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METHODOLOGIES AND TECHNIQUES FOR THE CONSERVATION OF CULTURAL HERITAGE IN EMERGENCY CONDITIONS

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Keywords

safeguarding cultural heritage, emergency conditions of cultural heritage, conservation of cultural heritage

ABSTRACT

Emergency conditions frequently pose risks for Cultural Heritage.

These conditions have diverse causes: some are brought about by natural disasters or war, others by political and economic decisions. The measures taken to contrast and respond to these conditions will vary, depending on the context and the short-term risks.

Three sample cases taken from countries with different socio-cultural backgrounds, illustrate the methods and the solutions adopted for conserving Cultural Heritage threatened by emergency conditions.

1. INTRODUCTION

Cultural Heritage all over the world is often threatened by emergencies, be they natural disasters or man-made events. All too often damage to heritage is due to inadequate or inexistent preventative measures. All too often emergency measures are needed to address problems of deterioration brought about by bad management of the Cultural Heritage. Many natural disasters are predictable and could be prevented but political, social and economic factors ensure that prevention and damage containment work is never carried out. Cultural Heritage is the historic testimony of the civilizations that have followed one another over millennia, shaping the world.

2. BACKGROUND

Cultural Heritage bears witness to our past: it is the materialization of our virtues but also our vices. All too frequently Cultural Heritage is sacrificed in order to obtain temporary cultural, racial or religious supremacy: destroying or standing by whilst others destroy Cultural Heritage is considered advantageous. This is wrong. History teaches us that Cultural Heritage (both material and immaterial) is the only means to acquiring a little immortality, testifying as it does to the existence and the thoughts of both communities and individuals. In recent years some testimonials have been destroyed because of the ideologies they represent. This has been the work of religious and political extremists wishing to annihilate testimonials of other religions or civilizations considered unworthy. Emulation of this ideological destruction has also brought about damage. World history offers plenty of examples of man destroying all traces of that which he considers undesirable.

3. METHODS

Researching how to conserve Cultural Heritage threatened by emergency conditions poses difficult issues. Damage caused by direct action (war, vandalism, destructive theft) has to be taken into account as do the risks Cultural Heritage is exposed to as a consequence of abandonment and neglect¹. The causes of these destructive actions are as varied as the methods and techniques used to combat them: these last take into consideration the environment where the conservation work takes place as well as the prerogatives and resources of the local communities. The feasibility of rapidly ensuring the safety of the Cultural Heritage (both moveable objects and building structures) is to a great extent determined by the properties of the component materials and the size and location of the Heritage item. These factors determine the vulnerability of the Heritage item.

4. CASE HISTORY

We describe below three examples of diverse approaches to conservation undertaken in: A Pakistan, B Lebanon, C Italy.

- A. (Pakistan) The SWAT Valley

The Swat Valley lies within Khyber-Pakhtunkhwa Province (formerly North-West Frontier Province, NWFP), in the foothills of the Hindukhush-Karakorum mountain ranges. "Swat, known as Suvastu in the RigVeda and as Soastene in Greek sources, is mentioned in classical texts because of its role in Alexander the Great's Indian campaign in 327 b.C. Late Antique Chinese and Tibetan sources refer to Swat as Uddiyana, the homeland of Padmasambhava, Guru Rimpoche, who brought Buddhism to Tibet" (Olivieri, L. M. 2014, p.57).

In 1992-93 I was one of a group of archaeologists and architects sent by Is.MEO cos'è?? to work with the Missione Archeologica Italiana (MAI) in Pakistan: we studied archaeological findings in the city of Barikot and some Buddhist monuments of the Ghandarica period (stupa) in the Swat valley². In 2012 following the request of the Director of the Mission, Doctor Luca M. Olivieri, an agreement between the Archaeology, Community, Tourism - Field School (PIDSA) (ACT) and DiDA, Università degli Studi di Firenze made it possible for me to return to Pakistan to study conservation work undertaken on some large stupas in Swat.

- B.(Lebanon) The Chamaa Mosque

After the most recent Israeli attack upon Lebanon "the world" rallied to provide appropriate reconstruction: Stockholm Conference, August 31st 2006. The post-war socio-political situation in Lebanon is far from clear: the country is divided and the South is certainly one of the areas that does not recognize the Governing Authority. This disavowal has to be taken into consideration when taking measures to protect the cultural heritage of these areas. Chamaa is a small village situated on the top of a hill, about 20 Km from Tyre. It owes its importance to the presence of a mosque whose original nucleus, probably belonging to the Fatimid period (10th century), is situated inside a castle built at the time of the Crusades. There are structural remains dating from the following periods: Fatimid (10th - 12th century), Crusader (12th-13th century), Mameluke (13th-16th century), Ottoman (16th-20th century) and Modern (20th - 21st century). Within the ancient towered walls of the castle there are private civil edifices and buildings of "public" interest such as a small mosque, an olive press and a cistern for collecting water. This nucleus was badly damaged by the last bomb attacks of the July-August 2006 war. According to tradition the village was named after the prophet Chamoun Al-Safa, (called Nabi Sh'ma in Arab), who preached in this area in the 1st century A.D. and whose remains it would seem are preserved inside the mosque. The bombings of the July-August 2006 conflict caused serious damage to the entire fortified village complex: parts of the wall were reduced to rubble, the housing was made uninhabitable and the sacred area also suffered damage; the minaret and one of the bays to the entrance portico collapsed and the keystone of one of the four domes was dislodged. While the survey operations on the mosque structure were in progress a local building firm started rebuilding the minaret and restoring the mosque: this work was carried out with the Mayor's permission and was paid for with the financial aid provided by Qatar.

- C. (Italy) The Palazzo Vecchio in Florence

Any trial designed to protect Cultural Heritage requires the preparation of an archive with information gathered by compiling forms which provide the information required for preparing an emergency plan for each individual component of the Cultural Heritage. This archive has to facilitate an efficient and rapid adoption of safety measures for heritage items threatened by catastrophic events (flood, fire, earthquake, storm etc.) and terrorist attacks (the risk is proportional to the symbolic importance of the object in question).

A form that was easy to compile and to read was prepared for the pilot project Firenze Tutela³ so as to facilitate the rapid identification of each piece of heritage and to ascertain, on the basis of its specific characteristics, the appropriate measures required for ensuring its safety. These forms were trialled on a significant sample of works inside Palazzo Vecchio. Emergency procedures have to be tested in extreme situations and this explains the choice of the Florence Town Hall whose characteristics of architectural complexity, user diversity and the extremely articulated routes that have to be used to take heritage items to safety confer a high level of complexity⁴ (Sabelli, R., 2014, pp. 65-70).



Fig. 1 Saidu Sharif (PAK) conservation work of the main Stupa



Fig. 2 Swat: A rock-carved Buddha partially destroyed during the Taliban (Roberto Sabelli 2012).



Fig. 3 Chama mosque: the collapsed minaret.



Fig. 4 Chama mosque: the ancient cistern (probably dating to the Roman period) about to be filled with reinforced concrete.

5. RESULTS

- A. During the mission in Pakistan I noticed that conservation measures chosen for other monuments involved in the ACT programme took into account the work force and the materials that were available locally. I also observed a tendency to adopt techniques of the past (ashlar e semi-ashlar), sometimes inverting the techniques of their traditional use, sometimes using different sized stone blocks, always ensuring the integrated parts were undercut to further differentiate them from the original parts. It was possible to adopt these techniques because of the manual skills of the workforce deployed whose leaders have been trained in accordance with precepts laid down by G. Tucci and D. Faccenna in the 1960s⁵. The restoration work undertaken by the Missione Archeologica Italiana and its successors is praiseworthy if we consider that SWAT, on the border with Afghanistan, was controlled by the Taliban for several years and even now only the constant presence of the Pakistan army makes it reasonably safe to work there. The Taliban were responsible for destroying some non-Muslim Cultural Heritage⁶ (figg. 1, 2)

- B. While the survey operations on the mosque structure were in progress a local building firm started rebuilding the minaret and restoring the mosque: the work was carried out with the Mayor's permission and paid for with the financial aid provided by Qatar. The symbolic value of religious buildings and the fact that they are an element for aggregation means they are the first to be rebuilt with contributions from Arab countries and in particular Qatar. Unfortunately the Chamaa mosque was rebuilt with such speed that it was impossible to negotiate with the authorities in charge regarding the procedures for rebuilding the monument. The foundations of the minaret, rebuilt in reinforced concrete, rest inside an ancient cistern (probably dating to the Roman period) which as a result is now filled with reinforced concrete; rooms, vaults and walls have been rebuilt without the slightest documentation of the work carried out. The only documentation used for rebuilding the mosque at Chamaa was a sketch with a plan showing how the rooms were distributed (figg. 3, 4).

- C. The form was tested on a significant sample of works inside Palazzo Vecchio. Emergency procedures have to be tested in extreme situations so Florence Town Hall was chosen as an experimental site because its architectural complexity, user diversity and well articulated walking routes make it a highly complex site. In order to prepare an appropriate survey form we studied national research projects co-ordinated by the National Department of Civil Defence and the Civil Defence Service of the Municipality of Florence, especially the ICCD (Istituto Centrale per il Catalogo e la Documentazione) catalogue system of MiBACT (Ministero dei beni e delle attività culturali e del turismo).

The Florentine Civil Defence Service had already started surveying and cataloging the Cultural Heritage of the Municipality of Florence and this made it possible to trial an integrated system for heritage protection using an information database that was already at a well advanced stage. We defined a survey form that was divided into three sections: "anagraphical", juridical and descriptive. The installation of a geo-referenced instrument to control and monitor Palazzo Vecchio's Cultural Heritage was also included in the trial. In the event of an emergency this instrument will make it possible to ascertain the area impacted by the calamity, identify the heritage items potentially at risk and immediately decide, on the basis of the characteristics of each heritage item, the appropriate measures and the human and technical resources required for their immediate safe-keeping (figg. 5, 6).

6. CONCLUSIONS

The three examples cited here highlight the fact that emergencies affecting Cultural Heritage can be resolved using a variety of different techniques, materials and time-frames. The problem of conserving endangered Cultural Heritage is more socio-anthropologic than economic. The perception of Cultural Heritage varies considerably in different parts of the world. The population's educational level is an important factor as are the priorities chosen by political systems. All too often the material Cultural Heritage is traded, usually to obtain immediate political consensus or financial gain. The fate of much of the Iraqi and Syrian Cultural Heritage is emblematic: the items that are saved from destruction during the fighting are sold to finance further destruction as are many of the objects from the sacked museums. Some solutions are inappropriate, undertaken with inadequate skills and information, others, even in extremely difficult areas, if well organized and directed can generate an awareness that the heritage belongs to that cultural area and should therefore be protected.



Fig. 5 Florence, Palazzo Vecchio: Judith and Holofernes.

livello-numero ambiente		giacitura	ID	ambito	sito culturale	numero identificativo	colore livello		
P3 71		pav		7PAL01	QUARTIERI MONUMENTALI	U01022			
nome ambiente		destinazione uso ambiente	corpo di fabbrica	codice ICCD	numero inventario 1	numero inventario 2	numero inventario 3		
SALA DEI GIOI		MUSEALE	01						
numero inventario 4	numero inventario 5	categoria elemento culturale	tipologia oggetto	descrizione oggetto	nome				
		mo	scu	GRUPPO SCULTOREO BRONZE0 SEC. XV	GIUDITTA E OLOFERNE				
scheda collegata		fotografia giacitura	quota oggetto calpestio	quota piano calpestio	fotografia oggetto				
7		U01022_0064.jpg	3.07		U01022_0066.jpg				
materiale/i		mobile/inamovibile	tipo appoggio	tipo ancoraggio	numero componenti				
Metallo		M	Appoggiato a terra o su superficie piana	MEDIANTE PERNI AL BASAMENTO LAPIDEO	1				
dimensione x	dimensione y	dimensione z	diametro	spessore	peso	stato conservazione	rfid x	rfid y	prescrizioni
90	90	236	N		300	B	1681619.86	4848770.86	VERIFICARE LA PRESENZA DI UN PROBABLE ANCORAGGIO AL BASAMENTO LAPIDEO E PREDISPORRE UNA STRUTTURA PROVVISORIALE PER LO SMONTAGGIO
numero addetti	schedatore	competente	ref schedatura	proprietà generica	proprietà specifica				
8				PUBBLICA	COMUNE DI FIRENZE				
condizione tutela		priorità	data compilazione						
		ALTA	30/05/2009						

Fig. 6 Florence, Palazzo Vecchio: Census schedul.

NOTES

1 Maniscalco 2007, pp. 45-56.

2 “Today the term «G. art» is used to refer to artistic works, mostly stone, clay or «stucco» reliefs, documented in the North-West of the Indian subcontinent (Northern Pakistan) and in Afghanistan from the beginning of the Christian era. These works virtually all depict Buddhist figures (G.'s reliefs were part of Buddhist religious monuments: stūpa, vihāra) and the styles and iconography deployed reveal a mix of elements from diverse traditions: Indian, Iranian, Hellenistic.” (Taddei, M. 1994, III, p. 776).

3 National Research Project (2008-2009), Firenze Tutela-Salvaguardia del Patrimonio Culturale fiorentino: elaborazione di un modello di pianificazione per la tutela e la salvaguardia del Patrimonio Culturale di proprietà comunale, undertaken for Florence Municipality with the Civil Defence Taskforce and CESPPO-UNIFI. Various work groups participated in this project: Francesco Ciampinelli and Francesca Malesani collaborated with the writer of this paper.

4 The present-day Palazzo Vecchio was greatly enlarged and modified over the centuries and it houses five museums as well as the municipal administration so there is a constant flow of tourists and residents at most times.

5 Giuseppe Tucci founded the Missione Archeologica Italiana (MAI) in 1955 and Domenico Faccenna directed it until 1995.

6 “The constant presence of the MAI over a long period, the Mission’s responsibility for entire archaeological areas on behalf of the Pakistani government, the continuity and training of the work-force over the generations all contributed to the development of a unique work experience. This experience has been transformed into a model for implementing conservation work and used in the ACT project. The first point to be made concerns the relationship between rural communities and archaeological sites. This relationship is vital for safeguarding or “auto-protecting” these sites. Although the sites at first are merely regarded as an indirect source of income, providing work for community members on the archaeological sites (in itself a positive aspect), they are soon perceived as being

part of the community and as being the responsibility of the community. It is well known that the archaeological areas controlled by MAI communities were the only ones to escape damage during the tragic period of Taleban rule. These areas and others added after 2011 are the best cared for and the number of visitors has increased by 150% in 12 months in 2013-2014” (Olivieri, L.M. 2014, p. 60).

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