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5.2. PRESERVATION OF THE MANUSCRIPTS COLLECTION



The sustainable preservation of cultural heritage depends on sound principles, clear policies and guidance, and the quality of decisions that stem from their consistent application. A clear methodology and a set of understandable principles are needed to guide a preservation project, to give meaning to what is preservation at the beginning of the 21st century, and to distil current good practice in casework. The main purpose of this paper is to illustrate methods and principles that guided the UNESCO project, "Preservation of the Manuscripts Collection of the Abu Rayhan Al-Biruni Institute of Oriental Studies." For this reason it does not describe all of the elements of the project because some activities are still in process and others have yet to be started.

By defining principles and methods, the project should help create a progressive framework for the preservation of manuscripts in Uzbekistan. The project focuses on six main aspects:

1. Assessing the Institute with special attention to major risks and establishing an action plan for the improvement of the various areas and services;
2. Surveying the state of condition of the collection;
3. Training conservators;
4. Starting the stabilization of the collection;
5. Drawing up and establishing policies and procedures; and
6. Publishing and raising awareness through conferences and short trainings.

ASSESSMENT

A first assessment of the Abu Rayhan Al-Biruni Institute of Oriental Studies was carried out in the frame of the UNESCO/Saudi Arabian Funds-in-Trust project "Preservation of the Manuscripts Collection of the Abu Rayhan Al-Biruni Institute of Oriental Studies under the Academy of Sciences of the Republic of Uzbekistan." The objective was, in particular, to determine the priority of actions to be taken in each of the following areas—conservation and storage spaces, reading and consultation areas, exhibition space, infrastructures, safety and security.

The work of data collecting was divided according to three axes:

- collection of data concerning the collections, including the nature of the collections, the state of conservation, environmental conditions of presentation, and other factors;
- collection of documentation, including data concerning the history of the collections, the management of the collections (inventory, cataloguing, digitisation), temporary exhibitions, documents concerning communication to the public, and other documentation; and
- collection of data concerning the building, such as plans, surfaces, state of conservation, and other data.

The methodology chosen stands on a selective approach based on relevant indicators or markers of vulnerability of the collection and the institution. Eight elements to be assessed have been identified—the building, the environment, security, safety, storage, methods of storage, handling and consultation, and conservation.

Each element assessed was separated into different markers. Each marker gave us one or more pieces of information. This information was analyzed and compared with a set of international preservation standards, rules or values. The difference between the “ideal” and “real” situation gave us the possibility to evaluate the reality (see Table 1), to see how close or far we were from the best practice, to measure if the best practice was feasible in the context of the Abu Rayhan Al-Biruni Institute, and to prioritize a set of recommended actions according to the time and economic frame of the UNESCO project and to the human and material resources of the Institute.

Table 1: Elements assessed in the Abu Rayhan al-Biruni Institute (simplified version)

Reference table	Marker	Condition	Action
Building	Structure	Average	
	Roof	Good	
	Floor	Good	
	Doors and windows	Bad	Urgent
Environment	Sanitary state	Good	
	Climate	Very bad	Urgent
	Artificial light	Bad	Urgent
	Natural light	Good	
	Dust	Bad	Urgent
Security	Detection	Good	
	Evacuation	Very bad	Urgent
	Means of defense	Average	
	Intrusion detection	Good	
Safety	Surveillance	Good	
	Locking	Good	
	Consultation	Good	
	Functioning	Average	
	Accessibility	Good	
Storage	Visibility	Good	
	Safety	Bad	Urgent
	Security	Good	
	Environment	Very bad	Urgent
Methods of storage	Shelves	Average	
	Position	Average	
	Unbound	Bad	Urgent
	Boxing	Bad	Urgent
	Oversize	Bad	Urgent
Consultation	Ergonomics	Average	
	Reception	Average	
	Copy	Average	
	Training	Bad	Urgent
Conservation	Environment	Very bad	Urgent
	Equipment/materials	Very bad	Urgent
	Methodology	Bad	Urgent
	Training	Very bad	Urgent

Assessment methodology, identification and characterisation of the different issues, the relation between the issues, and the action plan with corrective measures were recorded in a formal survey report. The report was written in clear, direct language and formatted in such a way that the information can be easily located and extracted. Recommendations are organised in three phases: short- (one to two years), middle- (two to five years) and long-term (beyond five years).

Some recommendations constitute a sort of ideal solution while others are a pragmatic answer to the assessed institution. The three main challenges of the Abu Rayhan Al-Biruni Institute at the present time, in the context of preservation and restoration of its collections, are:

- storage environment;
- light (both natural and artificial); and
- conservation workshop and conservation training.

These constitute the heart of the short-term recommendations.

SURVEY

The general state of conservation of the manuscripts was assessed using a simple statistical sampling derived from Carl Dott's¹ table. This table allows the defining of the sample size according to the chosen confidence level and the confidence interval.

The chosen confidence level is 95 percent with a confidence interval of ± 3 percent. A total number of 1,067 manuscripts were consulted (see Figure 1).



Fig. 1

The first impression is that the situation at the Institute is manageable, even if the current environment jeopardizes the necessary and permanent work of preservation in a safe and clean environment.

High temperature and relative humidity are factors in preservation. Heat accelerates the speed of chemical reactions, whereas the dry atmosphere extracts water molecules contained in materials, causing shrinkage of documents and a change in their dimensions. Pollution and dust also accelerate the aging of manuscripts and books. These aging effects on the documents are considered slow degradation and are not immediately visible and only measurable with sophisticated tests. However, this is not a good reason to underestimate them. The effects of these factors irreversibly affect the longevity of cultural heritage.

1. For more information see: <http://thesbed.cs.drexel.edu/DottHome.html>



Fig. 2



Fig. 3



Fig. 4

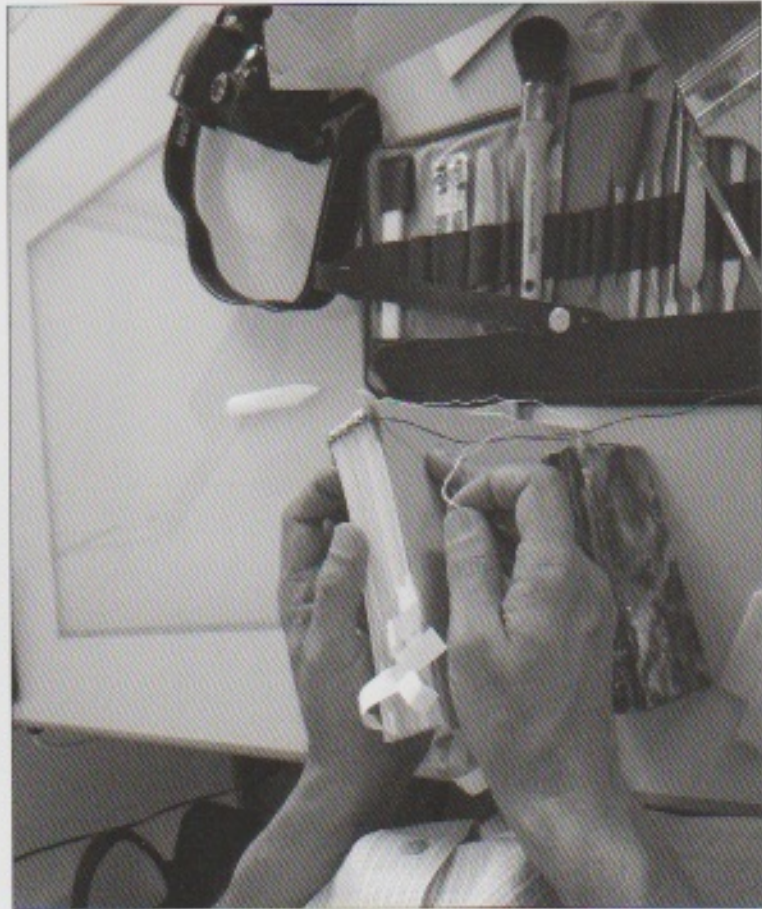


Fig. 6



Fig. 5

CONSERVATION WORKSHOP

Conservation workshops have a very important role to play in the development of a culture dedicated to the preservation of heritage materials. They establish a specialist activity within a public service and also represent, in an unassailable way, the significant commitment to the long-term preservation of material worthy of retention. Conservation workshops are a place where important and complex activities are carried out.

The area chosen for the installation of the workshop at the Institute was not ideal. However, it is possible to achieve a satisfactory layout of a workshop respecting some basic principles. One of the first considerations is security since documents and books undergoing treatment may often have to be left in the workshop overnight. The workshop is locked when staff are absent. All staff must be made aware of the health and safety risks associated with a primarily craft-based, practical workshop area where cutting machines, sharp knives and chemical solvents are in regular use. This room must never be a thoroughfare; access must only be available to staff of the institution.

Another consideration is circulation and workflow (Figures 2 and 3) as the staff must circulate safely and efficiently so the different stages of conservation can be carried out in a logical and mandatory manner. Wet and chemical treatment areas and the storage of materials should be, respectively, in rooms separate from paper and binding conservation. Benches in the workshop are equipped with a light box and

a double electric outlet from which to run smaller electrical tools. Benches enable conservators to work standing up or sitting, with enough room for their legs to fit comfortably underneath. In addition to workstations, the workshop should include some shelves, drawers and plain chest-style shelves which are vital for the storage of paper, off-cuts material and other documents.

A comprehensive list of technical equipment, personal tools, materials and products complete the workshop so four people can work without difficulty.

CONSERVATION PRINCIPLE

The entire collection of the Abu Rayhan Al-Biruni Institute is composed of manuscripts and books. The manuscripts are made from a variety of materials belonging to the family of organic materials, most of which are natural products. The paper, boards and thread of a book are all composed of cellulose, a plant material. The covers can be made from a wider variety of materials, including skin products (leather, vellum or parchment), textiles or plastic.

Every manuscript in Arabic writing can have a double soul, being both a copy of a given text and a unique manufactured product. Each manuscript carries a double value as a collection of information contained in the text and as an historical document produced in a particular geographical and cultural background, making it a real piece of archaeological investigation. All the material elements of a manuscript provide

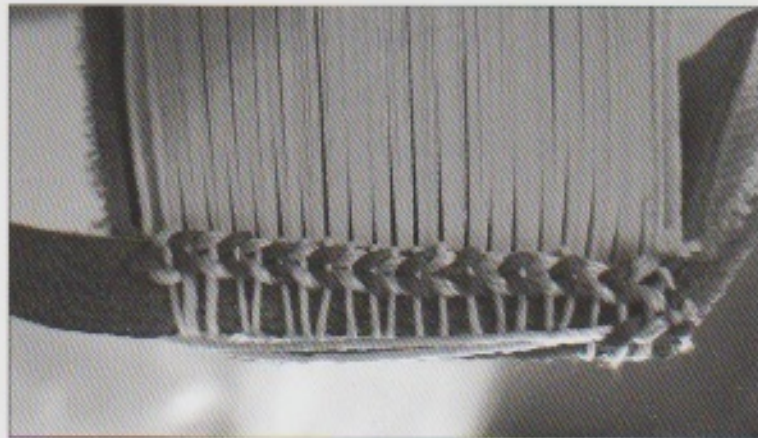


Fig. 7



Fig. 8



Fig. 9



Fig. 10



Fig. 11



Fig. 12



Fig. 13

valuable clues about the society and the time frame in which it was produced.

The integrity and meaning of a manuscript is recognized as the combination of a number of values and types of information, including aesthetic, historical, technological, social and spiritual information. Conservation of the manuscript, therefore, requires an understanding that these aspects must be considered in the same way as basic chemical and physical characteristics are considered. Maintenance and conservation treatment are always approached with caution, with the minimum practicable intervention required to promote preservation. Treatment to enhance the appearance or aesthetic presentation of a manuscript is never considered if it compromises its integrity or its ongoing preservation.

Any remedial treatment, alterations or additions are fully documented in the permanent record and are readily identifiable. When possible, these treatments, alterations or additions are minimal and reversible. It is particularly important that alterations or additions are only carried out after consultation with curatorial and conservation staff and others as appropriate, and with the direct or delegated agreement of those responsible of the Abu Rayhan Al-Biruni Institute.

CONSERVATION TRAINING

Conservation is associated with the preservation, safeguarding and protection of materials, according to the Operational Guidelines of the 1972 World

Heritage Convention. The Nara Document on Authenticity defines conservation, specifically with reference to cultural heritage, as making all efforts designed to understanding cultural heritage, knowing its history and meaning, ensuring its material safeguard and, as required, ensuring its presentation, restoration and enhancement. In fact, conservation is a good example of the accumulation of knowledge, skills, abilities and experience.

The conservator is an expert who can perform the duties of conservation through specialized education, knowledge, training and experience. A skilled conservator should be competent in conservation history, ethics and philosophy, values and significance, history of technology of cultural heritage, scientific principals and methods, processes of deterioration and change, preventive care and measures, examination methods, and documentation and treatment methods (Figures 4,5,6 and 7).

All these skills, abilities and experiences are strongly encouraged and developed with short and extensive trainings in situ (Figures 8, 9 and 10) and abroad (Figures 11, 12 and 13). The trainings provide general concepts regarding cultural heritage and its protection and the immense role of conservation in assuring the protection of heritage values with a combination of theory sessions and practice.

Abu Rayhan Al-Biruni conservators are familiarizing themselves with new approaches on world heritage and applying conservation techniques in an ongoing program. By the end of the trainings they will have a better understanding of the analysis process

regarding alteration and decay of paper-based materials, peculiarities of Islamic binding, use of basic chemical treatments, identification of deterioration effects, and definition of the diagnosis and documentation. They will achieve an understanding of the international legislative framework and will perform the restorative action in strict observance of the professional code of ethics.

CONCLUSION

This on-going project, based on principles and experiences, is building a preservation culture in the Abu Rayhan Al-Biruni Institute that also takes into account a wide range of heritage values. These are intended to help everyone involved in the preservation of manuscripts and art on paper, taking into consideration the different professionals

working with cultural heritage. The project acknowledges that the preservation of manuscripts involves different long-standing and evolving actions managed in parallel, and is fostered with close relationships between theoretical and practical approaches.

A level of self-help is also instilled in the project with a flavour of local control. This will be doubly important once the project is complete, the monies spent, and specialist consultants have returned to their own countries.

The overall message is to get involved and plan ideas to achieve:

- development of local expertise on a permanent basis;
- establishment of efficient supply routes; and
- establishment of links with relevant national and international institutions in order to strengthen national capacity in conformity with international standards and conventions.