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MUSEUM STANDARDS FOR DISPOSAL

Abstract: The proper disposal of museum objects is a fundamental component of preventive conservation. The ideal storage conditions, including good system of disposal in appropriate depots, provide basic protection of museum collections. This text outlines the basic rules and guidelines for storage and disposal of museum collections, with an emphasis on the fundamental principles of modern museum practice, enabling proper respect and enhanced security of museum collections. The purpose of the article is to promote the highest standards of management, care and storage of museum collections in Macedonia.

Key words: museum, depot, preventive conservation, techniques of disposal

The protection of cultural heritage in recent decades experiences significant conceptual changes that occur as a result of the increased awareness for the dependency of the material nature of the heritage of its interaction with its environment. Hence, in the modern conservation policies the preventive conservation of cultural heritage takes the central part in the process of protection.

Preventive conservation or indirect conservation entails a set of measures to reduce the risks of damage¹ and dilapidation of cultural goods by controlling their environment, with an aim to avoid major restoration interventions. The general methodology of preventive conservation covers handling, storing and managing collections, and plans for emergency situations. This includes all

¹ The main cause of damage is light, UV radiation, temperature, humidity, atmospheric emissions, mechanical damage caused by improper handling and inadequate exposure, biological damage by microorganisms, plants and animals, and chemical damage caused by contact with reactive substances. Carelessness is usually added to this group of causes.

measures to control the microclimate conditions, lighting, protection against fire, theft and vandalism, measures against pollution, vibration, etc. Activities for preventive conservation, among other things, encompass provision of appropriate physical and technical conditions for storage and display of museum objects. Thus, damage and / or loss of items will be reduced if the following are implemented:

- appropriate disposal techniques;
- appropriate handling techniques;
- appropriate microclimate conditions;
- effective security and fire protection;
- pest protection;
- appropriate storage techniques.

1. Speaking about the **techniques for disposal**, there are few basic rules:

- the depot should be easily accessible. All items placed in the depot should be easily accessible and easily visible to provide insight into their condition without being moved. The space should be used to its maximum, and the gateways should be organized in a way that provides easy access and safe handling;
- objects, packaging and museum shelves and cupboards should be marked with appropriate system of identification. The layout of the items should be labeled clearly on the shelves, thereby avoiding unnecessary movement and handling;
- the packaging of sensitive items should provide protection from: the influence of microclimate conditions, light, pollution, insects, moisture, shock. The packaging facilitates the handling of objects;
- in the case of large and heavy objects, areas with narrow staircases and doors should be avoided;
- the objects should not be deposited directly on concrete, stone or brick floors. They should always be placed on shelves and the heavy and bulky items on appropriate pedestal. When objects are placed on shelves, heavier objects should be placed on the lower shelves;
- museum items should be classified within the depot. They can be grouped by type of object, the material, or the ethnic group to which they belong to. From conservation point of view, the most appropriate classification is according to the material;

- shelves should be coated with non-acidic paper;
- the objects must not touch each other or be placed on top of each other. The shelves should not be overloaded - that enables safe access to the objects, and at the same time prevents the risk of their mutual friction or breaking of the shelves;
- the small items should not be placed on the top shelf, because that way it will be out of sight. They should be disposed in shallow sockets or boxes. Heavy objects should be placed on the middle shelves, allowing their easy lifting;
- only fumigated and clean items are allowed in the depot.

2. The handling of museum objects requires respect of the following general rules:

- the handling of museum objects should be limited to the necessary minimum, and should be performed only by appropriately trained personnel. The employees should be trained how to handle different objects in different situations;
- the handling of museum objects should not be performed in a hurry and each object should be approached to with care, as if it was priceless treasure that can easily be damaged;
- cleanliness is the basis of any handling of museum objects. Any person having contact with the museum items must thoroughly wash hands, remove all jewelry and makeup and if necessary to put appropriate type of gloves;
- the cases of damage to certain object should be immediately documented and reported to the conservator in charge. The broken parts should be labeled and stored in the vicinity of the object;
- most of the objects need boxes, sockets and containers prepared in advance, especially for the smaller objects, which need to be treated or taken out of the depot more frequently;
- before moving the objects, an empty space should be provided, where the object would be moved to. The route should be planned in advance, having in mind all doors, staircases, uneven floors, potential obstacles etc.

The following elements are the basis of the safe handling with museum items:

- written guidelines - every museum should develop written guidelines for storage, handling and transportation of museum objects. The entire museum staff should have a copy of these guidelines;
- staff training - one should not handle museum objects without proper training. Training should be a regular activity, especially when introducing new types of objects, or when employing new staff.
- use of appropriate materials and equipment - only equipment of good quality and in good condition, and materials that are safe for museum use should be used.

3. Appropriate microclimate conditions include temperature control, moisture, UV radiation and air quality.

Temperature

Large and sudden changes in temperature accelerate damage to the collections. For mixed collections recommended temperature is 20° C or 15-22° C.

Relative humidity

High humidity initiates harmful chemical reactions. Low humidity leads to drying up of the facilities. Since most museums possess mixed collections, the temperature and humidity should be maintained on average levels - 45-65% RH.

UV Radiation

Light may cause damage to the material. Recommendation - use of UV filters, storage of sensitive materials in sealed containers and use only soft lighting. For sensitive items (textiles, watercolors, manuscripts, tapestries, botanical and zoological specimens, graphics, photographs and paper) maximum of 50 lux is recommended, for oil and tempera paintings, wood, bone, horn, ivory and leather - 150 lux, and metal, ceramics, stone, jewelry, enamel and glass - 300 lux. The items to be exposed to light only when necessary.

Air quality

The main sources of pollution are various gases and dust particles that can cause damage

to buildings. Pollutants can be controlled using the HVAC system and appropriate filters for all fans, heaters and air conditioners. All systems should be regularly cleaned and maintained. Pollution is reduced by cleaning the depot regularly, using mild chemicals and vacuum cleaners with HEPA filters.

4. Effective security and fire protection

Safety

Museum depot should be physically safe, especially of: theft, fire, flood, vandalism and improper handling of objects. The access to the site should be limited and controlled and the access to the keys carefully controlled. At least one copy of the key should be kept in a secure location. The depot should not have windows. The keys should be kept by only a few people, and locks should be changed periodically. Additional safety measures: security lighting after working hours; security service; automatic alarm systems; infrared sensors. Security service should be trained to work in a museum. Each museum should have a written plan for dealing with risks.

Fire protection

The depot should have systems for detection and extinguishing of fire: systems for detection of smoke, fire and water; fire extinguishers; a system for spraying water and / or CO₂. The fire extinguishers which work with water and foam can cause damage to the collections, so it is more appropriate to use devices which leave no traces.

5. Pest control

Pest control assumes protection from microorganisms, insects and other pests. Prevention of pests attack is ensured by maintaining proper temperature and moisture, cleanliness, ban on entry of food, beverages and plants, removal of plants that attract insects from the vicinity of the museum. Regular inspections for the presence of pests are necessary, setting adhesive tapes, periodic

inspection of artifacts in the depot and exhibition spaces, and if necessary, fumigation and spraying with insecticides. Each museum should have written *Integrated plan for pest control*.

6. Appropriate techniques for storage

Given that the majority of all museum collections is stored in museum depots, good planning and organization of the disposal is an essential condition for their long-term protection. Appropriate storage techniques include:

- regular monitoring of temperature and humidity;
- regulation of appliances for microclimatic control;
- periodic inspection of fire protection systems;
- verification of systems for protection against theft;
- vacuum cleaning and wiping of the floors;
- dust elimination;
- dumping of garbage.

Additional measures for risk reduction imply:

- effective security system and security service;
- safe storage of all flammable materials;
- refractory shelves, cabinets and containers for storing museum items;
- storing objects in non-acidic boxes and containers;
- maintaining order and cleanliness;
- regular maintenance of the electrical and ventilation systems;
- respect of the rules of operation;
- taking off the power supply when electrical equipment is not in use;
- development and implementation of training programs and training of staff, volunteers and the local community;
- detailed inspection of newly arrived items and materials to prevent entry of mold, micro-organisms, insects and so on;
- maintenance of records and documentation, including documentation for the conservation and for the state and applied interventions to objects.

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