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### PURPOSE OF THE DOCUMENT

Structures of architectural heritage, by their very nature and history (material and assembly), present a number of challenges in diagnosis and restoration that limit the application of modern legal codes and building standards. Recommendations are desirable and necessary to both ensure rational methods of analysis and repair methods appropriate to the cultural context.

These Recommendations are intended to be useful to all those involved in conservation and restoration problems, but cannot in anyway replace specific knowledge acquired from cultural and scientific texts.

The Recommendations presented in the complete document are in two sections: Principles, where the basic concepts of conservation are presented; Guidelines, where the rules and methodology that a designer should follow are discussed. Only the Principles have the status of an approved/ratified ICOMOS document.

The guidelines are available in English in a separate document. **PRINCIPLES**

#### General criteria

Conservation, reinforcement and restoration of architectural heritage requires a multidisciplinary approach.

Value and authenticity of architectural heritage cannot be based on fixed criteria because the respect due to all cultures also requires that its physical heritage be considered within the cultural context to which it belongs.

The value of architectural heritage is not only in its appearance, but also in the integrity of all its components as a unique product of the specific building technology of its time. In particular the removal of the inner structures maintaining only the façades does not fit the conservation criteria.

When any change of use or function is proposed, all the conservation requirements and safety conditions have to be carefully taken into account.

Restoration of the structure in Architecture Heritage is not an end in itself but a means to an end, which is the building as a whole.

The peculiarity of heritage structures, with their complex history, requires the organisation of studies and proposals in precise steps that are similar to those used in medicine. Anamnesis, diagnosis, therapy and controls, corresponding respectively to the searches for significant data and information, individuation of the causes of damage and decay, choice of the remedial measures and control of the efficiency of the interventions. In order to achieve cost effectiveness and minimal impact on architectural heritage using funds available in a rational

way; it is usually necessary that the study repeats these steps in an iterative process.

No action should be undertaken without having ascertained the achievable benefit and harm to the architectural heritage, except in cases where urgent safeguard measures are necessary to avoid the imminent collapse of the structures (e.g. after seismic damages); those urgent measures, however, should when possible avoid modifying the fabric in an irreversible way.

## **Researches and diagnosis**

Usually a multidisciplinary team, to be determined in relation to the type and the scale of the problem, should work together from the first steps of a study - as in the initial survey of the site and the preparation of the investigation programme.

Data and information should first be processed approximately, to establish a more comprehensive plan of activities in proportion to the real problems of the structures.

A full understanding of the structural and material characteristics is required in conservation practice. Information is essential on the structure in its original and earlier states, on the techniques that were used in the construction, on the alterations and their effects, on the phenomena that have occurred, and, finally, on its present state.

In archaeological sites specific problems may be posed because structures have to be stabilised during excavation when knowledge is not yet complete. The structural responses to a "rediscovered" building may be completely different from those to an "exposed" building. Urgent site-structural-solutions, required to stabilise the structure as it is being excavated, should not compromise the complete building's concept form and use.

Diagnosis is based on historical, qualitative and quantitative approaches; the qualitative approach being mainly based on direct observation of the structural damage and material decay as well as historical and archaeological research, and the quantitative approach mainly on material and structural tests, monitoring and structural analysis.

Before making a decision on structural intervention it is indispensable to determine first the causes of damage and decay, and then to evaluate the safety level of the structure.

The safety evaluation, which is the last step in the diagnosis, where the need for treatment measures is determined, should reconcile qualitative with quantitative analysis: direct observation, historical research, structural analysis and, if it is the case, experiments and tests.

Often the application of the same safety levels as in the design of new buildings requires excessive, if not impossible, measures. In these cases specific analyses and appropriate considerations may justify different approaches to safety.

All aspects related to the acquired information, the diagnosis including the safety evaluation, and the decision to intervene should be described in an "EXPLANATORY REPORT".

## Remedial measures and controls

Therapy should address root causes rather than symptoms.

The best therapy is preventive maintenance. Safety evaluation and an understanding of the significance of the structure should be the basis for conservation and reinforcement measures.

No actions should be undertaken without demonstrating that they are indispensable.

Each intervention should be in proportion to the safety objectives set, thus keeping intervention to the minimum to guarantee safety and durability with the least harm to heritage values.

The design of intervention should be based on a clear understanding of the kinds of actions that were the cause of the damage and decay as well as those that are taken into account for the analysis of the structure after intervention; because the design will be dependent upon them.

The choice between “traditional” and “innovative” techniques should be weighed up on a case-by-case basis and preference given to those that are least invasive and most compatible with heritage values, bearing in mind safety and durability requirements.

At times the difficulty of evaluating the real safety levels and the possible benefits of interventions may suggest “an observational method”, i.e. an incremental approach, starting from a minimum level of intervention, with the possible subsequent adoption of a series of supplementary or corrective measures.

Where possible, any measures adopted should be “reversible” so that they can be removed and replaced with more suitable measures when new knowledge is acquired. Where they are not completely reversible, interventions should not limit further interventions.

The characteristics of materials used in restoration work (in particular new materials) and their compatibility with existing materials should be fully established. This must include long-term impacts, so that undesirable side-effects are avoided.

The distinguishing qualities of the structure and its environment, in their original or earlier states, should not be destroyed.

Each intervention should, as far as possible, respect the concept, techniques and historical value of the original or earlier states of the structure and leaves evidence that can be recognised in the future.

Intervention should be the result of an overall integrated plan that gives due weight to the different aspects of architecture, structure, installations and functionality.

The removal or alteration of any historic material or distinctive architectural features should be avoided whenever possible.

## Principles for the Analysis, Conservation and Structural Restoration of Architectural Heritage

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Deteriorated structures whenever possible should be repaired rather than replaced.

Imperfections and alterations, when they have become part of the history of the structure, should be maintained so far so they do not compromise the safety requirements.

Dismantling and reassembly should only be undertaken as an optional measure required by the very nature of the materials and structure when conservation by other means impossible, or harmful.

Provisional safeguard systems used during the intervention should show their purpose and function without creating any harm to heritage values.

Any proposal for intervention must be accompanied by a programme of control to be carried out, as far as possible, while the work is in progress.

Measures that are impossible to control during execution should not be allowed.

Checks and monitoring during and after the intervention should be carried out to ascertain the efficacy of the results.

All the activities of checking and monitoring should be documented and kept as part of the history of the structure.