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# New Designs in the Museums

**Nuri Özer ERBAY**

## **Abstract**

When building the relationship between human being and art work, designs aimed at protective and redemptive measures are needed in museum venues. Many museum buildings used today are not planned in a way to provide a safe service for collections and visitors. Most museum buildings have adaptation problems in performing safety measures and technology based transformation. In museum exhibition venues, exhibition areas convenient for characteristics of the visitors shall be designed while building the relationship of the art works with each other.

**Keywords:** Protective, Mueum Venues,Building,Safety,Security,Museum visitors,

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## INTRODUCTION

Architectural structure of the museum shall be designed in an accessible way regarding safety. In these designs special needs of visitors shall be taken into consideration according to types thereof. Architectural structure, topography and natural presence of the museum increase visitor accessibility. Exhibition venue, showcases and platforms, staircases providing access to upstairs, stairs, slippery rugged surfaces and entrance and exit to the exhibition venue from the same door form inaccessible areas. It mustn't be forgotten that special disabled visitors can create an unsafe environment for others. Existing designs in museums shall be redesigned to be made accessible by disabled persons. Museum venues must be redesigned and made accessible by disabled persons. All characteristics of visitors in museums should be taken into consideration and universal living spaces addressing integral attitude should be designed. Museum environment designs with regard to visitor safety must be steady. Ramps shouldn't be unnecessarily steep and slippery. Floor tiles, carpets or other ground coatings must be attached each other in a safe way. Gaps in ground coating shouldn't exceed the radius of 13 mm. Grounds with different colors should be used for highlighting the ground odds and drawing visitors' attention. A distinctive environment requirement should be provided for visitors especially who use walking sticks, crutches and wheelchairs and warning signs shouldn't be forgotten.

Protective and redemptive safety measures, patrolling security guards, security cameras, fire alarm systems, automatic fire extinguishing systems, electric generators, electricity supply and emergency exit doors are the things to be present in museum buildings. An audible and optic warning system to direct the visitor to the exit in case of emergency must be present as well. This emergency exit directive system must be placed on a location so that everyone can interpret them easily. Emergency exit doors of museums must be designed in a way which is visible easily in emergency cases like fire or earthquakes. Nothing must be placed in corridors and gates which has the potential of toppling and avoiding exit. Passage to venues and exits must be marked in museums in order to eliminate unsafe conditions. Door opening to the exit in exhibition venues must be side hinged openable and closable to both sides. In museum venues that host more than 50 visitors and in venues which have high risk of danger, exit doors must be openable outwards. In places where there is potential for exposure to danger with fire and smoke, there must be at least two exit doors which are away from each other.

Visitor walking tracks of the museum must be marked and stumbling on must be avoided. Stairway banisters must be fastened. Polished surface of stairway banisters mustn't be slippery for hands. Stairways must be in standard size and they must be produced from standard material with standard color and height. Tapes in remarkable colors avoiding slipping must be used in stairways and ground sills. Measures for making slippery grounds nonslip must be taken. Rough surfaces and damaged stairs must be fixed quickly. They must be made with safety signs until repair is completed.

While relationship of the exhibitions with venues is planned, this must be convenient with the protective and redemptive measures regarding work safety. Inner and outer lightings must be placed perfectly. Implementing burglary detection systems, detector systems, earthquake and shock detection systems, fire and smoke detection systems, air conditioning systems and temperature, humidity and pollen filtering control systems are the most important tasks of the museums regarding protection and redemptive.

Dense crowdedness in museums may cause accidents. In museum exhibition venues with excessive crowdedness, art works cannot be observed conveniently and therefore pleasure found will be reduced. Crowded exhibition venues may also create dangerous situations for the art works. When it is overcrowded, visitors must be taken into exhibition venues by groups with limited numbers. Some museums accept visitors in a limited number. They provide periodical tickets and accept visitors in a certain amount in certain hours. Dolmabahce Palace Museum, Hermitage Museum and Andalusia Emevi Palace Museum are examples of this. Appointment system may be implemented in order to keep visitor numbers within certain limits.



**Figure 1.** Louvre Museum  
Glass Pyramid Visitor Exit (1995)

Controlled venues must be created in order to ensure connection of the museum with outside. Fences and walls around museum and buildings with different purpose utilization may cause outer fields of the building become defenseless. Walls, roofs, grounds and ceiling of such buildings cause problems regarding safety. Window and door numbers on building exterior surfaces must be limited to a number which is sufficient for ensuring safety. While determining the location of the doors, general entrance, personnel entrance, disabled persons entrance, good entrance and emergency case entrances and exits must be taken into consideration. Personnel and visitors must not be allowed on luggage elevators. Visitor elevators must be designed in a way to let in groups and disabled persons. Windows and roof lights must be adjusted for required day light level. All doors and windows and the roof must be resistant to a physical attack. Besides, external walls of the museum, vegetation, veranda, recessed doors and projection of neighbor buildings, concealing areas of the museum buildings are important as well in terms of safety works. External walls of the museums must be designed in a specific way. Museum buildings must be designed in way which is inviting for the visitors to enter in and see what is inside. Concept of accessibility to museum environment and venues are among museum protective and redemptive work safety measures.

Commentary by Accessibility Guidelines prepared by Chamber of Architects stating that "All government offices, local administration buildings, schools, recreation areas, gymnasiums, shopping malls, health facilities, culture and education institutions and public institutions must be designed in a way to allow persons on wheelchairs entering into these buildings

easily. Accessibility of these buildings is a sign of mature architectural comprehension and developed social organization" must cover museums as well. Conducting studies directed to accessibility of society to the museums is a must.

Museums must have designs for allowing disabled and old persons having a visit there comfortably and basic standards allowing this must be implemented in all designs. Pavement heights must be between 6-15 cm. Ramps must be built on convenient positions of the pavements for allowing wheelchairs to climb on. Slopes of these must be about 8%. If width of pavement ramps is 140 cm, two persons walking side by side may pass through these. It is desired that persons using wheelchair are able to reach building main entrance from the parking area without any help (longest distance preferred is 50 meters). Museum building entrances must be convenient for direct access of disabled persons from ground level. Main entrance for persons on wheelchair is desired to be the main entrance of the building. Buildings must allow entrance without sills. Enough elbow room must be present for wheelchairs in entrance halls. Venues must be designed as bigger than the radius of 150 cm which are not hindered by any bumps or door openings.

Fixed ramps must be placed in entrance areas of the museums and exhibition venues for disabled visitors. Building of these ramps with inconvenient materials increase the risk of accident. Slope of the ramps must be maximum 8% and their width must be minimum 90 cm. Ramp length must be maximum 9 meters and ramp surface must be coated with soft nonslip material with too little roughness and protection border must be present as well. This border must be 150 cm in length and must be flat with a different texture. It must be positioned at the end of the ramp. Mobile ramps must be placed at the entrance of some exhibition venues. Disabled visitors must avoid parquet tracks, steep exits and cornered turns. Pursuant to the laws, museums must provide complete accessibility for disabled persons to museum exhibition venues.

Many historical museum buildings at use in country today are not designed in a way to provide a safe service to collections and visitors thereof. Many museums having historical venues have problems of transformation and adaptation. Restoration of museum buildings having specific architectural structures and historically important buildings requires special permissions. Within transformation process of buildings with specific historical architecture into museums, special permissions must be acquired from Preservation Boards. Performing acceptable

safety works under spatial constraints in these type of historical buildings is difficult and expensive. Interventions that historical building allow can be performed. Old wooden frame construction building may not support these new systems. Fixation of motion sensor systems for burglary, face recognition systems, persuader alarm systems, police station linked systems and day and night vision camera systems to the venue brings problems such as intervention to the building. Planning implementation of so many important measures such burglary detection systems, detector systems, earthquake and shock detection systems, fire and smoke detection systems, air conditioning systems and temperature, humidity and pollen filtering control systems at the same time is very difficult task. Interventions allowed by the historical building can be performed. Characteristics of the building may not stand such systems. Lots of museums has been exposed to fire outbreaks caused by electric contact.



**Figure 2-** Dolmabahce Palace  
Fire Prevention System

Structural particulars of historical buildings must be taken into consideration. No interventions over these particulars must be performed. Although it is not easy to install elevators and staircases for disabled persons, there are among measures to be implemented in museum buildings. Visitor entrance and exits are from the same door mostly.



**Figure 3.** Restoration of Historical Eyup Turkish Bath

Essential rule of protection during construction in museums is to protect workers, visitors and art works from danger. Occupational safety specialists must make detailed plans for protection of environment during preparation for demolition and construction. Employees and temporary workers should be supervised all the time. Before the start of the construction, Museum Director responsible for protection must prepare action plans. All measures to avoid burglary during construction must be implemented. The procedure to be followed after a burglary must be predetermined. Control and supervision must continue during construction. In spots with safety hazards, more workers must be employed and a mutual responsibility field must be created.

### CONCLUSION

In our day using security systems as a persuader with an audible alarm is not enough. Construction material must be picked wisely against the possibility of public and collection materials getting damaged. Usage of nonhazardous materials inside and outside of the museums to avoid chemical leakage is a common implementation. Museums must implement systems identifying the attack rapidly and acting accordingly. Museum administration must develop designs and build physical defense line to avoid crime.

Accessibility comprehension of the society means additional expenses. Existing designs must be rearranged for adapting to accessibility. To arrange these inaccessible areas for disabled persons requires extra costs. Meeting special needs of visitors always means non-proportional expenses. Volume of

these expenses increase according to the construction of the buildings or form of the environment accessibility provided. An interdisciplinary study is required for creating professional designs allowing meeting of everybody's needs.

## REFERENCES

- David L.:(1993) Museum security and Protection; *Building Construction, Renovation And Rehabilitation* , chapter 9; Routhledge Press, England,
- Nuri Ö. E., (2014) **Cultural Heritage Projects** International Congress on management of Cultural Heritage And Cultural Memory Institutions, (ÜNAK), T.C. Başbakanlık Devlet Arşivleri Genel Müdürlüğü Osmanlı Arşivi Daire Başkanlığı, 17-20 September.
- Nuri Ö. E.,(2015)Müzelerde Uygulamalı Projelerin Kontrolü, Müzelerin Modernizm İle Değişimleri,TMMOB Mimarlar Odası, 11.May.
- Nuri Ö. E.,(2014)"New Demension Of Art Education In Museums", The Anadolu International Symposium On Arts Education Anadolu - ISAE , Istanbul, Türkiye, 14-16 Mayıs,
- Nuri Ö. E.,(2014)"Müzelerde İş Güvenliği Sorunsalı", Müzeler, Oyunlar, Oyuncaklar Ve Çocuklar,
- Nuri Ö. E.,(2009),"Müzelerde İşgüvenliği Çalışmalarının Önemi", SAYED Eleştiri Dergisi, pp.1-2,
- Phillip T., Visitors With Social Needs: Manual Of Museum Planning , Chapter 5, pp. 69-80.
- Mutlu E.,(2011) Müzelerde Sergileme ve Sunum Tekniklerinin Planlanması, Beta Yayınları,
- Ulaşılabilirlik Kılavuzu;(2012)Mimari Projelerde Engelli Ve Yaşlılarla İlgili Olarak Uyulması Gereken Temel Kurallar, 06 Ağustos,
- Milles R.S.,(2011)The Design of Educational Exhibits, Routhledge Press, England, December,
- Gail D. L. and Barry L., (2000) "The Manual Of Museum Plannig, Alta MiraPress, England, March, p.173
- Gail D. L.; and Barry L.:(2012)The Manual Of Museum Planning, Alta MiraPress, England, March,
- Peter O.(2000) Security and public safety in exhibition; "The Manual of Museum Planning, chapter 5-13, Alta MiraPress, England,March,pp:220-237
- George Ellis B.; (1997)Introduction to Museum Work, Alta Mira Press, England,
- Mustafa T.,(2014)"İşyerlerinde Çıkış Kapıları Ve Bunların İşaretlenmesi",Çalışma Ortamı, Çevrimiçi-mart,



Aysun Ö., (2004) "Türkiye Müzelerinde Korunma Sorunları" 7. Müzecilik Semineri Bildiriler, Harbiye Askeri Müze; İstanbul,

### **Resume**

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