-vegetation. Some contain seedlings (Fig. 3 a – d).

A designed vegetation cover may be one means to discourage livestock where they are present, but it may also protect burrowing animals, such as rabbits, from their natural predators.

6 Management of livestock and burrowing animals

6.1 Livestock

In some archaeological landscapes cattle, sheep or goats may have considerable freedom to graze and roam. If access is not restricted, damage can be inflicted to exposed structures and pavements from physical disruption, or to earthworks, from surface trample and scarring (Fig. 9). Prevention entails:

- barriers: vegetation, fences, dry stone walls;

- management of pressure points: moving gates, fences, feeding troughs, or creation of new sheltered tree cover away from the vulnerable features, such as earthworks (Rimmington 2004).

Damaged surfaces need to be consolidated and re-turfed (see stabilization of earthworks above).

6.2 Burrowing animals

Burrowing animals cause major disturbance to archaeological deposits and earthworks. In the first instance the species causing problems need to be identified. However some may have legal protection and any control may be regulated by law. Potential methods of control consist of the following (Dunwell & Trout 1999, Rimmington 2004):

- culling: creation of sacrificial feeding areas for eradication, toxic baits and traps. This should ideally be carried out prior to the breeding season;

- exclusion: fencing for large mammals, netting for small mammals and birds, wire netting of the ground of small sites (fencing is extended to protect areas after removal has been achieved);

- habitat modification: control of ground cover through the removal of trees and scrub which offer protection from predators;

- repellents: foul coatings or odour repellents to deter feeding on plants (only with short-term effects), or planting of offending vegetation if possible;

- frightening devices such as sonic emitters, effigies, lights, reflectors.

Reduction of burrowing animals is challenging and requires programmed planning of complementary measures if it is to be successful.
Site capping and reburial

7.1 Capping

Relatively shallow unexcavated sites at risk from natural phenomena can be preserved by means of a protective cover, or capping. To be effective this needs to be based on an assessment of the nature and depth of archaeological deposits, classes of artefacts present, natural soil mechanics, and an analysis of risk of the new cover and any surface activity, such as physical compaction and changes in hydrology.

Materials employed for capping need to be relatively inert, have a pH compatible with that of the site, and be resistant to compaction (Thorne 1991). The most common material is riprap, which is more stable than sand or soil. Coarse, angular rock is more resistant to compression than rounded rock. Geotextiles can be laid over the site to serve as ‘horizon markers’ of human intervention, and prevent contamination of contexts. Compaction by heavy vehicles during delivery of cover materials is to be avoided (Ardito 1994). Depending on site use, revegetation may be necessary to maintain surface stability.

7.2 Reburial

Most remains that have survived from antiquity have done so in burial conditions. Organic materials require a waterlogged environment, but inorganic materials such as stone, brick and mortar are preserved in most soils. All materials deteriorate, but the process of deterioration of these inorganic materials is certainly slower below ground. Intentional reburial (or backfilling) offers several advantages:

- long-term protection with a minimum of resources;
- protection during conservation planning;
- protection during excavation seasons;
- protection at minimal expense of some features, releasing funds to better protect and present other features selected for public display.

It can be applied to parts of sites, or even entire small sites (Getty Conservation Institute 2003).

When planning for tourism, as in much of the Mediterranean, reburial is not considered as a conservation option. It is assumed that all excavated sites and features will be of interest to all visitors. The reality is that most sites – large and small - are poorly interpreted, access is often restricted, and minor features fail to captivate public imagination. However, reburial is a proven conservation option and is used as a cost-efficient tool in many other countries (Demas 2004) (Fig. 10). For this reason it is described in additional detail below.

Fig. 10  The medieaval Pueblo structures of Chaco Canyon, New Mexico were excavated in the early 20th century, but have been selectively backfilled to maintain their structural integrity and reduce maintenance.
7.2.1 Planning for site reburial

The study of existing burial environments and the design of new ones is a new area of scientific research. This may involve the creation of a quantitative site decay model or matrix to determine the desired new environment to be created (Mathewson & Gonzalez 1988). However, empirical observations made for the survival of inorganic building materials provide some basis for the design of protective burial environments by relatively simple means (Stewart 2004). A poorly designed reburial regime will afford no protection. Criteria for design of a reburial regime mainly include the classes of archaeological materials and features present, their condition, the local climate and the intended duration of reburial.

7.2.2 Environmental criteria for reburial

- Water management: the free movement of water through the soil and archaeological features/deposits;
- materials compaction: ancient burial needs to be replicated, with continuous and intimate contact between burial material and reburied features;
- depth of cover: adequate thermal protection and physical deterrent to deep-rooted vegetation;
- protection against site erosion: slope stabilization and surface or subsurface drainage.

7.2.3 Functional criteria for reburial

- Duration of reburial (short, medium or long-term): defines the materials and depth of cover required;
- separation membranes: the inclusion of synthetic sheets (see below) to facilitate re-excavation as part of on-going archaeological investigations, or to serve as ‘horizon markers’ of archaeological activity (Fig. 11);
- security against theft and vandalism: the addition of physical barriers to inhibit illicit excavation;
- ease of maintenance: use of durable landscape materials/vegetation that require the minimum of maintenance, while providing sufficient protection.

7.2.4 Materials for reburial

- Ideal properties: physical/chemical stability, or with a pH similar to reburied features/soil conditions; non-staining; fully permeable to water but preventing perching of water in a specific layer (e.g. no coarse sand);
- fill materials: soil from the excavation is normally excellent (except from contaminated industrial sites); well-graded sand allowing free capillary movement of water;
- separation membranes: open weave plastic netting, geotextiles with good water-vapour permeability (Roby 2004);
- soil reinforcement grids or nets: to stabilize cover material and encourage growth of suitable vegetation (Fig. 3 a – d);
- landscaping cover: turf, hardy vegetation with shallow root systems, solid pavements (depending on site topography and use requirements).

Materials such as plastic sheeting, some geotextiles, gravel, and clay pellets do not satisfy these criteria and should be excluded from burial design. The properties of geotextiles vary greatly (pliability, drainage, root penetration, absorption) and normally only those with proven water-vapour permeability would be used (e.g. non-woven and mechanically bonded, needle punched).

7 Maintenance and monitoring of interventions

All interventions require maintenance and monitoring of performance over time. Monitoring technique is specific to the nature of the site:

- ground profile (reburied sites or earthworks): measurement through metric survey or with soil erosion pins (fixed metal rods as benchmarks to measure changes in soil level) (Rimmington 2004);
- vegetation: survey of vegetation species, size and density;
- drainage: excavation or monitoring of moisture content with soil moisture cells to identify blockage;
- ground water levels: manual or electronic recording of water in piezometers or dip well tubes;
- chemistry of waterlogged sites: extraction of groundwater and chemical analysis of its Redox potential (Corfield 1994). However, the basis for monitoring all interventions is routine visual inspection.
Many destructive processes or events affecting archaeological sites can be prevented by proven materials and techniques. These are being applied with growing experience and confidence. However, expert advice is essential when dealing with complex issues. As with other forms of conservation, implementation and maintenance of these protective measures require a robust management infrastructure.

References


Cultural landscapes in Environmental Management

Katri Lisitzin

Sustainable development is based on a resource management approach. International conventions and national environmental legislations have lately recognized cultural heritage as a non-renewable resource and a development factor (World Heritage Convention, UN Millennium Development Goals, Habitat Agenda, and European Landscape Convention). In a wider context, according to the UNDP report "Human Development Report 2004" with the title "Cultural liberty in today’s diverse world", cultural heritage is much more important for wealth and democracy than previously presumed.

Some international development actors who have included cultural environments in their checklists are, for example the World Bank, UNEP (United Nation Environment Programme), IUCN (The World Conservation Union), FAO (United Nations Food and Agriculture Organisation), UNESCO, IADB (Inter-American Development Bank) and ADB (Asian Development Bank).

Some definitions:
UNESCO World Heritage Convention: Cultural landscapes are cultural properties and represent the “combined works of nature and of man”. They are illustrative of the evolution of human society and settlement over time, under the influence of the physical constraints and/or opportunities presented by their natural environment and of successive social, economic and cultural forces, both external and internal.
IUCN/WCPA: Community Conserved Areas: Natural and modified ecosystems, including significant biodiversity, ecological services and cultural values, voluntarily conserved by indigenous peoples and local and mobile communities through customary laws or other effective means.
FAO: Remarkable land use systems and landscapes which are rich in biological diversity evolving from the ingenious and dynamic adaptation of a community/population to its environment and the needs and aspirations for sustainable development.

In this perspective there is no difference in safeguarding natural or cultural heritage values; managing biodiversity or cultural diversity, as one example. Many biotopes can be seen as historical remains in the cultural landscape and must be treated accordingly. Other environmental gains are achieved by linking local resource-based techniques and know-how with ecological management. At the same time, the rapid transformation of our environment sets the cultural landscape under great pressure.

However, development initiatives, often financed by international agencies, give a priority to large infrastructure projects, overall environmental rehabilitation and new urban structures. These will all have a strong impact on the existing cultural and natural environment. Cultural heritage is often linked to economic development through tourism development. The indirect effects of these large projects are often quite extensive; a new road attracts new development, traditional settlement structures can be broken up obstructing local connections in the daily life and the new standards may require a new lifestyle. The recent focus on preventive environmental conservation in connection with disaster relief has stressed the need for effective mitigation measures. These must take into consideration the complexity of the existing cultural and social structures while reconstructing the physical environment. Research on environmental effects has shown that many small cumulative impacts may result in greater environmental – and cultural – impact than foreseen and add to considerable damage in a long-term perspective.

Still, in current practice cultural heritage is seldom integrated into overall environmental planning and management. The management of cultural heritage encounters difficulties in environmental planning processes because cultural values are considered by decision-makers, regulatory authorities and developers as being neither easily identifiable, nor quantifiable nor measurable. On a landscape scale, responsibility for cultural heritage belongs to several political, administrative and professional sectors. The management response to these environmental and socio-economic changes is a challenge for conservation professionals.

1 One tool: Environmental Impact Assessment

New tools, coordination mechanisms and practical approaches are currently being explored in order to gain a better understanding of how to safeguard cultural values on a landscape scale.

In the ATHAR programme, the use of one of the environmental planning tools, Environmental Impact Assessment (EIA) has been explored. The participants’ current practice is mainly in archaeological and cultural properties, but urban and cultural landscape management is recognized as a field where new professional competence is necessary.

The conservation situation in a great number of sites is seriously affected by urban development or infrastructure projects along with environmental degradation.
The World Heritage Sites Byblos (Lebanon), Rice Terraces of the Philippine Cordilleras (Philippines) and Kotor Bay (Montenegro) illustrate how environmental planning issues are closely linked to the safeguarding of the cultural heritage. In Byblos they deal with the growing urbanisation and consequent environmental degradation; in the Rice Terraces with the importance of traditional land-use as the base for ecological sustainability; in Kotor the need for integrated natural and cultural conservation measures.

The aim of an EIA is to support integration of environmental considerations into policy-making, planning and programming and decision-making. Environmental impact assessments for larger projects are required in national legislations and in the directives for international funding agencies. "The environmental impact assessment shall identify, describe and assess in an appropriate manner the direct and indirect effects of a project on human beings, fauna and flora, soil, water, air, climate and the landscape in material assets and the cultural heritage... and the interaction between these (EC Council directive 1997). Architectural and archaeological heritage are included as aspects of the environment. The cultural heritage is to be treated as thoroughly as other environmental aspects. The cumulative impacts of the proposed changes must also be clarified in a long-term perspective. An EIA is increasingly used in urban planning in order to evaluate the impacts of different alternative solutions.

For the conservation field, the questions asked in an EIA "if, where and how" a development should take place, are relevant. The option to require alternative solutions has proven to be a very useful way for finding adaptive solutions. The EIA also allows one to specify mitigation measures – and to identify the impacts that cannot be mitigated.

A critical discussion among ATHAR course participants has dealt with the constraints of dealing with qualitative measures, i.e. qualitative indicators and quality objectives addressing cultural heritage management. The main question remains whether the data can be used for assessing the changes the new project will bring; if it is leading to deterioration or to an improvement, and how these changes can be mitigated and monitored. Relevant and comprehensive baseline data is essential for an adequate assessment of heritage impacts. Many of the existing EIAs present ambitious technical data about the project itself and its implementation, but a concise analysis of the cultural environment is lacking.

Formal and voluntary guidelines and good EIA practice are emerging on a local and international scale. These concern both the physical aspects of the cultural landscapes and properties but also the impact on intangible values and the perceptions of the local community. For example, there are voluntary guidelines for the conduct
of cultural, environmental and social impact assessments regarding developments proposed to take place on, or which are likely to have an impact on, sacred sites and on lands and waters traditionally occupied or used by indigenous and local communities (Akwé: Kon voluntary guidelines, Secretariat of the Convention on Biological Diversity, 2004; Sustainable Development Guidelines for the Review of Environmental Impact Assessments. Sida, 2003).

A successful EIA has a structure which allows for a dialogue between developers, professionals and the local community. In this way we may direct attitudes and decisions about cultural heritage towards a beneficial resource perspective instead of seeing it as an added cost and an obstacle for development.

References

World Bank: www.worldbank.org
International Association for Impact Assessments: www.iaia.org
Visual Impact, Colour and Aesthetics in Built Heritage Conservation and Restoration

Andrea Urland

Abstract

One of the challenges when having the task of conserving and restoring façade surfaces lies in the fact that in the majority of cases there is no reliable information on their colour appearance in earlier periods. Moreover, many buildings have lost their original context, or have been modified over time and yet the result, the final appearance, should be acceptable to professionals as well as to the public. All these, together with the interruption or loss of traditions in many places of the world, are the reasons for using research results and tools such as colour plans when deciding about colour schemes for individual buildings, groups of buildings or historic urban structures.

1 Aspects of colour in international documents on conservation and restoration

There are no direct indications on how to face the challenge, although in the major internationally accepted documents colour and appearance are mentioned as subjects of concern and protection with regard to selected aspects.

The Venice Charter – International charter for the conservation and restoration of monuments and sites (ICOMOS 1964) Article 6 deals with the colour of a single monument in relationship to the setting: The conservation of a monument implies preserving a setting which is not out of scale. Wherever the traditional setting exists, it must be kept. No new construction, demolition or modification which would alter the relations of mass and colour must be allowed.

In the Burra Charter – Australia ICOMOS charter for places of cultural significance (ICOMOS 1979 and later revisions) we find in Article 8 which deals with setting, the notion of colour specifically mentioned in relationship to the visual setting: Conservation requires the retention of an appropriate visual setting and other relationships that contribute to the cultural significance of the place. Aspects of the visual setting may include use, siting, form, scale, character, colour, texture and materials.

The Washington Charter – Charter for the conservation of historic towns and urban areas (ICOMOS 1987) in Principles and objectives, Point 2/c, relates colour to the formal appearance: “Qualities to be preserved include the historic character of the town or urban area and all those material and spiritual elements that express this character, especially the formal appearance, interior and exterior, of buildings as defined by scale, size, style, construction, materials, colour and decoration.”

In the Principles for the recording of monuments, groups of buildings and sites (ICOMOS 1996) under Point j, again the need of assessment of the visual and functional relationship between the heritage and its setting is stated.

The Recommendations on the Conservation of Historic façades adopted by the participants and lecturers/staff of the International Architectural Conservation Course (IC-CROM/Bundesdenkmalamt 1996) provide valuable statements. Statement No II confirms that the first impact with a historic building is always emotional. With regard to this fact the notions of age value (patina) and material authenticity should also be applied to plastered façades and their colour schemes. In Statement No. III the relationship of historic buildings to larger settings is stressed (ensemble, townscape, landscape) and therefore regulations for materials, colours, etc. should be developed.

2 Colour choices - the conditioning factors

Choices of exterior colour schemes were in the past conditioned by possibilities mainly technical and financial such as access to material, costs, but also questions of taste – stylistic influences as well as preferences of the owner or builder. Colours were thus an important means of inserting buildings into the changing style in favour of artistic unity.

Colour is a means of interpretation and presentation. As such, it is conditioned by the changing material and technological possibilities, changing philosophy, taste, aesthetic feelings, developing human vision and new knowledge and technical possibilities. Nowadays we are facing a vast offering of materials and colours with no major price differentiation.

3 Findings and the new critical decision-making process

Being sacrificial layers, the architectural surfaces and surface finishes were often replaced, and we find fewer and fewer authentic remains of paint and colour. Information on the original and historic colour schemes can be sought either in archives, or in some cases in situ by means of stratigraphies. Sometimes asking residents and relying on their memories can also be a source of useful information. The findings resulting from these sources are, however, not really fully reliable.
The frequent rebuilding and adaptations of façades provide a sum of various historical situations that overlap. Dating of layers and co-existing colours is difficult (Fig. 1).

We find various value categories of façades and their surfaces side by side. The above-mentioned surveys and analyses generally provide information on materials but not on appearance (i.e. hue, blackness content/lightness, chromaticity/saturation) or on the distribution of colours on the façades (co-existence in time). Findings in stratigraphies in situ can tell us about the materials and technologies used, and sometimes about the texture, but due to dirt deposits, weathering, application of subsequent layers, etc. the colours might have changed over time. In general, documentation on colour is not precise enough and there is no unity in its elaboration. In the critical process of deciding the colours, besides historical evidence we need to take into consideration colouristic aspects. The aim should be to maintain the memory, maximum richness of authenticity and credibility, truthfulness and, at the same time, provide for continuity – this is a dialogue with time. In the decision-making process, in cases of missing original surfaces, the reconstruction of a known original or historical colour scheme can be considered if the overall artistic value of the object is to be emphasized or if the documentary value calls for re-proposing these colours. This approach may not be acceptable with regard to the surroundings, the context, or with regard to the “age” value. Other factors influencing the decision-making process can be the shift in aesthetic feelings (time factor) and the building’s changed function/position in the society.

When intending to re-propose any of the historical colours, we encounter further problems: the varying expectations ranging from imagination of “new and beautiful” to the minimal intervention practice. The transformed context of an individual building is rarely sufficiently considered. By respecting only the historic evidence we run the risk of creating colour schemes that had never existed before, coexistence where there had been a time sequence and thus sacrificing conceptual harmony in favour of a virtual, even if well documented, historic reality.

Another fact that has a strong influence on colour choices is the current setting. Most buildings have over their history been several times modified or re-built, including the façades. The original colour scheme applied at the first completion of the building has in most cases been succeeded by other historical colour schemes and we find ourselves with the challenging task of deciding to respect either the present-day façade or the one we intend to restore it to.

Any decision-making about exterior colour schemes is an intervention in an existing environment, a present-day intervention, an interpretation of the cultural heritage. Deciding on visual appearance, colour choices should be based on three types of considerations:

- the historical aspect, i.e. understanding the “original” situation, builder’s intention, aim and then the subsequent historical changes and modifications;
- material-technological aspect, such as optical properties or craftsmanship;
- philosophical aspects – questions of authenticity, understanding the current setting, knowledge of present-day taste and requirements, the role/position of the building in the society and setting, local traditions, “colour climate”.

We are dealing with colours in combination and interaction, complex aesthetic colour combinations under the influence of light, colours themselves, area size, distance, texture, function of the object, etc. The effects of colours applied on object surfaces are physical, physiological and psychological (emotional).

Colour as a phenomenon can be explained from the point of view of physics and psychology. In physics it is considered an objective phenomenon: radiant energy, electromagnetic waves. In psychology it is understood as a subjective phenomenon, a response to the physical stimulus, a visual quality. The colour appearance of an object depends on the spectral distribution of the incident light, the spectral reflectance of the object surface, and the spectral response of the observer. Terminology concerning colour belongs to three disciplines: physics, psychophysics and psychology. In practice we most often use the psychological terminology to characterize or describe colours: hue, saturation/chromaticity, brightness/lightness/blackness.
The approaches – some principles

Generally, in practice we encounter façades and their colour schemes that are of varying value levels and degrees of protection. Where original materials and colour traces are still preserved, the aim should be to conserve them and complete missing parts by integration (Fig. 3).

In the case of façades that have lost their original or historic surfaces and expression by heavy rebuilding, mostly a more contextual approach to their new colour schemes is possible. There are many façades that have lost their original stylistic purity and expression by subsequent modifications – the task in such cases would be to select those colours which on the basis of survey and research correspond to the stage/state of the façade agreed upon as the one to present.

The effects of colours, namely physiological, psychological and contextual, should be carefully taken into consideration in all decisions on colour schemes, where circumstances allow. The loss or interruption of traditions, the vast offer of new materials and the resulting inappropriate use of colours has led to reliance on survey and research and also in the use of tools for dealing with this challenge. In practice, when dealing with colour in an urban context, there is need for coordination in order to avoid anarchy, mainly by means of colour plans (Fig. 4), regulations and guide-


ICOMOS. 2004. *International Charters for Conservation and Restoration Monuments and Sites I*


International Standards for the Protection, Management and Promotion of Cultural Heritage

Ridha Fraoua*

1 Introduction

This paper does not aim at conducting a comprehensive analysis of international standards for the protection, management and promotion of cultural heritage. The time allotted to us would hardly suffice. Our goal is rather to delineate the international legal framework and its main constituent elements through an examination of existing international instruments. In other words, we aim to review the scope of international codification pertaining to this area by sketching out the range of international instruments and, in particular, the compass afforded by those measures.

We will focus on binding legal instruments, excluding from our discussion recommendations and other statements which fall under the heading of ‘soft law’ (i.e. law in the making or in the course of inception). We will further focus on conventions of a universal character, disregarding regional or bilateral agreements. We will, however, make an exception in favour of the 1992 Council of Europe’s European Convention on the Protection of Archaeological Heritage as it is the only treaty whose scope is exclusively drawn with archaeological sites and property in mind, a fact of resounding interest to us.

The international codification of the protection of cultural property is mostly carried out under the auspices of UNESCO, a specialized organization of the United Nations. UNESCO was founded after the Second World War as a result of the ratification of The Hague Convention of 1954 for the Protection of Cultural Property in the Event of Armed Conflict. This codification continues in our day with the adoption, on October 20th 2005, of the Convention on the Protection and Promotion of the Diversity of Cultural Expressions. Some regional organizations have also taken upon themselves to contribute to this codification. Such is, for instance, the case with the Council of Europe and the Organization of American States. The Arab League has not, to our knowledge, adopted any binding rules in the field of the protection of cultural property.

2 The Hague Convention and its Additional Protocols

The Hague Convention of 1954 regulates the protection and safeguarding of cultural property, be it movable or immovable, against the predictable effects of armed conflict. By armed conflict, we mean a state of war between two or more belligerents. Whether or not this state of belligerency is formally declared or acknowledged by one or more of the belligerents is irrelevant. Occupation, even if it meets with no armed resistance, is to be treated as a form of armed conflict. The Convention is also applicable in situations of armed conflict between a State Party and a non-State Party, provided that the latter State expresses its willingness to accept and implement the provisions of the Convention. Conversely, the issue of whether the Convention is also applicable to armed conflicts in which peoples are fighting for the right to self-determination has not yet been unanimously agreed upon. Nevertheless, it is generally accepted that the fundamental rules of the Convention are an integral part of customary international law.

The Convention places an obligation on States Parties to protect their cultural property and that of third party countries in situations of armed conflict. It prohibits the use of cultural properties or their immediate surroundings for purposes that could expose them to destruction. It requires that States Parties take measures to prevent and proscribe the theft, looting, vandalizing, and misappropriation of cultural property, as well as acts of reprisal against those properties. The Convention also requires that States Parties occupying all or part of the territory of another State Party ensure the protection and conservation of cultural property in the occupied State. It, furthermore, provides for a special level of protection for markedly important movable or immovable, cultural property. Such cultural property enjoys immunity when enrolled in the ‘International Register of Cultural Property under Special Protection’. The Implementing Regulations of the Convention define the conditions for inclusion in the Register. Cultural property under special protection must be provided with a distinctive emblem as defined in Article 16 of the Convention.

Protocol I of the Convention places States Parties under an obligation to prevent the export of cultural property from occupied territories in wartime. If cultural property is imported from an occupied territory to the territory of a State Party, the latter is bound by Protocol I to sequester the property in question and to return it, at the end of hostilities, to the competent authority in the formerly occupied territory. Cultural property illegally exported from the occupied territory of a State may not be retained as war damages (Toman 1994).

* CONFERENCE ORGANIZED AT THE OCCASION OF ICCROM/ ALECSO’S REGIONAL COURSE ON THE CONSERVATION AND MANAGEMENT OF ARCHAEOLOGICAL SITES, IN AMMAN, JORDAN, ON JULY 3RD 2007.

109
In 1999, Protocol II of the Convention was created with the express aim of circumventing certain loopholes in the first text. It identifies and elaborates on the implementation modalities of the general protection principles. It creates a new system of enhanced protection reserved, under certain conditions, for cultural goods. These goods must be of the utmost importance for humanity and be registered on a list by a Committee established under the Protocol (Pelletan 2005). The use of cultural property enjoying high-level protection for military purposes is punishable by penal sanctions and can qualify as a war crime.

1 It must be a property of the utmost importance for humanity and one which benefits from a high level of domestic protection, guaranteed by legal and administrative measures which recognize its outstanding cultural value, and it cannot be used for military purposes, see art. 10 Protocol II.

2 Egypt, Jordan, Libya, Syria, Lebanon, Iraq, Morocco, Kuwait, Yemen, Sudan, Saudiarabia, Qatar, Oman and Tunisia.

3 Egypt, Jordan, Libya, Syria, Lebanon, Iraq, Morocco, Yemen, Kuwait and Tunisia.

Several Arab States have ratified the Convention\(^1\) and Protocol \(^2\), but few have ratified Protocol II\(^3\) to date. Yet, these States have not taken any legislative measures to implement the Convention or to ensure effective protection of their cultural heritage during armed conflict. It is noteworthy that so far, only five States out of the Convention’s 114 Member States have complied with their international obligations by adopting normative rules ensuring the implementation, during peace time, of those preventive measures necessary for the establishment of the system of protection required by the Convention\(^4\).

3 The UNESCO Convention of 1970

The UNESCO Convention of 1970 on the Means of Preventing and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property is the first multilateral agreement governing the international transfer of cultural property. It aims to promote the protection of cultural property in different States, to protect and safeguard the cultural heritage of mankind through cooperation between all States, and to combat illicit trafficking of cultural property, which is one of the foremost reasons behind the loss of cultural heritage in countries of origin (Raschèr, Bauen, Fischer & Zen-Ruffinen 2005). The Convention is directed at States Parties (legislative and executive) and does not posit any individual rights or obligations. It is therefore not directly applicable and must be implemented at national level (art. 16).

The Convention applies to movable cultural property. Cultural property is here defined as: "property which, on religious or secular grounds, is specifically designated by each State as being of importance for archaeology, prehistory, history, literature, art or science" and which falls into one of the eleven categories of cultural property listed in Article 1 of the Convention. In addition, the Convention has no retroactive effect. It can only be put into operation, in a given State, after the Convention has come into force for the aforementioned State. The Convention, nevertheless, pronounces explicitly that States Parties are at liberty to conclude separate agreements in view of obtaining restitution for cultural goods exported before the entry into force of the Convention (art. 15).

The Convention places States Parties under numerous obligations, which can be summarized as follows:

- Obligation to fight against the import, export and transfer of ownership of cultural property (art. 2). All acts in violation of the national provisions on the protection of cultural property adopted in view of implementing the Convention are deemed illegal, (art. 3). Also illegal is the coerced export and transfer of cultural property resulting directly or indirectly from the occupation of a country by a foreign power (art. 11)\(^5\).

- Obligation to acknowledge the criteria that delineate, exhaustively, the elements which constitute national heritage. These criteria are the artist’s nationality or place of residence, the location at which the piece was discovered, and the conditions of its legal acquisition.

A general rule, national legislations on the protection of cultural property do not mark out the content of their national heritage nor do they cite criteria allowing for the easy demarcation of this heritage. Hence the importance of Article 4 of the Convention which constitutes the first and only attempt in international law at codifying criteria for the delimitation of national cultural heritage. Regrettable though this may be, the Convention does not provide a mechanism for settling disputes between two Member States both of whom claim that a cultural object is part of its own national heritage. Article 17, paragraph 5 of the Convention does indeed stipulate that UNESCO can offer to adjudicate in the case of disputes between Member States, but it does not spell out the applicable procedure nor does it define the authority, within UNESCO, which is to take on such a role.

4 So far, only three Arab States are on the list of States Parties, namely, Qatar, Libya and Egypt.


6 This provision follows the principles of The Hague Convention for the Protection of Cultural Property in the Event of Armed Conflict of 1954.
Obligation to establish one or more departments specializing in the protection of cultural property. These departments must be provided with qualified personnel and sufficient financial means to carry out the multiple tasks incumbent upon them. The tasks are listed in the Convention. They include drafting bills and regulation proposals, establishing and maintaining a national inventory for cultural protection, supporting the creation and the development of scientific and technical institutions specializing in the conservation and enhancement of cultural property, overseeing archaeological excavations, defining and upholding rules of conduct chiefly applicable to conservationists, antiquarians and collectors, fostering respect for the cultural heritage of all States through educational activities, informing the public about cases of disappearance of cultural property, and collaborating with all those services dedicated to the protection of cultural property from other States Parties to promote the return of illegally exported cultural property to its rightful owners, (art. 5, 13, let. b, and 14).

Obligation to institute a certificate attesting to the legality of cultural property destined for export in order to prohibit the export of uncertified cultural property, and to bring the prohibition to the public’s attention (art. 6).

Obligation to prohibit the import of cultural property stolen from a museum or from a public, civil or religious monument and listed on the inventory of that institution. The theft, however, has to have occurred after the Convention was put into effect in the States concerned (art. 7, let. b(i)).

Obligation to seize and return, at the request of the State of origin, any cultural property stolen from a museum or from a public, civil or religious monument and imported into the second State’s territory after the Convention has been put into effect in both States. This obligation is, however, subject to the condition that the requesting State provides, at its own expense, evidence to support its claim for the recovery and restitution of the stolen cultural property and that it pays, in addition, a fair compensation to the bona fide purchaser of such property (art. 7, let. b(ii)).

Obligation to include, within domestic legislation, criminal or administrative sanctions against violations of the ban on the import and export of cultural goods (art. 8).

Obligation to participate in any organized international operation to control the export, import and international trade of a State’s archaeological or ethnological property if the State’s cultural heritage is threatened with looting. Pending the establishment of such an international operation, all States Parties concerned must take measures to prevent irreparable damage to the cultural heritage of the requesting State (art. 9).

Several Arab States have ratified the 1970 UNESCO Convention. However, like many other States Parties, they have not taken the legislative, regulatory, and administrative provisions necessary for its implementation. Thus, these Arab States cannot, at present, benefit from the protection mechanisms afforded by the Convention and particularly by articles 7, 9 and 13.

7 The U.S.A. has concluded bilateral agreements with the following countries: Mexico, Peru, Nicaragua, El Salvador, Guatemala, Bolivia, Honduras, Italy, Mali, Cambodia, Canada, and Cyprus.

8 Kuwait, Libya, Iraq, Jordan, Algeria, Syria, Tunisia, Saudi Arabia, Qatar, Mauritania, Oman, Lebanon and Morocco.

The UNESCO Convention of 1972 on the Protection of World Cultural and Natural Heritage is the only legally binding international instrument applicable to both cultural and natural property. It aims to complement national safeguard measures with a system of international cooperation and assistance specifically designed for cultural and natural properties of outstanding interest and whose disappearance would lead to the impoverishment of the heritage of mankind. To put it differently, the Convention introduces a mechanism for the identification, protection on an international scale, and the preservation and enhancement of cultural and natural heritage of outstanding universal value. This mechanism is intended to assist States Parties in their efforts to preserve and identify their heritage, both cultural and natural (art. 7).

Articles 1 and 2 of the Convention define cultural and natural heritage. Declared as integral parts of our cultural heritage are monuments (architectural works, works of monumental sculpture and painting, elements or structures of an archaeological nature, inscriptions, cave dwellings), combinations of features (groups of buildings, separate or connected) and sites (works of man or the combined works of nature and man) which are of outstanding universal value from the point of view of history, art, science, aesthetics, etc. As for natural heritage, it is defined by the Convention as the natural features consisting of physical and biological formations, geological and physiographical formations and precisely delineated areas which constitute the habitat of threatened animals and plants that are of outstanding universal value from an aesthetic, scientific or conservation point of view.

Outstanding universal value is defined as "cultural and/or natural significance which is so exceptional as to transcend national boundaries and to be of common importance for present and future generations of all humanity. As such, the permanent protection of this heritage is of the highest importance to the international community as a whole" (WHC.05/2, 2005).

The Convention calls for the founding of a "World Heritage Committee" and a "World Heritage Fund" (art. 8 and 15).

While respecting the sovereignty of States on whose territory lies the cultural and natural heritage, the Convention requires States Parties to:

- Recognize the international community’s collective interest in cooperating on the protection of heritage (art. 6, para. 1).
- Ensure the identification, nomination for registration, protection, conservation, enhancement and passing on to future generations of cultural and natural heritage located on their territory, as well as offer their assistance to other States Parties who request it (art. 4 and 6, para. 2).
- Adopt a policy which gives cultural and natural heritage a function in the life of the community and which integrates the protection of that heritage into comprehensive planning programmes (art. 5, let. a).
- Set up within its territories, where such services do not exist, one or more service departments for the protection, conservation and presentation of cultural and natural heritage, staffed appropriately and possessing the means to discharge their functions (see art. 5, let. b)
- Develop scientific and technical studies, and research and work out operating methods which will make the State capable of counteracting the dangers that threaten its cultural or natural heritage (art. 5, let. c).
- Take the appropriate legal, scientific, technical, administrative and financial measures necessary for the identification, protection, conservation, presentation, and rehabilitation of this heritage (art. 5, let. d).
- Foster the establishment or development of national or regional centres for training in the area of protection, conservation and presentation of cultural and natural heritage, and encourage scientific research in this field (art. 5, let. e).
- Never take deliberate measures that might damage, directly or indirectly, their heritage or that of another State Party to the Convention.
- Submit to the World Heritage Committee an indicative inventory that is suitable for inclusion in the World Heritage list (art. 11, para. 1).
- Undertake to pay their contributions to the World Heritage Fund regularly (art. 16, al. 1).
- Encourage the establishment of national public and private foundations or associations whose purpose is to seek donations to support the protection of world heritage (art. 17).
- Give their assistance to international fund-raising campaigns organized to aid the World Heritage Fund (art. 18).
- Strengthen the appreciation of and respect for natural and cultural heritage by their peoples through education, and keep the public broadly informed of the dangers threatening this heritage (art. 27).
- Provide information on the laws and regulations, as well as other steps that they have taken to apply the Convention (art. 29 para. 1).

It is the World Heritage Committee's responsibility to establish, keep up to date and publish a list of properties forming part of the cultural and natural heritage which it deems to be of outstanding universal value (World Heritage List, art. 11, al. 2). To be considered of outstanding universal value, a property must meet at least one of the ten criteria set by the Committee (Art. 11, al. 5)

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>This obligation has been derived from art. 5 of the UNESCO Convention of 1970.</td>
</tr>
<tr>
<td>11</td>
<td>See Art. 11, al. 5, of the Convention; UNESCO DOC. decision 6, EXT.COM 5.1.</td>
</tr>
<tr>
<td>12</td>
<td>Currently, the World Heritage List includes 830 properties including 644 cultural properties, 162 natural properties and 24 mixed properties in 137 States Parties.</td>
</tr>
</tbody>
</table>
It is also the World Heritage Committee’s duty to establish, keep up to date and publish a list of property necessitating major safeguarding operations and for which assistance has been requested (List of World Heritage in Danger, art. 11, para. 4). Thus, to be inscribed on the List of World Heritage in Danger, the property in question must appear on the World Heritage List, be threatened by serious and specific danger, require major work for its preservation and be the subject of a request for assistance.\(^{13}\)

It is noteworthy that the Convention explicitly states that the fact that a cultural and/or natural heritage property has not been included in the World Heritage List and/or the List of World Heritage in Danger should in no way be construed to mean that it does not have an outstanding universal value “for purposes other than those resulting from inclusion in these lists” (art. 12).

It is also worth mentioning that the very success of the Convention is not without negative impacts. The enthusiasm shown by States Parties in having as many of their cultural and natural heritage properties included in the World Heritage List as possible, is most often motivated by a wish to promote their economy. This overrides the main objective of the Convention, which is to foster a better national and international protection of those properties inscribed on the List. In this regard, it becomes particularly important to ensure that inclusion on the List does not become a means to an unintended end and does not, paradoxically, lead to a deterioration of the state of conservation of registered cultural or natural properties. It is true that the Convention puts the principle of national sovereignty in too prominent a position and consequently reduces the legal scope of the system for the collective protection of cultural and natural heritage of outstanding universal value. It is perhaps of some significance that this system of collective protection is clearly discussed only in connection with the List of World Heritage in Danger (See art. 11, al. 4 of the Convention). The Convention remains rather nebulous and shies away from defining the rights and obligations of States Parties whose cultural or natural properties are included on the World Heritage List. It also does not flesh out the legal consequences arising from inclusion in the said List.

It should, nevertheless, be acknowledged that the World Heritage Committee has taken several initiatives to improve the procedure for inclusion on the World Heritage List, to refine the selection criteria, to monitor the state of conservation of world heritage properties and to ensure that the List is representative, balanced and credible. In one such instance, the Committee reviewed its strategic guidelines which led it to adopt, during its 26th session in 2002, a comprehensive strategy focusing on the following strategic objectives:

- To strengthen the credibility of the World Heritage List.
- To ensure the effective conservation of world heritage properties.
- To promote the development of effective capacity building in States Parties.
- To increase public awareness of, involvement in, and support for world heritage through effective communication (Budapest Declaration and WHC.05 / 2, 2005)

Several Arab States\(^{14}\) can be counted among the 183 States who have ratified the Convention. In Arab States, sixty-three cultural and natural properties are inscribed on the World Heritage List. Only Saudi Arabia, Qatar, Kuwait and the United Arab Emirates have no cultural or natural properties inscribed on the World Heritage List as yet. In contrast, few cultural or natural heritage properties in Arab States have been included on the List of World Heritage in Danger\(^{15}\).

13 Currently, 31 cultural and natural properties are on the List of World Heritage in Danger.

14 Algeria, Saudi Arabia, Bahrain, Egypt, United Arab Emirates, Iraq, Libya, Jordan, Kuwait, Lebanon, Morocco, Mauritania, Oman, Qatar, Syria, Sudan, Tunisia and Yemen.

15 In addition to the Old City of Jerusalem whose inclusion was proposed by Jordan, one might mention Abu Mena in Egypt; Ashur (Qal‘at Sherqat) in Iraq; and the Historic City of Zabid in Yemen.

The UNIDROIT Convention of 1995

The glut of bilateral, regional and multilateral instruments focusing on the private law aspects of the international protection of cultural property has not prevented the internationalization and spread of smuggling. Difficulties encountered during the implementation of these instruments are due to the vastness of their scope, and the absence of international standards governing the private law aspects of the international protection of cultural property. The issue of the protection of bona fide purchasers has so far been particularly contentious and has constituted a major obstacle to the widespread recognition of international rules in this area (Reichelt 1986). Furthermore, the implementation difficulties posed by the basic provisions of the UNESCO Convention of 1970 on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property (art. 7, let. b(iii)) on the restitution of stolen cultural property (Knott 1990), has led UNESCO to seek the assistance of UNIDROIT in this matter. Several States have, indeed, deemed it impossible to ratify the UNESCO Convention of 1970 on the grounds that it was incompatible with their domestic legislation which prescribes the protection of bona fide purchasers. UNESCO had quickly realized that these problems, inherent in private law, could not be resolved within the framework of a new convention dealing with the private law aspects of the international protection of cultural property and that UNIDROIT was the ideal body to carry out this further task. As a result, the 1995 UNIDROIT Convention on cultural property, stolen or illegally exported, was adopted under the auspices of the institute.

It is useful to ponder the text of this Convention, to introduce and analyze its main provisions, especially since it has sparked a few misunderstandings, particularly in Arab countries, which it would be appropriate to dispel at this stage.
This Convention is the first multilateral agreement to establish a binding obligation to restitute stolen cultural property and to return illegally exported cultural objects. It leads to the unification, albeit one limited to international situations, of the minimum requirements necessary to lodge a claim for stolen or illegally exported cultural property. Its main provisions are, furthermore, directly applicable to individuals. It is, however, only applicable between signatory States and does not therefore bind third party States. Thus, even though it provides for a uniformly substantive law, the Convention is not erga omnes. Besides which it only achieves a partial unification of the law. Hence, when scrutinized in its entirety, it cannot be considered to form a uniform law (Prott 2001-3).

The Convention applies to international applications for the restitution of stolen or illegally exported cultural objects. It defines cultural objects, as objects which ‘on religious or secular grounds, are of importance for archaeology, prehistory, history, literature, art or science and belong to one of the categories listed in the annex to this Convention” (art. 2). The annex inventories the list of categories as they appear in article 1 of the UNESCO Convention of 1970. This broad definition is, however, misleading as it does not provide the reader with a clear idea about the scope of the Convention. Indeed, although the restitution of stolen cultural property principle applies to all categories of property covered by the definition, the restitution of illegally exported goods principle is not applicable to certain categories of goods. This discrepancy has been justified by the argument that theft is, universally, a punishable offence whereas illegal export is not so. It was further argued that broad international protection in this area should not raise any objections. Hence, the principle of restitution does not apply to goods whose export “is no longer illegal at the time at which the return is requested”; nor does it apply to goods exported during the lifetime of their creator or during a period of fifty years after his/her death. Property created “by a member or members of a tribal or indigenous community for traditional or ritual use by that community” is not included in the aforementioned category and will be returned to that community (art. 7). This exception to the exception aims to protect the ethnographic properties or objects of a tribal community which serve ritual or cultural functions within that community. Whether these goods were exported during the lifetime of their authors or during the period of fifty years after their deaths becomes irrelevant. Of course, this exception does not apply to all ethnographic, ritualistic or cultural objects. Only items considered by the community to be vital to the survival of its culture and its traditions may benefit from the protection of the Convention (UNIDROIT; Study LXX, no 48, § 163). In addition, the Convention only covers international situations without, however, specifying what is meant by “claims of an international character”. It thus leaves to jurisprudence the task of providing a uniform interpretation of what constitutes an international situation.

The Convention does not provide an autonomous definition of the concept of theft either. Applicable legislation must be resorted to each time in order to describe the act in question. A consensus has, however, emerged in favour of a broad interpretation of the concept of theft. That is why the Convention treats as thefts all clandestine excavations and all misappropriations which have taken place in the context of lawful excavations (art. 3, para. 2). This broadening of the definition allows, as will soon become clear, requesting States to benefit from the less restrictive clauses of Chapter II of the Convention concerning theft. Requesting States can thus ensure, with greater ease, the return of property originating from clandestine excavations and illicitly exported. The Convention defines illegal exports as meaning those objects removed from the territory of a Contracting State “contrary to its laws regulating the export of cultural objects for the purpose of protecting its cultural heritage.” Through this complex formulation, the Contracting States simply aim to emphasize that the illicit character of a transfer should not be based on any legal provision of the requesting State, but must emanate solely from the rules on export control. These must also be wholly motivated by cultural considerations, such as the preservation on the national territory of the most eloquent elements of the national heritage. Therefore, the Convention does not apply to exports deemed illegal because of a tax law violation in the requesting State. As such, the courts would not have to enforce protection rules based on any considerations other than cultural. In addition, the unlawfulness of the export of a cultural object must be assessed at the time of the export itself, as well as when its restitution is requested. As already clarified above, exports may no longer be considered unlawful if the export of cultural objects from the territory of the Contracting State is no longer illegal at the time of the restitution request. Finally, the notion of illegal export has been extended to cover other acts which do not necessarily correspond to the definition above. One such act is the unlawful seizure of cultural property as a result of a temporary lawful export. The aim is to have goods exported legally and temporarily for the purpose of restoration, exhibition, or research and which have not been returned to the territory of the requesting State at the end of the convened export duration benefit from the protection of the Convention in general, and from the principle of restitution in particular (art. 5 para. 2). The requesting State must be able to demand the return of such property, even if the case is not, strictly, one which concerns the violation of its export legislation, since the goods were exported legally. In other words, the export of cultural property owned by State B to State C can be in contravention of the laws of State A even if the property in question was, at first, legally exported from the territory of the former State. The Contracting States are of the view that courts ought not to refuse the restitution under the pretext that the very first export from the territory of the requesting State was authorized. This is indeed a legitimate solution and one necessary to promote the legal circulation of cultural property on an international scale. To have decided otherwise would have caused a resurgence of protectionism among exporting countries and would therefore have contravened the Convention’s objectives. It would have gone against the very aim of creating a relationship of trust between exporting and importing countries and of promoting exchanges of cultural property in a legal framework guaranteeing an adequate international protection of cultural heritage.

The Convention lays down rules or conditions which differ according to whether the restitution pertains to stolen cultural property or to illegally exported cultural goods. Regarding the return of stolen cultural property, the Convention reinforces the protection of the dispossessed owner by stat-

---

16 The fifty years deadline was chosen to comply with the Berne Convention for the Protection of Literary and Artistic Works whose art. 7, al. 1, stipulates that the protection of a work expires fifty years after the death of its author.
ing that “the possessor of a cultural object which has been stolen shall return it” (art. 3, para. 1). Any claim for restitution should be brought within a period of three years from the time when the claimant learns the location of the cultural object and the identity of its possessor, and in any case within a period of fifty years from the time of the theft (art. 3, para. 3). However, a claim for restitution of a cultural object "forming an integral part of an identified monument or archaeological site, or belonging to a public collection" should only be subject to the three-year time limitation (art. 3 para. 4)). The three-year period commences at the time when the claimant ascertains the location of the cultural object and the identity of its possessor. The Convention allows Contracting States the freedom to declare that a claim is subject to a time limitation of 75 years or such longer period as is provided in its law (art. 3, para. 5). The claim for restitution of a “sacred or communally important cultural object belonging to and used by a tribal or indigenous community in a Contracting State as part of that community’s traditional or ritual use” is also subject to the time limitation of three years, or to a period of 75 years, or to an even longer period if it is brought into the territory of a Contracting State having made a declaration under article 3, paragraph 5 of the Convention. The restitution of stolen cultural property is subject to payment of fair and reasonable compensation to the bona fide purchaser. The purchaser must, however, prove his good faith (art. 4, para. 1). This represents a significant departure from the laws of several national legal systems which enshrine the presumption of good faith. The possessor of a stolen cultural object is required to return it and is entitled, at the time of its restitution, to fair compensation, provided that the possessor neither knew nor ought reasonably to have known that the object was stolen and that s/he can prove that due diligence was exercised when the object was acquired. This reversal of the burden of proof is undoubtedly one of the legal milestones in the fight against illicit trafficking in cultural property (Annuaire de l’Institut de Droit International, 1992). To be entitled to compensation, the possessor must prove that s/he exercised due diligence when acquiring the object. The authority before which the case is brought will assess the faith of the possessor. It will take into account all the circumstances of the acquisition, including the character of the parties, the price paid, and whether the possessor consulted any reasonably accessible register of stolen cultural objects. The criterion of consultation of available registers

17 The Convention designates as public collection any set of inventoried or otherwise identified cultural properties belonging to public bodies, religious institutions or private cultural institutions recognized by the State (art. 3, para. 7).

18 The Convention, alongside art. 7, let. b (ii) of the UNESCO Convention of 1970, does not spell out the concept of fair compensation thus leaving to the judge the task of determining it according to the specific circumstances of the case. The price paid by the bona fide purchaser and the commercial value of the property in both the requesting and requested States are indicative elements, but there are others which the judge can, if relevant, take into consideration.

19 See, for example, art. 3, al. 1, of the Swiss Civil Code which States that “good faith is presumed when the inception or effects of the law derive from it.” (unofficial translation).

20 See, for example, the Stolen cultural property database, at http://www.interpol.int/ or The Art Loss Register’s databank, at www.artloss.com

21 For example, the Parthenon friezes or panels of a triptych.

22 Art. 5, para. 3 of the Convention specifies that the export should have significantly impaired “one or more of the following interests ...:”

The return of illegally exported cultural property stands as the Convention’s major innovation. Bestowing a normative scope on this principle is indeed proof that international public law has been recognized and is being enforced; especially as this attests to the reversal of traditional practice where the application of international public law was traditionally rejected (Lagarde 1988; Jayme 1993). Only the State may request the court or other competent authority of another Contracting State to order the return of a cultural object illegally exported (art. 5 para. 1).

According to article 5, paragraph 3 of the Convention, a State shall order the return of an illegally exported cultural object if the requesting State establishes that the removal of the object from its territory significantly impairs one or more of the following interests:

• "the physical preservation of the object or of its context;"
• "the integrity of a complex object;"
• "the preservation of information of, for example, a scientific or historical character;"
• "the traditional or ritual use of the object by a tribal or indigenous community;"

The above list of criteria is aimed at restricting the scope of the principle of restitution. The requesting State cannot obtain the return of just any property illegally exported, but only those whose export has been detrimental to specific interests. For instance, the Convention does not recognize national bans on exports which are motivated by political, economic or simply "protectionist" considerations. Its application requires a certified violation chiefly of cultural interests, but also of scientific or historical interests. Those listed interests relate to specific situations and specific categories of cultural property. Property threatened by destruction, property forming part of an architectural ensemble or of a composed property, and archaeological and ethnographic property are within the Convention’s realm of interest. The criteria from article 5, paragraph 3, also apply, in an alternative and non-cumulative manner. In other words, it suffices that the export infringes one of these interests for the principle of restitution to apply. Furthermore, contrary to the wording of the afore cited provision, the list of interests is not exhaustive since each Contracting State retains the right, under article 9, paragraph 1, to take into account interests
other than those listed by article 5\textsuperscript{23} in the context of restitution applications brought before their courts or administrative authorities. Also, the detrimental impacts to interests, be they cultural, scientific or historical, must be significant. These impacts must be of a certain scale and should be assessed in relation to the occasioned damage. Assessing the degree of damage inflicted whilst taking into account the specific circumstances of the case is the judge’s duty, or that of any other authority before which the case is brought. A requesting State may also obtain the return of illicitly exported cultural property if it establishes that “the object is of significant cultural importance.” This criterion was introduced at the end of article 5, paragraph 3, to cover those rare cases in which cultural objects are of significant cultural importance but do not meet the other four criteria (The All England Law Reports, 1982). Such objects are, by virtue of their very nature, worthy of protection and should therefore be included within the scope of the Convention. Hence the alternative character assigned to the criterion of cultural importance which, by extending the scope of the restitution principle, introduces a degree of balance into the consideration of those conflicting interests involved. It is the judge’s responsibility, or the competent administrative authority’s, to assess the specific cultural importance of claimed property taking into account, first, the characteristics of the property and, second, the nature, magnitude and richness of the requesting State’s cultural heritage. The requesting State is obligated, under the terms of article 5, paragraph 4, of the Convention, to include any information of factual or legal relevance in its application for restitution. Again, it is up to the authority before which the case is brought to decide, on a case-by-case basis, whether the evidence provided by the requesting State is sufficient. A proposal was put forward by the Committee of Independent Experts to have the requesting State also provide assurances regarding the state of conservation, levels of security and accessibility of the cultural property after its return. The proposal has not been accepted (UNIDROIT DOC, 1990). A majority of experts feared that such a condition of admissibility will serve as a pretext allowing importing countries to systematically refuse the implementation of the restitution principle. The request for return of illegally exported cultural property is also subject to limiting conditions and conditions for compensation. Article 5, paragraph 5, of the Convention adopts the same limitation periods as those set for the return of stolen cultural property. The onset points for these deadlines are also identical\textsuperscript{25}. The only difference lies in the fact that properties forming part of public collections do not benefit, in case of illicit export, from a longer limitation period\textsuperscript{26}. In addition, the bona fide possessor of cultural property illicitly exported “shall be entitled, at the time of its return, to payment by the requesting State of fair and reasonable compensation, provided that the possessor neither knew nor ought reasonably to have known at the time of acquisition that the object had been illegally exported” (art. 6, para. 1). To determine that the possessor did indeed act in good faith, the authority must consider the circumstances of the acquisition and other relevant pieces of evidence, such as the absence of an export certificate\textsuperscript{27} required under the law of the requesting State (art. 6, para. 2). To promote the return of illicitly exported goods even in situations where requesting States cannot afford to indemnify the bona fide possessor, the Convention allows for the use of alternative means of compensation, provided that the requesting State consents to this. Thus, according to article 6, paragraph 3 of the Convention, the possessor may, while transferring the property to the territory of the requesting State, choose either to retain ownership of this property, or to transfer ownership against payment or gratuitously to a person of its choice. The latter must reside on the territory of the requesting State and must also submit “the necessary guarantees” (UNIDROIT DOC. Study LXX, No. 19,1990). It is, of course, of the essence to prevent the property being transferred back to the person who had illicitly exported it or to another person who might re-export it to a different State which is non-party to the Convention.

Regarding the temporal scope of the Convention, it is specified that actions for restitution or return are limited to cultural property stolen or illegally exported after ratification of the Convention by both the requesting and requested States. In other words, the Convention has no retroactive effect, as is the case for all other international instruments concerned with the protection of cultural property\textsuperscript{28}. However, it does not prohibit Contracting States who wish to do so from applying its rules to thefts or illegal exports of cultural objects which took place prior to the entry into force of the Convention in these States\textsuperscript{29} (art. 9, para. 1). Crucially, the non-retroactivity principle on which the Convention is based in no way affects the right of every State to claim, through any other suitable means, especially diplomatic, the restitution or return of property stolen or illegally exported before the entry into force of the Convention. It certainly does not legitimize any illegal transaction which might have taken place before the entry into force of the Convention (art. 10, para. 3). UNESCO established in 1978, a body whose aim is to assist States wishing to reclaim cultural property displaced in earlier times. This body is the Intergovernmental Committee for Promoting the Return of Cultural Property to its Countries of Origin or its Restitution in case of Illicit Appropriation (UNESCO DOC. CLT-2005/CONF 2002/2, January 2005). No Arab State wishes, for the time being, to accede to the Convention. This refusal stems from a position common to all Arab members of UNESCO who regret, collectively, the fact that this Convention does not benefit from a retroactive effect and

\textsuperscript{23} Indeed, the Convention introduced a set of minimum standards but leaves to each State the freedom to show increased solidarity in the protection of cultural heritages.

\textsuperscript{24} See art. 3, al. 3, of the Convention.

\textsuperscript{25} See art. 3, al. 4 and 5, of the Convention.

\textsuperscript{26} The reference to export certificates serves to support art. 6, let. a, of the UNESCO Convention of 1970 which requires that States Parties introduce an export license.

\textsuperscript{27} For instance, neither one of the UNESCO Convention, or the 1976 Convention of the Organization of American States on the Protection of Archaeological, Historical and Artistic Heritage of the American Nations, or the 93/7/EEC Directive include a retroactivity clause, see art. 7, let. b(ii) of the UNESCO Convention of 1970; art. 11 of the O.A.S. Convention and art. 13 of the 93/7/EEC Directive.

\textsuperscript{28} See also art. 15 of the UNESCO Convention of 1970 and art. 14, al. 2, of the 93/7/EEC Directive.

The Convention was designed “to protect the archaeological heritage as a source of the European collective memory and as an instrument for historical and scientific study” (art. 1, para. 1). The archaeological heritage includes “structures, constructions, groups of buildings, developed sites, moveable objects, monuments of other kinds as well as their context, whether situated on land or under water” (art. 1, para. 3). Each State Party to the Convention undertakes to:

- Implement a legal system for the protection of the archaeological heritage, including the inception and maintenance of an inventory, the classification of protected monuments and areas, the creation of archaeological reserves for the preservation of material evidence to be studied by later generations, and the regulation of chance discoveries (art. 2).
- Apply procedures for the authorization and supervision of archaeological excavations guaranteeing their scientific significance, preventing any illicit excavation work, thwarting unlawful activities during the course of excavations, and subjecting the use of metal detectors or any other detection equipment to prior authorization (art. 3).
- Ensuring the physical protection of archaeological heritage in areas constituting archaeological reserves, guaranteeing the preservation and maintenance of this heritage in its place of origin, and developing appropriate deposits for archaeological remains displaced from their places of origin (art. 4).
- Balancing the respective needs of archaeology and land use chiefly by ensuring that archaeologists participate in planning well-balanced policies for the protection, conservation and enhancement of sites of archaeological interest and context-sensitive land use strategies (art. 5 (i)).
- Ensure systematic consultation between archaeologists, urban planners and land developers in order to avoid any damage to archaeological heritage, and to better reflect the specific needs of this heritage (art. 5 (ii)).
- Ensure that environmental impact studies and the resulting decisions fully take into account archaeological sites and their context (art. 5 (iii)).
- Ensure that the opening to the public of archaeological sites does not affect the archaeological and scientific nature of these sites and/or their environment (art. 5 (v)).
- Provide public financial support for archaeological research and increase the material resources for rescue archaeology (art. 6).
- Facilitate the study of, and dissemination of knowledge about archaeological discoveries by making or bringing up to date inventories and maps of archaeological sites and by taking all practical measures to ensure the drafting, following archaeological operations, of a publishable scientific report (art. 7).
- Facilitate the exchange of elements of the archaeological heritage for professional scientific purposes and promote the pooling of information on archaeological research, and contribute to the organization of international research programmes (art. 8).
- Develop awareness, in public opinion, of the value of the archaeological heritage and of the threats to this heritage, and promote public access to important elements of this heritage (art. 9).
- Prevent the illicit trafficking of archaeological property through the exchange of information concerning any illicit excavations identified, or concerning the illicit circulation of archaeological objects with other States and scientific institutions; report suspicious offers and refuse to acquire or to allow the transfer of elements of the archaeological heritage suspected of having an unlawful provenance (art. 10).
- Provide other States Parties with technical and scientific assistance and exchange specialists in the conservation of archaeological heritage with these States.

As per the matter of limitation periods, we must not lose sight of the fact that when compared with the protection offered by several Western legal systems to bona fide possessors, which seldom exceeds five years, the extension of limitation periods to fifty or seventy-five years for public collections constitutes a sizeable progress and a commendable compromise.

Finally, it is certainly noteworthy that no Arab State has, to our knowledge, concluded bilateral agreements with third countries, including neighboring countries, to ensure, subject to reciprocity, the restitution of cultural property stolen and/or illegally exported from their territory.

Despite the fact that its scope is only regional, the Convention is of importance because it is the only legally binding international instrument that establishes a minimum standard of protection specifically applicable to archaeological heritage.

7 Further UNESCO Conventions

Three other international instruments, which should be of interest to Arab States, have been added to this international legal framework. They are the 2001 UNESCO Convention on the Protection of Underwater Cultural Heritage, the 2003 Convention for the Safeguarding of the Intangible Cultural Heritage and the 2005 UNESCO Convention on the Protection and Promotion of the Diversity of Cultural Expressions.

The UNESCO Convention of 2001 aims to ensure the protection of underwater cultural heritage and its enhancement. It draws out general principles such as the in situ conservation of underwater cultural heritage and the repatriation of the exploitation of this heritage for commercial purposes. It acknowledges States Parties’ exclusive right to regulate and authorize activities that may affect the underwater cultural heritage located in their internal waters, their archipelagic waters or their territorial seas. The Convention imparts equal rights onto States Parties in their contiguous zones. It also imposes a duty to protect underwater cultural heritage in the exclusive economic zone and on the continental shelf, in conformity with its provisions. Finally, a peculiarity of the UNESCO Convention of 2001 is that it is followed by an annex containing a set of regulations, predominantly technical, governing activities directed at underwater cultural heritage. Only Libya and Lebanon have acceded to this Convention which is yet to enter into force since it has not, so far, been ratified by the necessary number of States.

The UNESCO Convention of 2003 principally aims to “safeguard the intangible cultural heritage; to ensure respect for the intangible cultural heritage of the communities, groups and individuals concerned; raise awareness at the local, national and international levels of the importance of the intangible cultural heritage, and of ensuring mutual appreciation thereof; to provide for international cooperation and assistance.”

The Convention defines intangible cultural heritage as: “the practices, representations, expressions, knowledge, skills – as well as the instruments, objects, artefacts and cultural spaces associated therewith – that communities, groups and, in some cases, individuals recognize as part of their cultural heritage.”

By associating “instruments, objects, artefacts” with intangible cultural heritage, the 2003 UNESCO Convention effectively extends its scope to tangible cultural heritage. The 2003 Convention should therefore be considered in the course of the application of other international instruments dealing with the protection of tangible cultural heritage.

The UNESCO Convention of 2005 on the Protection and Promotion of the Diversity of Cultural Expressions affirms the sovereign right of Member States to develop cultural policies aimed at promoting cultural diversity. It thus subtracts these policies from the constraining liberalization of services promulgated by the World Trade Organization. The founding elements of this Convention are as follows:

- The recognition of the specificity and of the dual nature of cultural goods and services, both of which are essential vectors for the dissemination of artistic works (bearers of values and meaning), in addition to being objects of commerce (bearers of economic value).
- The Sovereign right of States to adopt measures for the promotion and protection of the diversity of cultural expressions, including media diversity.
- The fundamental role of cultural diversity as a factor for sustainable development, particularly in developing countries.
- The need to give cultural diversity a more prominent place in the international legal order, thus ensuring parity between the Convention and other international instruments.
- Only four Arab States have acceded to the Convention which entered into force on the 18th of March 2007.

30 See art. 27 which States that 20 ratifications are required for the entry into force of the Convention

29 It is nevertheless worth noting that the accession of non-member States of the Council of Europe to the Convention is theoretically possible since art. 15, al. 1 of the Convention posits that the Council of Europe’s Committee of Ministers may invite such States to accede to the Convention.

31 Egypt, Jordan, Algeria, United Arab Emirates, Syria, Tunisia, Mauritania, Oman, Lebanon and Morocco.

32 Jordan, Gibuti, Oman
Conclusion

The preceding discussion helps define a set of minimum rules for the protection, management and promotion of cultural heritage. These rules define the minimum compass of measures to be enshrined by States Parties in their domestic laws. The rules, furthermore, reflect the international community’s stark determination to improve the protection, management and promotion of cultural heritage notwithstanding that the emphasis is still, in this area of international law, very much on protection and management, perhaps at the expense of promotion. Only the UNESCO Convention of 1972 plays, in this regard, a significant role, due in part to the World Heritage Committee and the World Heritage List. Both the Committee and the List contribute uniquely to the enhancement of the world’s cultural and natural heritage, albeit without guaranteeing a comprehensive protection against the risks occasioned by the excessive promotion of this heritage for touristic and economic purposes.

Moreover, and despite the variety of their personal and material scopes, the international conventions discussed in this study, together constitute a coherent legal framework for the protection, management and promotion of cultural heritage. Certainly, their most constructive characteristics are their compatibility and their complementarity. Thus, the 1995 UNIDROIT Convention reinforces the provisions of the UNESCO Convention of 1970 by settling the private law aspects of the illicit traffic of cultural property. This latter does, indeed, only concern itself with public law aspects of the illicit traffic in cultural property. It suffices to compare the objectives of the UNESCO Convention of 1970 and of the UNIDROIT Convention of 1995 to become aware of the striking complementarity of these two texts. In that regard, whilst the UNESCO Convention aims to bestow international legitimacy onto the public law provisions adopted by a State Party and to promote recognition by other States Parties of implementation measures for such provisions, the UNIDROIT Convention somewhat strengthens the very same public law provisions through the creation of uniform material rules. The annex to the UNIDROIT Convention defines the concept of cultural property based on the categories of cultural property listed in Article I of the UNESCO Convention, in order to further highlight the link between the two agreements.

Yet, even a hasty comparison between the UNESCO Convention of 1970 and the UNIDROIT Convention underscores the evolution of international law regarding the protection of cultural heritage and the progress made in this area since 1970. Where the obligation to restitute inventoried cultural property was limited to property “stolen from a museum or a religious or secular public monument or similar institution”34, a general obligation35 is now recognized to restitute stolen cultural property in addition to certain illegally36 exported cultural goods. Many States, in particular Arab States, have not yet grasped the true reach of such a considerable progress nor are they aware of how they may utilize it to ensure better protection and more effective management of their cultural heritage.

The complementarity of the Conventions governing the protection, management and promotion of cultural heritage has also been recognized by the World Heritage Committee, established by the UNESCO Convention of 1972. The Committee stresses the benefits of better coordination of its work with that of other UNESCO programmes and their conventions. It seeks to ensure the exchange of information between the UNESCO Convention of 1972 and other conventions.

Several non-binding instruments are associated with the international legal framework, even if they do not constitute, stricto sensu, an integral part of it. They are thus of some importance when it comes to delineating the minimum international regime necessary to the protection, management and promotion of cultural heritage. Chief amongst these instruments are UNESCO’s Declaration concerning the Intentional Destruction of Cultural Heritage of 200337, the International Code of Ethics for Dealers in Cultural Property38, the International Council of Museums’ (ICOM) Code of Ethics39, and the Charters adopted under the auspices of the International Council on Monuments and Sites (ICOMOS)40.

33 UNESCO constantly highlights the complementarity of these two conventions and encourages Member States of the 1970 UNESCO Convention to also join the 1995 UNIDROIT Convention. See, for example, UNESCO DOC. CLT-2005/Conf/803/2, June 16 2005.

34 See art. 7, let. b(i) and (ii) of the UNESCO Convention of 1970.

35 This requirement applies to all categories of cultural property covered by the UNESCO Convention, regardless of the theft location and of whether the property was inventoried or not, see art. 3 of the 1995 UNIDROIT Convention.

36 See art. 5, al. 2, of the preliminary draft convention prepared by the Committee of Independent Experts, see UNIDROIT DOC. Study LXX, no 19, August 1990, p. 3.

37 Adopted by UNESCO’s General Conference in its 32nd session, following the tragic destruction of the Buddhas of Bamiyan in Afghanistan

38 Adopted by the Intergovernmental Committee for Promoting the Return of Cultural Property to its Countries of Origin or its Restitution in case of Illicit Appropriation during its 10th session in January 1999 and approved by the 30th General Conference of UNESCO in November 1999.


References


UNESCO DOC. WHC.05/2, February 2nd 2005, para. 49, p. 15.


This provision supports the return of stolen cultural property even if it is in the possession of a bona fide purchaser. It sets no time limitation for restitution claims, but fixes the principle of compensation for the bona fide purchaser. For an analysis of this provision, see Hermann J. Knott, ‘Der Anspruch auf Herausgabe gestohlenen und illegal exportierten Kulturguts’ , thesis, Arbeiten zur Rechtsvergleichung, vol. 147, Baden-Baden, 1990, p. 160.


DOC. UNIDROIT, Study LXX, no 48, § 163, p. 41.

This idea is however not new and has already been examined in art. 4, al. 2, of the resolution on the “International Sale of Works of Art from the Angle of the Protection of the Cultural Heritage”, adopted by the Institute of International Law at its session in Basle, on September 3rd 1991. For this session’s preparations work and the text of the resolution, see Annuaire de l’Institut de Droit International, vol. 64, tome I, Paris, 1991, p. 90 and tome II, 1992, pp. 402-6.


This concerns, in particular, rare or unique goods such as the Taranaki sculptures in Attorney General of New Zealand v. Ortiz and others, The All England Law Reports, London, 1982, vol. 3, pp. 432-68.

UNIDROIT DOC. Study LXX, no 19, August 1990, p. 3.

The Convention does not specify the nature of these guarantees. These must be determined in relation to the objective of the Convention, namely the protection of cultural property. Therefore, these guarantees must necessarily relate to the protection, safety or preservation of property. See UNIDROIT DOC. Study LXX, No. 19, August 1990, § 74, p. 33.

For an overview of this Committee’s activities, see the UNESCO Secretariat Report on the 13th session of the Committee which was held in Paris from the 7th to the 10th of February 2005, UNESCO DOC. CLT-2005/CONF. 2002/2, January 2005.

Introduction to Monitoring as a Means of Preventive Conservation in Heritage Management Processes

Zaki Aslan

Abstract

Often, monitoring projects are driven by fascination with trendy information systems and indicators. However, it is within the context of applying conservation as a vehicle in bringing substantial benefits to communities, that questions relevant to measuring the quality of a site management should be addressed. Monitoring practices need to be integrated in a comprehensive management framework rather than developed for their own sake. Thus, it is necessary to devise monitoring programmes that are based on defined significance and site-specific purposes, and within available resources and constraints. These programmes not only require measuring the physical changes of a site, but also should consider external pressures, effectiveness of conservation strategies, and, more importantly, the range of heritage values of a site. These values should be widely shared.

While in the past the preparation of monitoring and reporting resulted in only collecting data relative to the physical conditions of a site, new guidance emphasizes the collection of data in three main areas: state of social, physical, and economic environment surrounding a site; physical condition of the main fabric; and effectiveness of strategies adopted in a management plan. To achieve a holistic approach to preventive conservation, various types of baseline references for each of these categories are needed. In addition, integrating them with heritage site values is essential. Ultimately, the effectiveness of indicators to measure the quality of change at a site largely depends on the care taken in defining the objectives desirable to extend its life, and on the subject areas for which indicators need to be established.

1 Introduction:

It has increasingly been recognized that effective monitoring is crucial in heritage management processes to lessen the vulnerability of historic areas to the various causes of deterioration or loss. In the case of living heritage, this is particularly relevant to losses associated with gentrification and tourism development. In this context, international organizations have embraced the importance of monitoring heritage sites as a means of preventive conservation. This article highlights some of the principles crucial to the application of heritage monitoring programmes.

There are several examples of monitoring programmes in a European context. To name a few, one may note the Carta del Rischio (Risk Map) of Italy (Castelli 1997) and the IPA Technical and Scientific Information System for the inventory of architectural heritage in Portugal (Costa 2002), where macro monitoring management tools were initiated with features ranging from a nationwide to site-specific risk preparedness. These inventory-based projects integrate Geographic Information Systems (GIS) with heritage databases for effective site monitoring. The Delta plan of the Netherlands devised for museum collections in the early nineties is another example of efforts to save museum objects (Talley 1999). More recently, UNESCO launched a project involving the production of satellite images for World Heritage and implemented by the European Space Agency1 . Monitoring may also involve climatic changes affecting museums (de Guichen 1984) or archaeological sites (Stewart 1999). The range of examples and techniques used is wide, illustrating the various possibilities and use of today’s available technology. Nevertheless, there are underlying principles of monitoring that are often overlooked in the course of developing tools for monitoring programmes.

2 Monitoring in the context of overall heritage management

Devising management and monitoring schemes are ongoing, interactive and collaborative activities. The purposes of such schemes are to reach stakeholders, raise awareness, enhance the appreciation of cultural heritage, and influence decisions affecting the historic fabric. To achieve these objectives there is a need to make monitoring records current and accessible to key interest groups and linked to related databases of various institutional actors in an integrated manner.

Monitoring of heritage properties comprises measuring and evaluating change. It is undertaken in order to gain information for possibilities of course correction or remedial actions, strategies to improve the performance of strategic conservation plans, or improvement of ambient conditions.

Although monitoring can generally be limited to measuring and evaluating perceived problems and situations, it is considered to be an activity forming an integral part of a property’s management cycle (Fig. 1). When applied to individual structures or monuments, monitoring involves measuring qualities and conditions so that those responsible for the management of heritage properties can optimize

---

existing conservation efforts. At a macro-management level, monitoring involves measuring and assessing patterns across many properties and large territories by compiling observations and assessments made at individual sites (Costa 2002).

In the process of selecting appropriate methods for monitoring, an understanding should guide the purpose to the choice of subjects to be monitored. In fact, the particular choice of management tools and indicators should be appropriate to the purpose of the monitoring activity, rather than the other way around. This is due to the fact that monitoring projects, as applied to date, are often based on choices of fashionable monitoring tools (e.g. GIS) or a set of attractive indicators, without serious thought given to the purpose these tools are meant to address. Thus, while monitoring projects can often be driven by a fascination with trendy information systems and indicators, it is within the context of applying conservation to community benefits that questions related to measuring the quality of a site should be addressed. Thus, monitoring practices need to be integrated in a comprehensive management framework rather than being developed in isolation. In addition, it is necessary to devise monitoring programmes that are based on defined significance and site-specific purposes, and within available resources and constraints. Monitoring programmes not only require measuring the physical changes of a site; they should also consider external pressures, effectiveness of conservation strategies and a site's range of heritage values. In a heritage management context, these values need to be widely shared.

2 Benefits of monitoring to the heritage profession

For heritage managers and conservation professionals, monitoring offers particular benefits. These benefits may include various items on different levels (Fig. 1):

a) On the physical conservation level, monitoring enhances scientific development in the field by refining and developing methodologies and technologies for the conservation discipline.

b) In an administrative context, monitoring can identify resources necessary for enhanced site management enabling, for example, resources for training or skills needed to achieve management objectives, funding, tools, etc.

c) Monitoring promotes community involvement in site management where citizens can effectively participate in the planning process, thus increasing community awareness and interest in promoting heritage values and ways of conserving them.

d) On the strategic level, monitoring largely contributes to the improvement of national and sub-national policies and strategies for conservation by identifying needed changes to existing policies in relation to legislation and financial resources required to improve conditions of conservation at local and site levels. Furthermore, monitoring allows identification of broad regional priorities of needs, which would benefit from actions taken by governments at a national level, or by international agencies working in a regional context.

![Fig. 1 Monitoring in the Process of Site Management](image-url)
In a World Heritage context, attention to monitoring has focused on the main issues important in the context of site management. These have included: what aspects should a monitoring project measure? What are the important conditions for effective monitoring? What are the tools and methods that are most effective for monitoring? What skills of those involved should be brought to the process? ICCROM and ICOMOS have been trying to give these issues presence at WH discussions since the mid 1980s.

In spite of a relatively uncoordinated international approach, several experimental monitoring initiatives provide some insights for the World Heritage operations. In Europe, ICOMOS Norway organized monitoring meetings involving external consultants to review the state of conservation of its sites. ICOMOS UK monitored its sites through inspections carried out by its secretariat. In 1993 the World Heritage committee and the advisory bodies in co-operation with the World Conservation Monitoring Centre in Cambridge, UK, organized an expert meeting to review and compare approaches. Conclusions included fundamental issues relevant to the impact on cultural values, baseline data that includes social, administrative, and physical conditions of a site, and distinction between monitoring, as a continuous part of the management cycle, and reporting, as a step taken at a specific time in the life of a property. Essentially, conclusions included the need to develop a common approach to monitoring. Following this development, states parties were invited in 1998 to include statements of significance in their nominations. Nomination and periodic reporting processes were also recognized as joint actions relevant to the same topic. A distinction between systematic and reactive monitoring was then recognized. At this time, ICCROM and ICOMOS were commissioned to develop a monitoring reference manual. The monitoring manual is based on a pressure-condition-response model used in the field of environment to recognize information and to prepare indicators (Castelli 1997). More recently, the topic was a main theme of workshops held on the occasion of the 30th Anniversary of the World Heritage Convention (UNESCO WHC report 2003). Co-organized by ICCROM and the World Heritage Centre, this workshop underlined issues highlighted in this presentation.

5 Planning monitoring programmes

Monitoring involves two distinct procedures. The first is concerned with observation of conditions or performance and the second is the evaluation of conditions or changes observed. Benchmarks against which performance is measured need to be established for both procedures. During observation, benchmarks are usually related to previous records of conditions; nevertheless, the collection of baseline data must also include daily management information. In the process of evaluation, benchmarks require definition of indicators for the subjects of observed changes.

Thus, the steps in setting up a monitoring system include:

- defining the specific subject area of monitoring efforts;
- defining particular parameters to be measured in correspondence to the selected specific subject area;
- defining appropriate orientations; for example, the preferred direction of a desired change, the philosophical principles and guidelines for a desired change, sustainability, improved integration, etc;
- defining helpful indicators for the selected parameters within identified specific subject areas.

In the past, the preparation of monitoring and reporting schemes resulted in collecting data relative only to the physical conditions of a site. New guidance emphasizes that data are to be collected in three main subject areas.

1. The state of social, physical and economic environment surrounding a site. Relevant subject areas here may include evaluating external factors such as demographic pressures, economic and social pressures, environmental pressures, technological changes, and changing patterns of political and economic cooperation in society.

2. The cultural significance and physical condition of the material fabric. Relevant subject areas here may include heritage significance, values and messages, integrity assessments in relation to defined significance, physical condition, and the state of the key attributes through which significance is expressed (Anon 1995).

3. The effectiveness of strategies adopted in a management plan. Relevant subject areas here may include legislative and institutional frameworks for site protection, economic incentives and financial support systems, research and documentation schemes, heritage evaluation and inventory systems, measures for communication and protection of identified values including design intervention and development guidelines, and measures for securing public support.

Integrating the various types of baseline references for each of these categories with heritage site values is essential. It should also be repeated, as the sequence of steps suggests that in real life the process is iterative rather than linear, and involves continuous, rather than intermittent, adjustment of management decisions and plans.

On local and practical levels, it is recommended that collaboration be made possible between municipalities and site management bodies to computerize permits or records, and to set up monitoring systems linking databases with GIS, periodically updating information for the purposes of strategy analysis and periodic assessment of action plans. How-
ever, again, it has to be borne in mind that computerized sys-
tems, while being useful tools, are not enough to monitor the
complexity of legal, social, and economic frameworks, where
societal attitudes also become integrated objects of monitor-
ing change. Such monitoring of the changing complexity ad-
dresses not just the features of reality but also the relationships
between such features and values measured against a set of no-
tions in large cultural and historical contexts.

6 Summary and conclusions

Basically, monitoring is a means to corrective actions, whereby
(ICCROM Newsletter 2002) it can be stated that monitoring
tools (e.g. GIS) should be servants of monitoring purposes (not
the opposite). In addition, effective monitoring systems for cul-
tural heritage must be designed to take intrinsic and extrinsic
factors into consideration and immediate physical changes and
external pressures. The key issue in monitoring cultural herit-
age is the degree to which such heritage values are intact and lie at
the heart of decision-making processes. Furthermore, objectiv-
ity in defining these heritage values requires the application of
scientific methods and ensuring that the values identified are
widely shared among the various interest groups. Ultimately,
the effectiveness of indicators to measure the quality of change
at a site depends largely on the care taken in defining the ob-
jectives desirable to extend its life, and on the subject areas for
which indicators are established.

Providing guidance for heritage monitoring is much needed.
Manuals in preparation by the advisory bodies (ICCROM and
ICOMOS) of the World Heritage Committee will be useful to
guide best practices and inform heritage managers. In addition,
monitoring guidance can be achieved effectively by providing ex-
amples of the various heritage types (historic cities, archaeologi-
cal sites, museums) where international collaboration to learn
from previous practical experiences is required in order to devise
informed monitoring guidance and methods.

7 Acknowledgement

I would like to thank Herb Stovel, for discussing the content of this paper and for the information he referred to before
presenting the topic at this seminar.

References


Castelli, G.(ed.). 1997 La carta del rischio del patrimonio culturale = The risk map of the cultural heritage, Rome: Istituto
Centrale per il Restauro

Costa, V. 2002 The Technical and Scientific Information System for the Inventory of Architectural Heritage in Portugal (IPA). In:

standing and using data on the museum environment

ICCROM Newsletter 28, September 2002: 17, 18


tional Congress organized by UNESCO. Paris: World Heritage Centre: 150-1
Introduction to the Economic Valorisation of Cultural Heritage

Isabelle Skaf

Abstract

The ATHAR programme has for founding aim to protect and promote cultural heritage in the Arab Region. Within its framework, a number of training sessions have been dedicated to introducing notions relating to the economic valorisation of cultural heritage.

These sessions were designed to make participants aware of the multiple definitions of "heritage", and of the diverse cultural and economic values which are associated with such definitions. During the sessions, the subject of value assessment tools was addressed in some detail. The economic valorisation of cultural heritage often draws on complex notions. It goes against the grain of preconceptions, and sometimes seems to contravene the traditional manner in which heritage sites are managed in the Middle East. ATHAR participants have shown a marked interest for the topic, as they have found it to offer some answers to endemic administrative and financial problems they have been facing—problems which are largely due to a take on heritage management and, in particular, on the management of archaeological sites which is conventional in that it privileges "cultural" arguments. The present article summarises the subjects tackled during these ATHAR sessions which took place in Tripoli (Lebanon), Bosra (Syria) and Sharjah (Emirates).

1 Natural Capital, Cultural Capital

The two notions of cultural capital and natural capital are very similar. Owing to the role agricultural land plays in the economic production of goods and services, 19th century economists, such as Thomas Malthus and David Ricardo, regarded the "environment" as capital. Today, natural capital is considered as an inherited good and a "free" gift of nature. Environmental economy identifies the four components of natural capital (Throsby 1999) as follows:

- Renewable natural resources (fish, forests, etc.);
- Non-renewable natural resources (oil, minerals, etc.);
- The ecosystem, which sustains lands, air and water, and maintains their quality;
- Biodiversity.

Within the notion of capital, two concepts must be distinguished: The concept of natural capital "stock" (fish, forests, oil, mineral fields, etc.) and that of the "flow" of services deriving from it (fishing, the timber industry, waste recycling, erosion control, landscaping, etc.) which can generate income.

Tangible cultural capital, as inherited from past practice, is similar to our "inherited" natural capital. Indeed, natural capital has been given us by nature; cultural capital is given us by man’s creative genius. Cultural and natural capitals have much in common: largely intangible benefits, issues of long term conservation and touristic development, etc.

A Michael Angelo sculpture and a historical building are two examples of tangible cultural capital assets: both require a physical and human investment to be made or constructed. In the long term, both will deteriorate if not properly maintained. Both assets generate flow (such as services) and therefore income (museum or building visits). They can both contribute to the production of new goods and services (the sculpture serving as source of inspiration for new works of art, or the historical building being transformed into office premises).

However, cultural capital has values which distinguish it from traditional economic assets, as it calls upon two logical strands—one "cultural" and one economic—which may appear antithetical. Heritage professionals look upon it as capital which ought to be preserved and conserved, its "valorisation" arising from its ability to further human knowledge, advance research and develop cultural practices. Yet "there is no reason why heritage should not provide other services hence widening its valorisation scope ... From an economic perspective, heritage matters less per se than the totality of services that can be derived from it—services which will in turn become the source of more potential markets..." (Greffe 1999).

2 Cultural Values

"[Cultural] significance assessment is essential because, even when a site is considered to be of Unesco World Heritage status... active conservation-managers need detail as to why it is significant in order to protect the values that make it so. In fact, the greater the level of physical intervention envisioned, the more detailed the assessment of significance or value should be, since the possibility of damaging or destroying undetected or poorly understood aspects of significance is much more likely as intervention increases." (Sullivan 1997)

Cultural values are the sources of fulfilment traditionally associated with culture. They are religious, aesthetic, artistic or other values primarily conferred upon material heritage (objects or places). It is difficult to incorporate them in an economic study. In some cases, assessing such values on a monetary scale can be "degrading". For instance, it is difficult to assess the
spiritual significance of a religious object or place of worship. It is equally difficult to quantify the aesthetic qualities which underpin artistic expertise and appreciation, and are the outcomes of creative endeavour. What price tag can be put on the ability of heritage to bring unity, and to shape up a common cultural identity (regional, tribal, etc.)?

2.1 Aesthetic and Artistic Values

Aesthetic value is the founding stone of the cultural valorisation of heritage. “It is the pleasure and emotion felt by a person when looking at a heritage object—emotion which differs from one person to the other and leads to purely subjective assessment processes.” (Greffe 1999) Conversely, artistic value is a rationalisation of aesthetic value since the artistic value of a monument or object is judged in the context of the artistic movement it pertains to, the quality of its execution, or its innovative merits. These factors are especially important as they can assist in reaching investment decisions (whether to develop a site for example). If a site is in disrepair or if restoration work carried on it threatens its authenticity by not conforming to international standards, the site will lose its artistic value.

2.2 Historical Value

Monuments teach us history and their historical value is directly derived from their ability to provide an authentic testimony of the past (the manner in which people lived, etc.).

2.3 Cognitive Value

Cognitive value relates to learning. Even if a heritage object does not strictly conform to aesthetic or historical criteria, it can still constitute a pedagogical tool serving to illustrate aspects of history or of art.

2.4 Social Value

Heritage reinforces social identity and fosters feelings of belonging to a community. The interaction of a community with its heritage can reinforce its social fabric. By the same token, lack of social cohesion and community fragmentation can adversely affect heritage conservation and preservation. “Awareness of a shared past allows for the creation of a present and future common identity, provided everyone is committed to the idea”. (Greffe 1999)

2.5 Religious Value

In Lebanon, a country built on religious and political sectarianism, religious value is regarded as one of the most important heritage values. An instance of such a view was evident in the 1998 classification of the Holy Qadisha Valley on the World Heritage List. The site fulfils the following criteria:

Criterion iii: Since the beginnings of Christianity, the Qadisha Valley has given shelter to monastic communities...
Criterion iv: The monasteries of the Qadisha Valley are among the most significant surviving examples of the strength of the Christian faith.

Fig. 1-2 Deterioration of buildings and surfaces on archaeological sites can gradually contribute to the loss of cultural and economic value.
Economic Values

In order to assess the economic value of heritage, one must distinguish use values from non-use values related to the concepts of flow and “stock” of capital.

### 3.1 Use Values

“The use value of heritage results from the explicit assessment by users of benefits they derive from it. Usually, the cost of entry tickets is a good way to gage use value.” (Greffe 1999)

Further methods have been developed to assess visitors’ willingness to pay—a willingness which rests on the assumption that they will derive maximum enjoyment and fulfilment from their heritage visit.

Four distinct methods are used to gage willingness to pay (WTP):

- The contingency valuation methodology (CVM);
- The “value for money” methodology;
- The hedonic pricing methodology;
- The travel cost assessments methodology.

### 3.2 Contingency Valuation

This methodology consists in asking potential users about their willingness to pay (WTP) for a specific benefit, or their willingness to receive compensation in case of “loss” or dissatisfaction. The methodology is grounded in the study of hypothetical behaviour through the compiling of a questionnaire which aims to determine the ex ante value of a given good for the user. (Desaigues 1998) Compiling the questionnaire is the crucial element. The quality of data mined will be directly linked to the relevance of information relayed through the questionnaire, namely:

- description of the good or service on offer;
- time delays affecting the implementation of said service, if any (significant time delays must be raised);
- funding sources the visitors would prefer to see drawn upon (taxes, etc.)

The methodology has its limitations and biases (Greffe 1999) which must be borne in mind when its results are interpreted. These include the overrepresentation, in the questionnaire, of extreme values to the detriment of average and median values. The “inclusion bias” is due to the fact that respondents may give more value to moral satisfaction as a way of distinguishing it from material goods. The “fiscal bias” also presents some difficulties. It tends to display an unwillingness to pay because it is dependent on the respondents being able to take into account the fact that they themselves are already fulfilling part of the service, by paying taxes for example.

### 3.2.1 The Value for Money Methodology

This method consists in asking potential consumers about the value they perceive the good to have once they have paid for it and “consumed” it. Are they satisfied with the experience? If the response is positive, then the goods’ value is assumed to be at least equal to the quoted price, and vice-versa. This methodology also raises some issues:

- What should one consider the “price” to be: is it the entrance fee only, or is it the visitor’s total incurred expenditure (transport, food and entrance fees)?
- Often, visitors pay discounted prices (concessionary rates, etc.). Can the value for money methodology still be applied then?

But can one adduce that the value of heritage is equal to the difference between the two values, even assuming that both houses are of strictly similar specifications? This is a complex methodology which also requires numerous statistical adjustments.

### 3.2.2 The Hedonic Pricing Methodology

This methodology analyses the actions of consumers. It utilises the purchase value of a commodity to deduct the value of a non-commodity (heritage). The value of a house situated in the vicinity of a historical building is often higher than that of a similar house in an area devoid of heritage.

is drawn between entry fees and visitor numbers using a demand function. It is a complex process, which poses some difficulties particularly when it comes to simplifying hypotheses and information.

### 3.2.3 The Travel Cost Assessments Methodology

This method is based on the idea that the greater the importance they place on visiting the heritage site, the higher the transport costs visitors will be willing to incur. Transport costs are considered as shadow entry fees, and a relationship

is drawn between entry fees and visitor numbers using a demand function. It is a complex process, which poses some difficulties particularly when it comes to simplifying hypotheses and information.

### 3.3 Non-use Values

Non-use values are related to the benefits that can be derived from a non-exploited or non-used site, hence the introduction of existence and option values:

- **Existence Value**
  One may bestow value upon a site (a museum for instance) without visiting it. Another example (Pagiola 1999) is value conferred upon endangered species, such as blue whales, which most of us will never have the privilege of seeing. Bamiyan Buddhas in Afghanistan are also a case in point. Originally, they were little known of the general public but their destruction
was felt to be a resounding loss and generated a strong reaction in public opinion throughout the world.

- Option Value
  This is the value which would be derived were a site to be

4 Tourism

Increasing interest in heritage has led to the emergence of cultural tourism. The World Tourism Organization predicts that the transfrontier flux of tourists will increase from 625 millions to 1.6 billions by 2020. (UNESCO 1999) Tourists will spend 2000 billion dollars, up from 445 billion in 1999, making tourism the largest economic activity in the world. Nonetheless, this expansion of tourism is not without risk. Tourism may be identified as a major risk for heritage, particularly in cases where visitor numbers become very large such as in Petra (Jordan) or the Valley of the Kings (Egypt). Some criticize, often with good reason, the excessive exploitation of sites which may “rob host communities of their traditional cultural landmarks and destroy the authenticity and significance of their heritage” (Patin 1999) and yet, tourism contributes to giving heritage a place within the economy.

5 Methodologies for Assessing Investment Projects

An economic feasibility study is often required when trying to assess the validity of a financial injection earmarked for the development of a site, monument or museum. The awarding of public funding must also be justified by a clear economic purpose, most often founded on the tourism argument. Traditionally, the question posed during the course of the development of a cultural heritage project is that of the correlation between cost and efficiency. The main objective being limited to the preservation of the site, development and conservation have to be performed in the most efficient manner and for the lowest cost. This leads to reduced financial and human resources, an reality which brings to the fore the limitations of this particular approach. These limitations are given greater emphasis when one is facing a multitude of issues on several sites and when what meagre resources are available must be shared between a number sites or projects. Admittedly, the importance and originality of a site or monument do justify expenditure which is solely related to conservation and restoration (preserving its existence value). Then again, from an economic viewpoint, all additional disbursements need to be subject to a detailed cost-benefit analysis. (Pagiola 1999) In that respect, the general criteria used for the assessment of investment are equally relevant to heritage projects:
- The Payback Period uses a liquidity criterion to tackle budgetary constraints. The focus here is on recouping funds by rapidly generating cash flow.
- The Net Present Value (NPV).
- The Internal Rate of Return (IRR).

5.1 Pricing

There is increasing pressure for heritage sites to generate more revenue, thus relying to a lesser extent on public funds or patronage. In this regard, entry fees allow to:
- Gage the value of the service offered;
- Raise the budget needed for their running;
- Restrict, or indeed stimulate, the demand for heritage services in the face of fluctuating capacities.

5.1 Full Cost Methodology

The practice most frequently envisaged in initial pricing is the full cost methodology. It consists in dividing the expenses incurred by the monument by the number of visitors expected over the course of a given period (one year). It is a simple method and one which is suitable when the visitor numbers are easily predictable, but it presents three issues:

- It is only applicable in a non-competitive context where visitors do not react to price. “When it comes to heritage and as a result of the substitutability of monuments, the public is often regarded as a captive audience. It is not so, especially in light of the fact that heritage does tend to attract less conventional visitors who perceive the visit as a leisure activity amongst several others. An entry fee which is pricier than a cinema ticket will deter visitors.” (Greffe 2003)

- The entry fee should cover a proportionate share of the costs incurred through the opening and running of the monument. Visitors cannot be made to bear the total cost of conservation as this would mean their bearing the production cost of existence value from which they only derive a fractional benefit—this would lead to under-consumption and losses. Therefore, the full cost can be reduced as long as the existence value is subsidized.
Fig. 3 The Beirut National Museum.
• The last issue is one of accountancy. The full cost methodology is used in the private sector. It presupposes an autonomous management structure combined with an excellent knowledge of cost structures. It does therefore not easily lend itself to cases where several monuments are administered by the State.

Pricing decisions are often strategic. “Varying the pricing will inevitably result in losses. Indeed, by raising prices we risk losing some visitors, and if we lower them there is no guarantee that an increase in visitor numbers will necessarily follow—unless we adopt the free entrance model, in which case visitor numbers tend to increase steeply.” (Greffe 2003)

6 Links between Economic and Cultural Values

Contrary to popular belief, economic and cultural values are closely connected (Throsby 1999) on a number of levels:

• The value of a tangible heritage asset (such as a historical building) stems from its existence as an immovable asset. In addition to which, its economic value will increase (or decrease) significantly owing to its cultural value, or its classification in the framework of relevant legislation. The economic value of service flow produced within a cultural heritage site is also related to the historical value of said site. The contingency value measured through the pricing of entry tickets should—all else being equal—be proportional to the cultural value visitors grant the site.

• But it is chiefly within the realms of sustainable development and long term sustainability that economic and cultural value intermesh and complement one another. “A sustainable development policy is one which fulfils present needs without prejudicing future generations’ ability to, in turn, fulfil their needs. Consequently, it is advocated that the general balance and value of natural and cultural capitals be preserved, and that policy assessment tools are put in place so that the true cost of conservation and of consumption is determined. The aim of sustainable development is to satisfy the intergenerational equity criterion, first and foremost.” (Desaigues 1998)

This is the logic that frames certain strategic decisions to protect a great number of archaeological sites and present them to the public. Some sites in Lebanon for example, remain unvisited by tourists and are in an advanced state of degradation due to insufficient financial and human resources. “The introduction of more flexible and more collaborative management methods is probably the best way to develop monuments which cannot be funded by the State. This would also have the advantage of combining innovation and resourcefulness with the State’s technical know-how, thus leading to better valorisation...” (Greffe 2003)

Could one, however, justify investing large sums to develop quasi-abandoned sites merely to preserve their cultural value and without the guarantee of deriving economic benefits from such an investment? Could the cultural value of such sites not

Fig. 4 The Byblos old souks Tourism contributes to giving cultural heritage a place within the economy.
be preserved for future generations through new solutions such as partial or total reburial? This solution would preserve historical and scientific data as well as aesthetic and existence values, and would allow for what precious few financial resources are available to be allocated to the development of other sites (or site zones) which attract more visitors and hence generate more revenue. This is not an easy choice to make. Nonetheless, to ignore problems will only exacerbate them, and will indubitably lead to the destruction of many sites which remain unknown to the public. All decisions concerning the conservation and preservation of heritage, and its transmission to future generations must be made in the inescapable context of economic management. They must however be reached without forgetting that the long term valorisation of heritage is dependent upon a tight-knit collaboration between conservators/restorers, managers and culture and tourism experts. Most importantly, we must recognize that “heritage is not immutable, it adapts to the world surrounding it. It is vital, in the interest of both conservation and tourism, that heritage should endeavour to adapt. To be effective, a vision is needed which can be expressed through a comprehensive plan that serves the interests of heritage and the needs of visitors equally.” (Chamberlain 1999)

References


Anon. (1999), "Tourism and Culture: rethinking the mix", The UNESCO Courier, July-August, p. 27.


Greffe, Xavier (2003), La Valorisation économique du Patrimoine, Paris, La Documentation Française. Ministère de la culture et de la communication.


Communicating Conservation: New Challenge for Heritage Professionals

Monica Ardemagni

1 Conservation and utilization: two irreconcilable realities?

In recent practice, the notion of “preventive conservation” is no longer limited to the consideration of technical aspects. Indeed, to “preserve” means not only to take adequate measures to stop or delay the deterioration process a good is subject to, but to also to make it available to the public so that they may come to understand and appreciate it. Thus, the aim of conservation is not only to protect heritage so that its message may be safeguarded for future generations but also to create better conditions for the contemporary public to enjoy it, use it, and experience it whilst drastically minimising the risk of it being damaged. Heritage needs “users”. If it remains unused, it becomes regarded as unnecessary and devoid of interest, and is ultimately abandoned. Public access—physical as well as intellectual—is a component of conservation and encompasses the triad of “presentation, explanation, communication”.

Let us consider the example of the Lascaux Caves, discovered in 1948. They hold a unique specimen of prehistoric paintings dating as far back as 20,000 years. Their exceptional state of conservation led to high visitor numbers (1200 visitors per day). However, ten years on, the first signs of deterioration began to appear, caused by excess carbon anhydride from the visitors’ respiration. Despite the introduction of a highly sophisticated humidity control system, the state of conservation of the paintings remained unstable. In view of Lascaux’s uniqueness, The French Ministry of Culture decided to close the site to the public whilst producing a perfect copy for the public’s benefit. At present, access to Lascaux is only granted to site staff to monitor the caves’ state of conservation. The closure of the Lascaux Caves seems to confirm that when it comes to heritage, conservation and enjoyment are two irreconcilable realities continually acting against one another. On the one hand is the closure of the Caves for conservation reasons, on the other the paintings’ integrity being endangered due the excessively high visitor numbers.

How might the needs of the public and those of conservation be reconciled, and that despite the added hurdle of the constant rise in visitor numbers at heritage sites?

For conservators, to strike a balance (or ideal point) between the utilization of heritage and its conservation has become the new challenge.
To reach this aim, it will be essential to collaborate with the general public. Conservation cannot be carried out against public will but must be done with their cooperation. It is important to understand that Lascaux’s closure is an extreme scenario and not indicative of a general rule. More than ever before, there is a need to involve the public in the conservation process, by making it aware of the value of heritage but also of its fragility and of the need to preserve it. In this regard, the Athens Charter suggested, as early as in 1931, that “...the best guarantee in the matter of the preservation of monuments and works of art derives from the respect and attachment of the peoples themselves”. Have conservation professionals really strived to promote this view since then?

First, one must briefly ponder the meaning of such terms as “gaining awareness”, “sensitization” and “raising heritage awareness”. Dictionary definitions outline the following:

- Gaining awareness is grasping a reality, and being capable of assessing it;
- Sensitizing is making someone receptive to something, and susceptible to react to it;
- Raising awareness is warning, alerting, and attracting one’s attention to something.

Sensitization is a three-phase process:

1. Information (the public is informed of the value of heritage, and of its state of conservation);
2. Awareness-gaining (the public change their attitude to heritage, and learn to respect it);
3. Reaction (the public is no longer passive, they take action to protect heritage when it is endangered. The public disposes of various means of change such as media campaigns, petitions, etc.)

A great communication effort is necessary to change the public’s attitude towards conservation and ensure that they become involved. The media (press, television and the internet) is an effective means to reach the largest target audience. However, members of the press and media are reluctant to tackle matters relating to heritage. When they do, it is only to report on sensationalist cases (theft of notable works of art, destruction or indeed collapse of monuments during earthquakes or bombings, etc.) General press articles dealing with the day to day maintenance of heritage are few and far in between. Heritage officials should encourage the media to engage with the culture of conservation. They should interact with journalists to encourage the media to engage with the culture of conservation and works of art derives from the respect and attachment of the peoples themselves”. Have conservation professionals really strived to promote this view since then?

During the learning phase, it is important that the following messages be communicated:

- Heritage is unique and irreplaceable (once gone, it is forever lost);
- Heritage carries intrinsic messages (historical, religious, political, artistic, symbolic, etc) which can alter over time;
- Heritage is an important economic resource (one may, for example, think of all the activities derived from cultural tourism).

Once the concept of the value of heritage has been enshrined, attention must be paid to the following:

- Heritage is fragile (aggression risks have significantly increased in recent years);
- Conservation does not just happen (it requires technical competencies as well as considerable human and economic resources);
- The preservation of our heritage is dependant on all of us, on our actions and our attitudes.

Communication: a new aspect of conservation

A. Explaining the reasons behind prohibitions: Rather than just stating “touching is prohibited”, it is easier and more effective to show the consequences a small gesture such as touching can have on a work of art. This was successfully implemented by the Louvre Museum (Paris, France) through a poster campaign. On the poster, the message “do not touch” is repeated six times, fading further each time until it becomes illegible. The concept is simple; the soundness of the message is communicated graphically. At the bottom of the poster is the following commentary: “Works of art are unique and fragile. They have endured for centuries, and must be safeguarded for future generations. Touching a painting, a sculpture or a piece of furniture, though lightly will damage it—especially if this gesture is repeated thousands of times. Help us protect our common heritage.” Another example of effective communication is the “STOP! History is not for sale” campaign, launched by the Sharjah Archaeological Museum (United Arab Emirates). In order to draw attention to the illegal sale of archaeological objects, the museum produced a series of posters and leaflets delineating the damage done by trafficking and showing that it not only deprives countries of their heritage but also, prevents archaeologists from understanding the past by removing objects from their archaeological context.

B. Highlight conservation and deterioration whenever possible: It is unusual to find any information on the state of
conservation of objects on display. It is assumed that such information is of no interest to visitors when it merely needs to be adapted to lay-persons.

C. Open conservation sites to the public: By opening conservation sites to the public, visitors are given the opportunity to witness the work of conservators, ask questions and gain a better understanding of the complexity of conservation interventions.

D. Promote initiatives which aim to explain aspects of the deterioration and conservation of heritage in order to encourage the public to become actively involved in its protection. In this respect, please refer to ICCROM’s website to learn more about the 15 year long “Raising Awareness” programme.

Considering the importance of communication in raising awareness, the following are fundamental principles which must be borne in mind:

- Identify the target group and adapt the communications’ language to their knowledge level;
- Use clear and simple language;
- Avoid including too much technical information;
- Establish a connection with the interlocutors’ experience and emotional sphere—as with the Louvre example, this will ensure that the message has a more effective impact;
- Pertinent communication always anchors itself in reality;
- Avoid phrases such as “do not ...” or “it is forbidden to”, and, in general, all negatives;
- Request the public’s collaboration by using phrases such as “help us to...” and always thank them;
- If the desired effect is not achieved, the communication was ill-conceived.

The public is not a uniform monolithic entity. There are several publics to be addressed: young people, individual visitors, groups, members of the press, local communities, tour operators, service providers, administrators, and decision makers. Each needs to be communicated to through relevant means and intermediaries, and using appropriate linguistic registers.

Often, heritage preservation is in conflict with the private interests of certain groups, as it may for instance become an obstacle to modern urban development. In these cases, it is necessary to launch a robust awareness-raising campaign targeted at the local community, listen to issues they raise, and work towards a solution which takes their demands into account whilst respecting heritage. At the crux are mediation and cultural attitudes: if people are educated from a young age to understand the value of heritage, they will come to accept the constraints necessary to safeguard it more easily. In this respect, the role of schools in the creation of this new mindset is self-evident.

Today, we intend for conservators-restorators to also be communicators. Are they ready to embrace this new role? At present, their professional training is yet to incorporate communication, in spite of the fact that conservation and communication are but two aspects of the same cultural project.

References

Public et sauvegarde du patrimoine, Université Libre de Bruxelles, 1999
The Press and the Safeguard of Heritage, ICCROM, 2000
Youth and the Safeguard of Heritage, ICCROM, 2000
Museum International, N. 243, pp.102 – 110
List of contributors
Zaki Aslan
Zaki Aslan is the Project Manager of ATHAR Programme (Conservation of Cultural Heritage in the Arab Region) at ICCROM (the International Centre for the Study of the Preservation and Restoration of Cultural Property, Rome). He is an architect who studied Conservation of the Built Environment at the University of Montreal in Canada, and conducted his PhD research in the field of heritage conservation management at University College London, U.K.
Aslan has been involved in developing training activities and publications in the fields of heritage conservation and management for the Arab Region (including World Heritage), and was consultant to UNESCO, the European Union, and ICCROM on projects in the field of heritage conservation, World Heritage, and awareness in the Middle East. He also worked on documentation and conservation of historic stone monuments at the Bavarian State Conservation Office in Munich in 1994, and architectural conservation at ICCROM in 1996.

Jukka Jokilehto
Dr Jokilehto worked for ICCROM as assistant to the Director General, Chief of Architectural Conservation. His work involved training, technical missions, development of programme activities and teaching. His main area of interest is theory of architectural conservation for which he has published widely and is recognized internationally. He has a Ph.D on the ‘History of Architectural Conservation: the contribution of English, French, German and Italian thought towards an international approach to the conservation of cultural property’ (University of York, UK 1986), and a degree in ‘Architecture and planning’ (Teknillinen Korkeakoulu Helsinki, Finland 1968).

Hossam Mahdy
He graduated as an architect from Ain Shams University, Egypt in 1981. He acquired M.Sc. in the conservation of historic buildings and towns from the University of Leuven, Belgium (Raymond Lemaire International Centre for Conservation, in 1991 and Ph.D. from the University of Glasgow, U.K., in 1992 with the title “Attitudes towards architectural conservation, the case of Cairo”.
More than twenty years experience as a freelance architect, researcher and consultant on the conservation of architectural and urban heritage. Commissioned on numerous assignments by UNESCO, UNDP, EU and World Bank funded projects on cultural heritage, architectural and urban conservation, and management of archaeological sites. Research, teaching and training are significant aspects of work profile.

Ana Almagro Vidal
Born in Madrid (Spain), 1975. Ana Almagro Vidal has a degree in Architecture from the Escuela Técnica Superior de Arquitectura (University of Granada, Spain, 1999) and has completed a European Master in Restauro Architettonico e Recupero Edilizio, Urbano e Ambientale (University of Roma Tre, 2001). In 2005 she defended a European PhD in Architecture at the University of Granada (Spain) on “Perceptual analysis of the space in Islamic architecture in Spain through computer graphic reconstruction”.

Mario Santana Quinterno
Born in Caracas (Venezuela). He completed studies in architecture in 1994 at the Universidad Central de Venezuela. In 2003 he obtained a PhD with a dissertation entitled ‘The use of three-dimensional documentation and dissemination techniques in studying built heritage’ 1997, at the R. Lemaire International Centre for Conservation (K.U. Leuven). Besides his research experience, he has been responsible for the Integration of digital Documentation Techniques in the module IPW of the Master in conservation of historic buildings and towns (R. Lemaire Centre for Conservation). Furthermore, he has been working since 1997 as architectural documentation consultant for UNESCO, The World Heritage Centre, World Monuments Fund, Getty Conservation Institute, UNDP, K.U. Leuven and the University of Aachen RWTH in different international projects in the Sultanate of Oman, Iraq, Jordan, Yemen, Afghanistan, India, Kazakhstan, Egypt and Syria.
John Stewart
Currently, John Stewart is Senior Architectural Conservator at English Heritage in London, where he advises on conservation practice and produces conservation publications. English Heritage is the lead government agency responsible for the built heritage in England. His academic and practical studies have included the fields of art history (University of British Columbia, Vancouver), architectural conservation (Columbia University, New York and ICCROM in Rome), artifact conservation (Institute of Archaeology, University College London), and training in mosaics conservation (Atelier de Restauration de Mosaïques, Vienne, France). His other professional appointments have been as Senior Conservator at the British Museum, and Conservation Advisor for the National Trust in London. He has been an elected member of the Board of the International Committee for the Conservation of Mosaics since 1999. John Stewart regularly lectures on archaeological site conservation at the University of London, and currently for the Institut national du Patrimoine of Tunisia with the Getty Conservation Institute.

Gionata Rizzi
Born in Milan, he studied at the University of Milan, at ICCROM and at the Institute of Advanced Architectural Studies in York where he obtained a Master’s Degree with a thesis on the consolidation of masonry ruins. Assistant of Sir Bernard Feilden in Rajasthan, he has worked on many projects of architectural conservation in Italy, France, Spain and in the Middle East. Recently, the Getty Conservation Institute asked him to develop a preliminary scheme for a shelter to protect the hieroglyphic stairway in Copan, Honduras. For the last four years he has been involved in the “Sagalassos Conservation Projects” with the University of Leuven. Author of many articles, he has taught Architectural Conservation at the University of Milan and Geneva and given lectures at the University of Pennsylvania and Harvard.
Katri Lisitzin

Ass. professor / Senior Lecturer at Institute of Conservation, Gothenburg University and Department of Landscape Planning, Swedish University of Agricultural Sciences.

Current research studies:
- Interdisciplinary research projects on heritage management in urban and rural landscapes.
- Cross-disciplinary research project Space, movement and artefacts in the urban landscape
- A State-of-the-Art survey for Sida (Swedish International Development Cooperation Agency) on Managing cultural landscapes in the EIA process in international development projects.

Andrea Urland

Andrea Urland is Associate Professor at the Faculty of Architecture of the Slovak University of Technology in Bratislava and Senior Academic Fellow of the Academia Istropolitana Nova, where she also lectures in post-graduate training programmes in conservation of built heritage. In 1994-1999 she coordinated the ICCROM ARC courses and acted as ICCROM Architectural Conservation Programme Manager. In this position she had collaborated in the conceptual development and implementation of several other ICCROM courses and workshops, such as ASC (Architectural surfaces Conservation), ITUC (Integrated Territorial and Urban Conservation) and more recently MARC (Modern Architecture Conservation). In 2004 she coordinated / tutored and lectured to the three-months course of the European Centre for Training Craftsmen in the Conservation of the Architectural Heritage in San Servolo, Venice. She has in the recent years been asked to design and conceptually develop a number of international courses dealing with built heritage conservation issues.

Ridha Fraoua

Dr. Fraoua is a Tunisian lawyer who lives in Switzerland working for the Office Fédéral de la Justice as Head of Legislation. He has a Ph.D in Law on the subject of the international legal protection of cultural properties (1985) and a degree in Law with additional courses in classical archaeology, ancient history (Université de Fribourg, Switzerland 1980). He has been a UNESCO consultant since 1986 and has regularly been on foreign missions to protect cultural heritage, in particular in Lebanon, Syria, United Arab Emirates, Gabon, Mauritania, Yemen and Palestine.

Naif Haddad

Obtained this Master degree in architecture (1985) and his PhD (1995) in the field of ancient architecture from Aristotle University of Thessaloniki/Greece. As heritage expert he worked, in several excavations, research programmers, in documentation, restoration and conservation projects, in Greece and Jordan. Dr Haddad had been the Chairman of the Department of Architecture at the Applied Science University between 1996-1999 and the Chairman of the Department of Conservation Science at Queen Rania Institute of Tourism and Heritage at the Hashemite University between 2001-2005. His research interests and publications are in documentation, restoration, conservation and anastyloses of archaeological sites, historical buildings and monuments, as well as in architecture of the Mediterranean region. He is also consultant, creative& art director, and script writer of various TV production documentaries, Sitcom series, PSP. Dr. Naif has written and supervised production for many documentaries.

Isabelle Skaf

As a conservator-restorer, who previously studied Art History in the USA, Ms. Isabelle Skaf worked extensively in Beirut and beyond both for UNESCO and the Direction Générale des Antiquités (DGA). She has a BSc in ‘Archaeological conservation and materials science (University of London, UK 1985), and more recently, an MBA on ‘La valorization du patrimoine culturel au Liban’ (Ecole Superieure des Affaires, Beirut 2004). She worked in several museums and laboratories as part of the conservation course and went to Iraq as an on site conservator before moving back to Beirut where she ran a private conservation workshop until 1991. She worked also as a conservator for the Beirut Central District excavations and became member of the technical committee for the rehabilitation of the National Museum in Beirut. In 2002 she established a conservation-restoration company, which has worked on archaeological material from the sites of Sidon, Nahr el Kalb and Beirut.
She is a member of UKIC and was elected at the bureau of International Committee for the Conservation of Mosaics ICCM in 1999.
Monica Ardemagni

Monica Ardemagni studied Ancient Greek History at the University La Sapienza of Rome, and taught literature in high school for 10 years. Since 1990 she collaborated with Gaël de Guichen at ICCROM in the programme Public Advocacy. She worked at ICCROM as a project manager until 2004 and undertook several activities addressed to various target groups such as school children, visitors (individual and in group), guidebooks editors, tour operators and decision makers. The main projects to be mentioned are: MEDIA SAVE ART, an international competition for journalists; the Poster for Competition; “The City Beneath the City”; “Let’s Take Care of our Heritage Together”, the “Campaign Against Graffiti”.

She collaborated also with the ATHAR Programme developing, with the support of the UNESCO Amman Office, a manual on the management of heritage sites for schoolteachers in the Arab region.
Following several ATHAR Programme’s foundation courses in Byblos and Tripoli (Lebanon) in Amman (Jordan), and in Sharjah (United Arab Emirates), it was deemed necessary to put some of the experiences learned in the hands of a wider audience beyond the direct benefit of course participants. “Selected Readings from ATHAR” is a result of valuable contributions from instructors who took part in the ATHAR core regional courses and who were invited to submit scientific material relevant to the topics they covered during the ATHAR courses. It is thanks to the Governments of Sharjah and Italy and ALECSO who financially have supported the ATHAR Programme and this particular publication. The subjects included in this first series of “Selected Readings from ATHAR” range from theoretical approaches to the conservation of cultural heritage sites to the implementation of techniques and management approaches for the safeguard of immovable heritage for future generations. It is our aim to disseminate this knowledge for the effective benefit of practitioners and educators working this specialist field and in the Arab Region.

– Zaki Aslan, Manager, ATHAR Programme, ICCROM

ATHAR Regional Conservation Centre
Architectural-Archaeological Tangible Heritage in the Arab Region
PO Box.48777, Sharjah, UAE
athar-centre@iccrom.org www.iccrom.org/athar-centre