

## AN EXPERIMENT ON A SYSTEM FOR SELECTING THE METHOD OF ARCHITECTURAL RECORDING

Can Ş. BİNAN

<sup>a</sup> Prof Assoc.Dr.Architect, YTU, Architecture Faculty, Istanbul, Turkey - binanCB@tnn.net

**KEY WORDS:** Architecture, Cultural Heritage, Measurement, Restoration, Architectural Heritage Conservation,

### ABSTRACT:

Process of architectural conservation and restoration requires scientific approaches which shows parallelism to the field of medicine in regards of basic principles, used methods and purpose. In practicing medicine, which aims at recovering man from chronic or acute diseases, the information and tests required for diagnosis and treatment should be sensitive enough to determine the real cause beneath the health complaints during the health checks. Tests required for correct diagnosis are processed from the most simple to the most sophisticated stages by the Medicine doctors. And, usually, during this process most of the diseases are diagnosed. For a disease of which symptoms are very clear, one does not choose a very expensive and complex tests and analysis or methods and tools to diagnose it so that the budget to be spared for the treatment which is the final target is not exaggerated.

This is both important in regards of individual budgets and national sources of countries. Therefore, the system of preventive medicine is established to diagnose and recover patients with relatively lower budgets in advance. From the point of view of the conservation economy, the cost of restoration process gains importance. Here, the structure (the patient) must afford it. It is true that architectural restoration is an expensive process, but today the variety of architectural heritage that needs to be protected is ever increasing and it is not limited to a mere monumental architecture which in turn requires reduction of the costs.

The process of architectural conservation and restoration requires scientific approaches being in parallel to the field of Medicine in respect to basic approaches, methods used and targets. The sensitivity of the knowledge and analyses that are required for diagnosis and treatment in the application of medical occupation which aims to treat the health and to have it at a fit condition to work and extend the life of a person who has a continuous disease or a sudden illness, should be sufficient enough to determine the illness that was suspected in the preliminary controls. The diagnostic examinations are implemented by the physicians in a process starting from the simplest to the most developed. For an illness having very obvious symptoms, generally, very expensive and complex tests, examinations and methods are avoided. Thus the budget that should be reserved for the treatment, which is the final purpose, will not increase dearly. This is important both for the personal budgets and also resources of the country. For that reason, the system of protective medicine has been formed and now it is possible to diagnose and treat the illnesses quite early and with relatively low budgets.

In this context, it is possible to see and apply the existence of parallel approaches in the field of architectural preservation. The sentence given in article 4 of the Venice Charter "The basic attitude in the preservation of monuments is to ensure the stability and sustainability of the preservation" nearly coincides with the concept of protective medicine.

When we consider the situation in respect to the preservation economy, the cost of the restoration process becomes important here. The patient/the building should be able to pay it back. It is true that architectural restoration is an expensive action but since the versatility of the architectural treasures that must be preserved has increased greatly and it is not only limited to monumental architecture, these costs should be decreased.

The studies of architectural survey shows parallels with the actions carried on for analyses and diagnose in the process of medical approach. Here the historical and structural identity (bodily status) of the building (of the patient) are determined

and the existing situation is documented (examinations and medical display) with measurements and the process it has passed through since its first construction (his illnesses) and wear and tear (the visible symptoms of the illness) are clarified in these studies and the necessary techniques and methods (drugs or operations) for the restoration (the treatment) are decided.

At this point the selection of the survey method that will be used becomes important. Sensitivity is important but as it is the fact for the field of medicine, really important issue is to determine the sensitivity that will serve the purpose.

Therefore the determination of the method depends on the status of the building that will be preserved and what kinds of benefits will be derived from the resulting product.

For the exemplification of this method, 5 buildings have been selected and the method used and suggested for the determination techniques and method used in these buildings have been exemplified.

In the first example the survey method that was selected for a Fountain of Azapkapı Saliha Sultan, dated 1780 with a limited budget and for which façade cleaning, roof repair and restoration intervention in respect to limited elements will be made and the reasons for selection shall be defined. **Drawing 01**

In the second example, Tophane fountain dated 1732 with a limited budget and for which façade cleaning, roof repair and restoration intervention in respect to limited elements will be made and the reasons for selection shall be defined. **Drawing 02**

In the third example, survey method selected for a serial of Galata Port buildings dated 1890 having great dimensions but no structural problems, built in a modular structure and with a pre-determined budget and the reasons for selection have been



stressed upon and as a result of the evaluation made for these buildings: **Drawing 03**

In the fifth example, the survey method selected for a Water Aqueduct Eğrikemer dated 1650 with a better budget, the building in large scale and cracks and deformations on it probably arising from structural problems and the reasons for selection is defined. **Photo 01, Drawing 04**

In the selection of the architectural survey method, the following criterions have been taken into account:

- Historical and esthetical properties of the building
- Its authenticity
- Constructive and structural status
- Its status of availability to all sections and dimensions
- Possible dimensions and scope of restoration application to be made
- Data expected from the result of survey
- Budget estimated for this work
- Evaluation made in respect to the preservation economy
- Status and priorities of the building with respect to conservation risks.

The basic principle of architectural conservation and restoration today is the preservation of the authenticity of the buildings. Thus what is important is not reconstructing the building but to preserve it.

Architectural preservation and restoration is a process. The works related to survey and documentation are one of the repeatable methods in this process when needed. Therefore it is one of the tools used in order to achieve the final purpose, namely treatment of the patient.

Conservation and restoration works are a process lasting until the completion of restoration application starting from survey. In general, it is a process where an Architect specialized in Preservation and restoration should direct and manage. Every phase of this process should be supervised and guided by this manager.

In this context, all types of studies such as surveying, static analysis, historical research, restitution works, material analyses etc. should not be implemented independently by the occupational groups that will carry on these works except general control and management. In order for all of these works yield the desired result, they should be implemented under a single management which is very important in respect to the process of Architectural Conservation and restoration.

In our day, the Architectural heritage became diversified and increased in number; thus the act of preservation has become even more difficult, with the cost increased its form has begun to change. Although the extensive restorations still continue, as it has been mentioned clearly in article 4 of Venice Charter, preservation act should be continuous in the form of a simple repair. This method both decreases the costs of a complete and extensive intervention and also sometimes makes it unnecessary.

The subject to which attention is drawn in this declaration is the duty to make the selection of methods and tools used in the restoration process according to the purposes and needs. Scientific developments may provide us with highly developed

methods and techniques. However, local realities of the application area, its difficulties and limits sometimes don't let us use the most developed technique and method. In all cases, whether it has limits or not, the selection of method and technique should be made with methods going farther than intuitiveness. In addition from the simplest to the most developed one, the method, techniques and tools should be used together in many applications. A photometric façade survey may be mixed with a manual plan survey. In these days when the architects and engineers seem to have forgotten how to draw by hand on paper, I think that we shouldn't throw away our steel- meters and pencils and follow the physicians who have re-discovered use of plants in the treatment of some diseases.

**Table 1**

In this table, a simple questioning method has been suggested in order to determine the method and technique related to architectural survey of the building. This method has been tried to build on criteria that are different for each building and that might guide for the principles of the restoration intervention to be made.

In the table formed with this purpose, it is suggested that a selection could be made from the most simple, nearly primitive tools-devices and methods (0 points) to the utterly developed and complex tool-devices (high points). Here:

1. Criteria is accepted as "Structural Status" and it is assumed that high technology must be used according to the status of deterioration of the building.
2. Criteria is accepted as "Accessibility to Sections of Survey" and it is assumed that high technology must be used in order to handle the difficulties in the survey of the building.
3. Criteria is accepted as "Risk Status" and it is assumed that high and speedy technology must be used due to the existence of factors that threatens the building and may cause its destruction.
4. Criteria is accepted as "Budget" separated for the preservation of the building and it is assumed that high budgets require high technology and complex methods.
5. Criteria is accepted as "Authenticity Status" of the building and it is assumed that surveying and evaluation would be made with easy and simple methods and techniques in buildings preserved at its original state.
6. Criteria is accepted as "Scope of Restoration Suggested" and it is assumed that complete restoration applications should be made with surveys that are made with detailed and developed technology and that maintenance works may not require extensive surveys.
7. Criteria is accepted as "Purpose of Survey" and it is assumed that on the line starting with publication-introduction activities (0 points) and going to re-construction of the building (4 points), the last one requires high technology.
8. Criteria is accepted as "Structural Status" and it is assumed that for a building at a good condition, survey can be made with easy and simple methods but for a building at a bad condition or in ruins, high technology and methods are required.

As a result in this table of rating, it is suggested that high points require developed methods and techniques but low points require simple methods and technology. As it might be seen, definite limits are not suggested here when passing from one method to the other; the reason for this is that architectural survey studies always require mixed usage of various techniques and approaches under the creativity of the applicator.



Naturally, this table and its method of evaluation may have mistakes and issues that may be criticized; however, what is important here is the necessity for formation of comments that may be guiding at the phase of decision-making and that are based on objective data as much as possible.

Lastly, it has to be mentioned that as long as the use of developed techniques and methods become more wide-spread, the resulting products become maybe very sensitive but they sometimes remain insufficient to express the characteristics of the building subject to analysis. See: Figure

In this experimental system where 20 points is the highest score according to the results of the table where evaluation made on 4 different buildings are seen, a selection system going towards complex and expensive methods according to increasing points is suggested. Also it has to be mentioned here that this system does not bring definite limits but it is more appropriate to use a mixed method and technique according to the purpose in spite of using a single method in architectural survey studies as it had been defended by various authors before.

The main reason that justifies the method suggested here is the fact that costs increase when complex and developed techniques and methods are selected instead of simple methods and it is also the elimination of risks when the costs are at a level that may prevent the treatment of "patient" as it has been expressed at the beginning. Another thing that might be done in this context is to decrease the costs of these complex techniques and methods. I think that this is necessary in the developed societies of our day where architectural heritage is that much developed and diversified since the concept of preservation and the sources transferred for its application will not increase without any limits.

#### References

Smith, J., 1989. *Space Data from Earth Sciences*. Elsevier, Amsterdam, pp. 321-332.

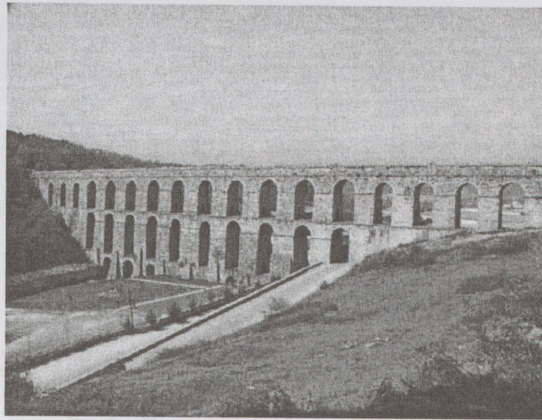
Schuller Manfred, 2002, *Building Archaeology*, ICOMOS, Munchen, Binan Can, 2002, İstanbul, Azapkapı Fountain Architectural survey and Restoration Project. Project Manager

Binan Can, 2002, İstanbul, Tophane Fountain Architectural survey and Restoration Project. Project Manager

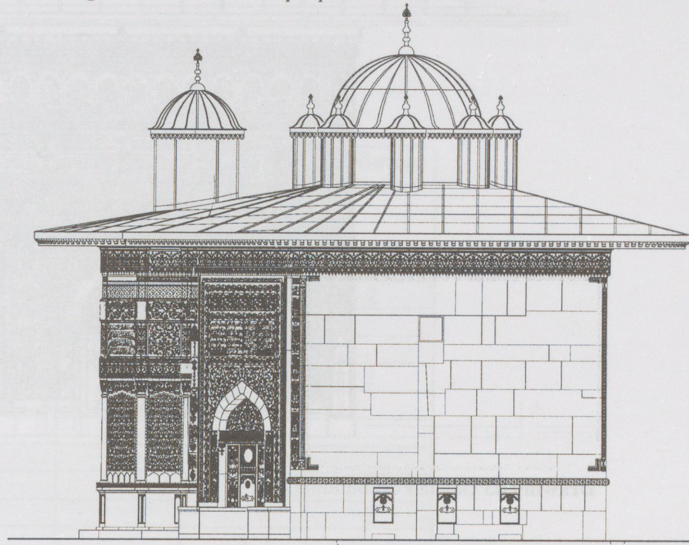
Binan Can, 2002, İstanbul, Eğrikemer Aquaduct Architectural survey and Restoration Project. Project Manager

Albertz Jörg, ed., 2002, Berlin, *International Symposium of CIPA, September 18-21 2001, Surveying and Documentation of Historic Buildings- Monuments – Sites, Traditional Methods.*

Photo 01, Aquaduct Eğrikemer

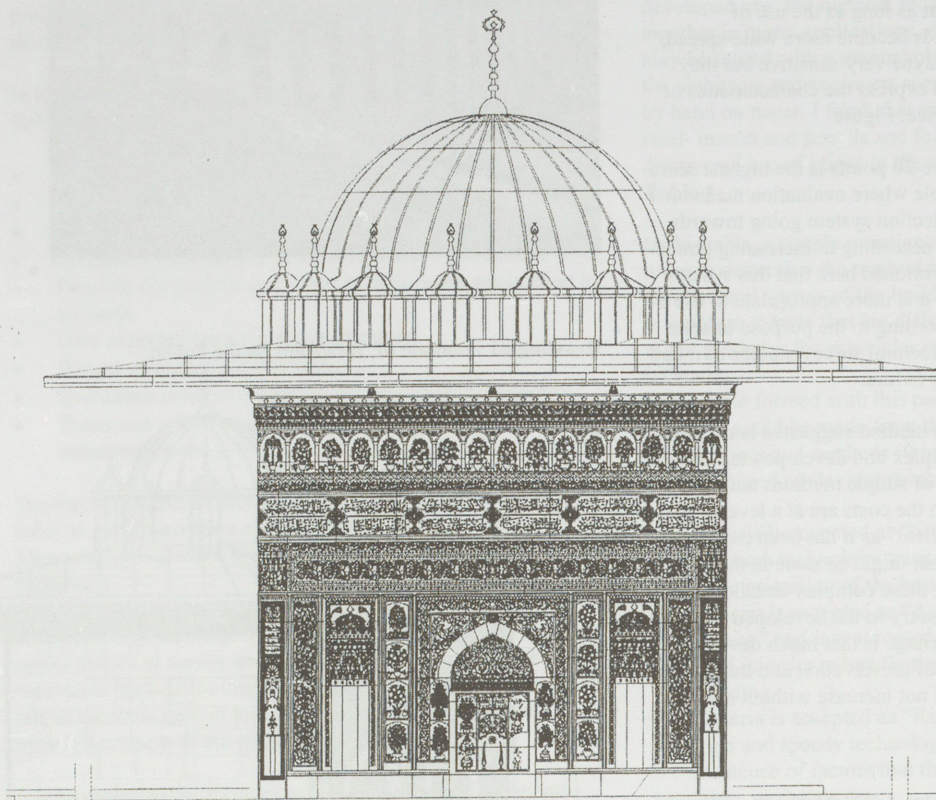


Drawing 01 Fountain of Azapkapı Saliha Sultan

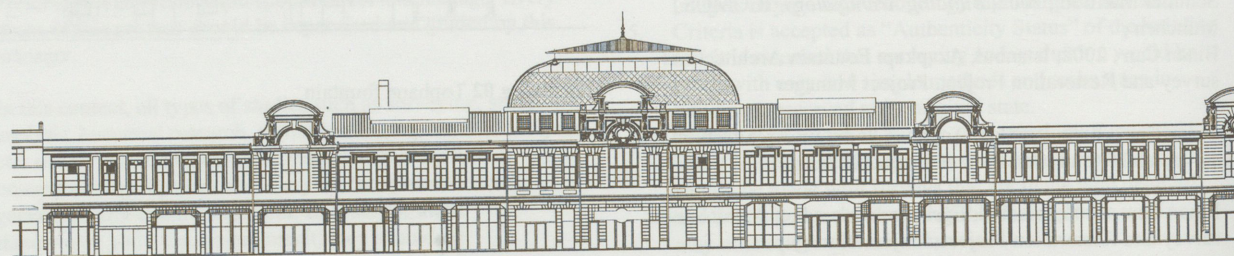


Drawing 02 Tophane fountain





Drawing 03 Galata Port buildings



Drawing 04 Aquaduct Eğrikemer



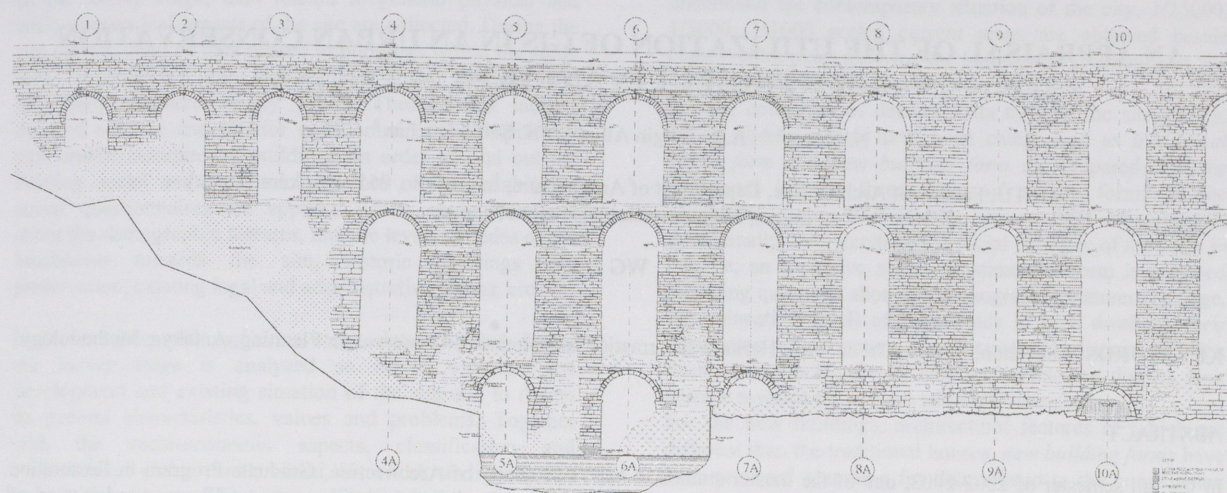


Table 1 Evaluation Table for Selection of Survey Method and Techniques

		Points Max:20	Azapkapi Saliha Sultan Fountain	Tophane Fountain	Galata Port buildings	Eğrikemer aqueduct
Structural status	Ruins	3				
	Half ruined	2				2
	Slightly deteriorated	1				
	Good condition	0	0	0	0	
Accessibility to the sections of survey	Impossible	2				2
	Partly possible	1	1	1	1	
	Possible	0				
Urgency/ Risk status	None	0			0	
	Small	1	1	1		
	Much	2				2
Budget status	Insufficient budget	0			0	
	Limited but sufficient budget	1	1	1		1
	Unlimited budget	2				
Originality	Original	0				0
	Details Changed	1	1	1	1	
	Changed Largely	2				
	Annexes and repairs made	3				
	Renovated	0				
Scope of restoration suggested	Complete restoration	2			2	2
	Partial simple repair	1	1	1		
	Maintenance	0				
Purpose of survey	Publication	0				
	Inventory	1				
	Research for architectural history	2				
	Restoration	3	3	3	3	3
	Re-construction	4				
Structural Status	Good condition	0	0	0	0	
	Structural deformation	1				1
	In ruins	2				
Total			8	8	7	13