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## STUDIE/ARTICLES

## VISITOR ATTENTION IN MUSEUM AND MUSEUM FATIGUE SYNDROME

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<https://doi.org/10.5817/MuB2025-1-3>**ABSTRACT/ABSTRAKT:**

The article is based on a bachelor's thesis that focuses on the phenomenon of museum fatigue and its relationship to visitor attention. The issue of museum fatigue is set within a broader theoretical framework in which factors that influence visitors' physical and psychological fatigue, such as the length of the exhibition, the layout of the space or the way information is presented, are identified. Particular attention is paid to the mechanisms of sustaining attention during a museum visit, and the paper analyses how different museum approaches to exhibit design and interactivity can support this attention. At the same time, it explores the broader contexts that influence the way museum exhibitions are organized and presented.

**Pozornost návštěvníků v muzeu a syndrom muzejní únavy**

Článek vychází z bakalářské diplomové práce, která se zaměřuje na fenomén muzejní únavy a její vztah k pozornosti návštěvníků. Problematika muzejní únavy je zasazena do širšího teoretického rámce, v němž jsou identifikovány faktory ovlivňující fyzickou a psychickou únavu návštěvníků, jako je délka expozice, uspořádání prostoru nebo způsob prezentace informací. Zvláštní pozornost je věnována mechanismům udržení pozornosti během návštěvy muzea,

přičemž článek analyzuje, jak různé přístupy muzeí k designu expozic a interaktivitě mohou tuto pozornost podpořit. Současně se zabývá širšími souvislostmi, které ovlivňují způsoby, jakými jsou muzejní expozice organizovány a prezentovány.

**KEYWORDS/KLÍČOVÁ SLOVA:**

*museum fatigue – attention – visitor behavior – museum design – communication – visitor's well-being*  
*muzejní únava – pozornost – chování návštěvníků – muzejní design – komunikace – well-being návštěvníků*

**Introduction**

One of the museum's many purposes is to transfer knowledge to visitors and society in general, and it is important to do this in a way that is understandable and attractive. Maintaining attention and increasing visitor numbers is often one of the priorities of such cultural institutions like museums, but it is necessary to create the conditions to accomplish this task. More and more museums are thinking about the convenience of their spaces to keep visitors satisfied and wanting them to return again and again.

Museum fatigue is a “stumbling block”, and affects not only the museum operation, but especially the visitors. However, museums are not always able to focus effectively on the needs of visitors and exhibitions are often based solely

on interest of science.<sup>1</sup> Because of this, curators are often only concerned with research and do not pay as much attention to the design, logistics and placement of objects, which negatively affects the visitor's experience. Inadequate treatment of the above-mentioned facts then leads to the visitor quickly losing attention and experiencing fatigue. Ultimately, this causes low visitor numbers and reduces the overall interest of visiting museums. The article focuses on the phenomenon of museum fatigue and its impact on visitor attention, exploring how factors such as exhibition length, space design, and the presentation of information contribute to this issue. Special emphasis is placed on how museums can help maintain visitor attention during their tours and what strategies can be employed to reduce fatigue and enhance the visitor experience. This article is based on a bachelor thesis *Problematika pozornosti návštěvníků v muzeu a muzejní únavový syndrom*.<sup>2</sup> Readers that are interested in a more in-depth analysis of the topic, including the research methodology and findings, are encouraged to consult the full thesis for further information.

<sup>1</sup> ŠOLA, Tomislav. *Eternity does not live here any more – the glossary of museum sins*. Zagreb: Hitra produkcija knjiga, 2013, p. 55.

<sup>2</sup> MUKHORTOVA, Elizaveta. *Problematika pozornosti návštěvníka v muzeu a muzejní únavový syndrom*. Bachelor thesis. Online. Brno: Masaryk University, Faculty of Arts, 2024. Available from: <https://is.muni.cz/th/reg41/>. [accessed 2024-09-30].

## History of museum fatigue phenomenon

The phenomenon of museum fatigue was first described in 1916 by Benjamin Ives Gilman. It is noteworthy that Gilman not only described and first named the phenomenon, but also supported it with pictures and structured research conducted in a museum in Boston. One of the main goals of this study was to determine whether the syndrome could be prevented and what methods of prevention might be effective.<sup>3</sup>

The main finding of this study was that the arrangement of exhibits in museums often requires considerable physical effort on the part of visitors to view the exhibit. This phenomenon is due to the fact that many museums primarily use their spaces to house collections rather than actively present exhibits for the benefit of visitor education. As a result of this arrangement, visitors often experience muscle fatigue because exploring exhibits requires physically demanding activities such as standing for long periods of time, bending over, and even standing on tiptoe. This type of fatigue can negatively affect the overall experience of a museum visit and can discourage visitors from viewing an exhibit. It is important for museums to consider these findings and take steps to improve the environment for their visitors to make their visit experience as enjoyable as possible from both an educational and entertainment perspective.

Until recently, the issue of museum fatigue has not received much attention, but after B. Gilman, several articles and monographs describing the phenomenon have been published, for example,

<sup>3</sup> GILMAN, Benjamin Ives. Museum fatigue. Online. *The Scientific Monthly*. 1916, vol. 2, no. 1, p. 63. Available from: <https://www.jstor.org/stable/6127>. [accessed 2024-08-19].

Edward S. Robinson *The behavior of the museum visitor* (1928) and Arthur Melton *Visitor behaviour in museums: some early research in environmental design* (1972). During this period, researchers began to look more closely at the factors leading to visitor fatigue in museums, including psychological and physical aspects. Gareth Davey mentions that museum fatigue and its understanding lies between effective museum communication and visitor knowledge.<sup>4</sup> Effective communication is about presenting information in a clear and attractive way that engages and appeals to different groups of visitors. At the same time, it is important to take into account the knowledge and expectations of the museum audience. Making information accessible in different ways is one of the most fundamental tasks of a museum – this can include interactive exhibitions, multimedia presentations, the use of sound and light elements that take into account different educational forms according to visitor preferences. The cognitive abilities of the visitor, especially the ability to concentrate – play a big role because the amount of information that needs to be processed is different for everyone.

Another important researcher studying the phenomenon of museum fatigue is Stephen Bitgood. His studies have led to a definition of museum fatigue – a state of physical or mental fatigue caused by experiences with exhibits in cultural institutions such as museums and galleries.<sup>5</sup> In his

<sup>4</sup> DAVEY, Gareth. What is Museum Fatigue? Online. *Visitor Studies Today*. 2005, vol. 8, no. 3, p. 17. Available from: [https://www.researchgate.net/publication/292110022\\_What\\_is\\_museum\\_fatigue](https://www.researchgate.net/publication/292110022_What_is_museum_fatigue). [accessed 2024-08-19].

<sup>5</sup> BITGOOD, Stephen. Too Much Temptation, Not Enough Value: Why Visitors Lack Commitment. Online. *InterpNEWS*. 2014, p. 1. Available from: [https://www.academia.edu/11077469/Too\\_Much\\_Temptation\\_Not\\_Enough\\_Value\\_Why\\_Visitors\\_Lack\\_Commitment](https://www.academia.edu/11077469/Too_Much_Temptation_Not_Enough_Value_Why_Visitors_Lack_Commitment). [accessed. 2024-08-19].

articles S. Bitgood links fatigue and attention and describes their mutual influence on the visitor. Visitors often cannot engage with museum exhibitions and quickly lose concentration due to the sheer volume of exhibits. According to the author, an exhibition should be made so that exhibits “compete” as little as possible, as this is one of the main factors for inducing fatigue.

The exhibition should require minimum time and effort for visitors. This means that information needs to be well processed, interpreted with accessibility in mind, and communication with the visitor needs to be tailored. Eliciting interest plays an important role because attention carries two key components – interest and focus. It is a process of actively influencing the perceptions of the target audience to generate interest in the intended information, thereby achieving their fuller engagement and focus on the material presented. Attracting attention depends heavily on the stimuli themselves, both in terms of their intensity, quantity and quality. Personal experience, knowledge and current needs and preferences also play an important role in this process. Another study also shows that the environment plays a key role when visiting a museum – the arrangement of exhibits, the number of exhibition rooms, the design, the quality of the information provided (accompanying texts, descriptions etc.). But Stephen Bitgood still mentions that the establishment of knowledge, interest, motivation and the influence of the family are essential elements that influence the behavior of visitors.

## Attention and its characteristics

Attention is a cognitive process that serves to filter the limited

amount of information entering consciousness to protect against overload from excessive stimuli.<sup>6</sup> The main function of attention is primarily to regulate cognitive processes. The focus of attention plays a key role in influencing an individual's state shaping his or her behavior. It is the mental ability to focus on certain information and simultaneously limit attention to others. Attention can operate in different modes, which refers to intensity, extent, stability and duration. This implies the following functional properties – concentration, selectivity, distribution, vigilance and tenacity.<sup>7</sup>

It should be noted that the properties of attention vary from individual to individual. This is primarily influenced by three key factors: adaptability to the environment, individual past experience and knowledge, and the level of control required. Ensuring visitor attention is a key factor in the success of a museum. The museum should make it a priority to invest in quality exhibition curation and design, interactive elements, lighting, and educational programs that are designed to sustain interest and attention. It is essential to consider not only educational and aesthetic considerations, but also psychological aspects when creating an exhibition. During development, attention also develops – this is important to be aware of when creating exhibitions for a child audience, as children have a weaker ability to control and adapt their attention to current environment. Visitor attention is defined as the ability to concentrate and focus on a particular object or topic. Information presented in the form of visual content often has the

advantage of being available for a longer period of time and does not have to be limited by the time limit of the exhibition. This allows visitors to look at it for as long as they want, which in turn leads to better focus on details and a deeper understanding of the content presented.

A museum can achieve this goal by creating exhibitions and displays that are accessible, engaging, and allow visitors to immerse themselves in the subject matter and discover it at their own pace.

The human brain and mentality have their limits and therefore important information and emphasis must be given to capture the attention of visitors. Attention in a museum can be influenced through various elements – attracting elements that highlight the importance or interest of the exhibited objects.<sup>8</sup>

One of the most important characteristics of attention is selectivity, which is based on selectivity and focus on certain stimuli, which means that the visitor has the opportunity to choose which exhibits to pay attention to.<sup>9</sup> Ignoring less interesting exhibits or large texts can help visitors avoid the fatigue associated with skimming through all the information presented and allow visitors to conserve their energy and attention for those exhibits that really engage them and enhance the overall experience of the museum visit. As visitors move through the exhibition, they may encounter a variety of exhibits, some of which may be less relevant or attractive to

them. In this way, visitors can make their own choices and create their own journey through the museum, which can lead to deeper engagement with exhibits that have personal meaning to them. Museums can also support this strategy by offering visitors tools and information to help them better select and filter exhibits according to their preferences, which can increase overall visitor satisfaction and their willingness to return to the museum.<sup>10</sup> It is important to note that museums need to effectively validate the impact of the exhibition or educational program on the visitor and implement the necessary changes.<sup>11</sup>

### Key factors influencing visitor attention in museum

The environment of a museum has a huge influence on the visitor's attention, not only the arrangement of exhibits and the number of exhibition rooms, but also the design solutions such as the colour of the walls, the light, the sound and the overall atmosphere of the museum. Environmental factors can include everything from room shape to temperature. It is important to maintain a balance between all of these elements, and none should be left out. Color, lighting, sound, communication, and the overall environment of the museum are key elements that should be given considerable attention when creating an exhibition.

<sup>10</sup> BITGOOD, Stephen. When Is "Museum Fatigue" Not Fatigue? Online. *Curator: The Museum Journal*. 2010, vol. 52, no. 2, p. 197. Available from: [https://www.researchgate.net/publication/229852931\\_When\\_Is\\_Museum\\_Fatigue\\_Not\\_Fatigue](https://www.researchgate.net/publication/229852931_When_Is_Museum_Fatigue_Not_Fatigue). [accessed 2024-08-19].

<sup>11</sup> JAGOŠOVÁ, Lucie. Emotions in museum education. Potential for the development of a relationship to cultural and historical heritage. Online. *Museologica Brunensia*. 2020, vol. 9, no. 2, pp. 14–15. Available from: <https://digilib.phil.muni.cz/sites/default/files/pdf/143586.pdf>. [accessed 2024-10-01].

<sup>6</sup> VÁGNEROVÁ, Marie. *Základy psychologie*. Praha: Karolinum, 2004, p. 47.

<sup>7</sup> Ibidem, pp. 47–49.

<sup>8</sup> BITGOOD, Stephen. *An Attention-Value Model of Museum visitors*. Online. Washington, D.C: Center for the Advancement of Informal Science Education 2010, p. 1. Available from: [https://www.academia.edu/9159214/An\\_Attention\\_Value\\_Model\\_of\\_Museum\\_visitors](https://www.academia.edu/9159214/An_Attention_Value_Model_of_Museum_visitors). [accessed 2024-08-19].

<sup>9</sup> VÁGNEROVÁ, Marie. *Základy psychologie*. Praha: Karolinum, 2004, p. 48.

The human factor and the psychological state of the visitor also play an important role. The museum certainly arouses interest and motivation, but without personal interest and a desire to learn, even the best and most interesting exhibition will not help a person to achieve the full benefit of the learning process. The physical and health condition of the visitor cannot be overlooked, which equally affects the museum experience.

The museum's goal is to achieve a state of mind where the visitor is fully immersed in the exhibition – the so-called flow. It is the opposite of museum fatigue and its characteristic feature is the visitor's ability to concentrate fully on the museum exhibition without paying attention to external stimuli. In this state, the visitor moves through the museum space intuitively.

The following subsections will characterise the individual factors that most influence the visitor in the museum environment. Colour, light and sound are not only part of the design, but are elements that either help the visitor to concentrate or distract. Through good communication and interpretation, the visitor gains as much knowledge as possible, which not only captures their attention but also encourages them to explore the subject matter more deeply. The museum environment plays a key role in the overall experience and influences how visitors perceive the information presented. This includes not only the abovementioned elements, but also the overall atmosphere, placement of exhibits, accessibility etc.

One of the most basic elements in museum design is colour. It has a great influence on visitors' emotions, creates comfort and atmosphere. It is important to note

that the impact of wall colour can vary depending on the specific context, exhibition objectives and individual preferences. This element influences visitors' cognitive behaviour in the museum, which has a major impact on how long visitors spend time in the exhibition and how they perceive the exhibits. People react not only to the exhibit itself, but also to its surroundings and the conditions in which it is located.<sup>12</sup> Wall colors can influence visitors' perception of space and flow within a museum. Light-coloured walls often create an impression of openness and spaciousness, thus emphasising larger exhibition areas. Dark colored walls can create a more intimate and immersive atmosphere that directs visitors' attention to certain areas or exhibits. Using different wall colours in different parts of the museum can help visitors find their way around, provide visual clues and direct their attention.

Mar Llorens-Gámez and her colleagues have conducted research and their study has shown that design, and especially the choice of colours, can have a significant impact on the cognitive function and attention of individuals. One of the key findings was that the use of cool tones in the design of room walls can positively affect memory and attention. Cool colors, such as blue or green, can create a calm environment that promotes concentration and better ability to retain information. Another result of their research is that the use of high-contrast color combinations improves visual memory. This heightened contrast in design can

<sup>12</sup> GORTON, Amy Elizabeth. *Is walls color significant to museum visitors? Exploring the impact wall color in an exhibit has on the visitor experience?* Master thesis. Online. Seattle: University of Washington, Faculty of Art History, 2017, p. 9. Available from: [https://digital.lib.washington.edu/researchworks/bitstream/handle/1773/39770/Gorton\\_washington\\_02500\\_17381.pdf?sequence=1](https://digital.lib.washington.edu/researchworks/bitstream/handle/1773/39770/Gorton_washington_02500_17381.pdf?sequence=1). [accessed 2024-08-20].

help visitors better remember different parts of an exhibition and navigate the museum space. This is particularly important for museums where keeping visitors' attention is key. The right choice of colour design can contribute significantly to a better museum and educational experience and support visitors' cognitive function.<sup>13</sup>

The psychological aspects of colour also need to be considered. People respond to color unconsciously as well as make conscious associations.<sup>14</sup> Different wall colors evoke different moods, which can affect visitors' attention and emotional response. The wall colours chosen should match the intended mood and theme of the exhibition and enhance the overall visitor experience.<sup>15</sup>

Lighting also plays a vital role in guiding visitors through their experience in a museum or gallery. Museum lighting helps to maintain a balance between visibility, interest, presentation, and the museum environment.<sup>16</sup> Lighting is a powerful tool that also helps to emphasize the artistic and aesthetic qualities of the objects on display. Properly directed light can enhance the texture, form, color, and detail

<sup>13</sup> LLORENS-GÁMEZ, Mar; HIGUERA-TRUJILLO, Juan Luis; SENTIERI OMARREMENTERIA, Carla and LLINARES, Carmen. The impact of the design of learning spaces on attention and memory from a neuroarchitectural approach: A systematic review. Online. *Frontiers of Architectural Research*. 2022, vol. 11, no. 3, 2022, pp. 542–560. Available from: <https://www.sciencedirect.com/science/article/pii/S2095263521000972>. [accessed 2024-10-15].

<sup>14</sup> RATLIFF, Jonatan. *The exploration of color theory in museum education using works found in the J. B. Speed Museum's collection*. Master thesis. Online. Louisville: University of Louisville, Department of Fine Art, 2009, p. 1. Available from: <https://ir.library.louisville.edu/cgi/viewcontent.cgi?article=2182&context=etd>. [accessed 2024-08-20].

<sup>15</sup> Ibidem, p. 26.

<sup>16</sup> SYLVANIA, Feilo. *Lighting for museums and galleries*. Online. *Concord*. 2015, p. 5. Available from: <https://www.sylvania-lighting.com/documents/documents/Museums%20and%20Galleries%20-%20Brochure%20-%20English.PDF>. [accessed 2024-08-29].

of exhibits, allowing visitors to fully appreciate them. It can create dramatic effects, play with shadows and highlights, and draw attention to specific elements, directing viewers' gaze and increasing their understanding and engagement. One of the most important tasks is to minimise visitor wandering, as this becomes a major cause of fatigue for some, both physical and psychological.

By using lighting devices, we can focus the visitor's attention on certain exhibits so that he does not have to make all the effort to find an important object in the room. Also with this tool, it is possible to help the visitor to orient himself in the space and create a kind of path from one object to another. Properly lit pathways, sigboards and information displays provide clear visibility and legibility, preventing confusion and enhancing the overall visitor experience.<sup>17</sup>

The museum is usually perceived as a place of silence, but the reality is different. We can hear visitors discussing the various exhibits, guides talking about the history of the museum, curators transmitting information over the radio, and the music and audiovisual recording that are a fixed part of the museum. Sound is a complementary element that particularly affects attention and fatigue levels, as hearing is one of the senses we cannot control as easily as sight or smell. Therefore, we need to work very carefully with sound in the museum environment. What benefits can the use of music and soundtrack in museums lead to? Sounds can not only soundtrack certain exhibits, such as animal models, but also accompany the entire exhibition, helping to set the tone and create a specific atmosphere that will increase visitor engagement

and attention.<sup>18</sup> For example, soothing background music can create a calm and contemplative environment and encourage visitors to take time to focus on the exhibits. Jeremy Beliveau highlights the Museum of History and Industry (MOHAI) in Seattle, particularly its Northwest exhibit, *The Road to Seattle*. It stands out for its use of sound and video, enhancing the visitor experience. At the entrance, a small theater shows an introductory film, familiarizing visitors with the exhibit. Notably, natural sounds like running water and birdsong in the space create an immersive, authentic atmosphere, enriching the experience.<sup>19</sup>

Sounds that provide context have a positive impact on visitor behavior and well-being.<sup>20</sup> The more senses that are involved in the discovery process, the better the information is absorbed. Among other things, sounds include accessibility for blind and visually impaired visitors – making museums accessible and enjoyable for a diverse audience is a long-term goal of any institution. It is important to note that visually impaired individuals tend to rely more on auditory learning

for absorbing information.<sup>21</sup> Therefore, incorporating sounds in museum exhibits can significantly enhance their ability to perceive and understand the content. Additionally, the use of sound can assist all visitors in navigating the museum space more easily and in following the narrative of the exhibition more effectively.<sup>22</sup>

The quality of a museum visit is a complex combination of factors involving the museum itself and the visitors. It is a relationship in which both the preparation and presentation by the museum and the readiness and openness of the visitor to the experience are prerequisites for success.

### Principles of museum fatigue prevention

A key factor in ensuring visitor well-being during a museum visit is creating an environment where physical and mental fatigue is minimized. This is essential because museum visitors often take a passive role as listeners, while the museum itself acts as an active narrator. This arrangement requires the museum to be a friendly, comfortable and non-stressful place. Museum spaces create a continuous emotional, intellectual, and visual experience shaped by three key elements: atmosphere, dynamics, and experience. These elements relate to both the building's physical design and the overall ambiance, influencing how visitors emotionally respond and feel within the space.<sup>23</sup>

18 JAKUBOWSKI, Robert D. *Museum soundscapes and their impact on visitor outcomes*. Master thesis. Online. Fort Collins: Colorado State University, Department of psychology, 2011, pp. 5–7. Available from: [https://mountainscholar.org/bitstream/handle/10217/47395/Jakubowski\\_colostate\\_0053A\\_10314.pdf](https://mountainscholar.org/bitstream/handle/10217/47395/Jakubowski_colostate_0053A_10314.pdf). [accessed 2023-08-23].

19 BELIVEAU, Jeremy. *Audio elements: understanding current uses of sound in museum exhibits*. Master thesis. Online. Seattle: University of Washington, Department of Fine Art, 2015, pp. 19–39. Available from: [https://digital.lib.washington.edu/researchworks/bitstream/handle/1773/33415/Beliveau\\_washington\\_0250O\\_14599.pdf?sequence=2.txt](https://digital.lib.washington.edu/researchworks/bitstream/handle/1773/33415/Beliveau_washington_0250O_14599.pdf?sequence=2.txt). [accessed 2024-11-11].

20 JAKUBOWSKI, Robert D. *Museum soundscapes and their impact on visitor outcomes*. Master thesis. Online. Fort Collins: Colorado State University, Department of psychology, 2011, pp. 5–7. Available from: [https://mountainscholar.org/bitstream/handle/10217/47395/Jakubowski\\_colostate\\_0053A\\_10314.pdf](https://mountainscholar.org/bitstream/handle/10217/47395/Jakubowski_colostate_0053A_10314.pdf). [accessed 2023-08-23].

21 JAGOŠOVÁ, Lucie and HLUŠÍ, Eliška. *Blind museum visitors: methodical tips for museum presentation and education*. Brno: Methodical Centre of Museum Pedagogy at the Moravian Museum, 2022, p. 8.

22 Ibidem, p. 17.

23 JAGOŠOVÁ, Lucie. Emotions in museum education. Potential for the development of a relationship to cultural and historical heritage. Online. *Museologica Brunensia*. 2020, vol. 9, no. 2, p. 13. Available from: <https://digilib.phil.muni.cz/sites/default/files/pdf/143586.pdf>. [accessed 2024-10-01].

17 Ibidem, p. 6.

Unique experience, unusualness, novelty, informativeness, emotion – without these elements, the visitor will encounter fatigue. However, evaluating a museum is not only about scientificity and accuracy of knowledge, but also about how effectively the exhibition arouses curiosity and develops the imagination. Accessibility of the museum, parking, cleanliness of restrooms and rest areas are also integral.

The following principles for preventing museum fatigue are most often cited in the literature – creating logical pathways, designing to create a narrative line, using interactivity and showing care for visitors. For less experienced visitors who find it harder to navigate the museum, physical fatigue can significantly affect the experience of the visit. In his article *Understanding the Importance of Visitor Navigation*, Stephen Bitgood describes navigational elements that will help visitors not waste time and effort and delay the onset of fatigue. The first is conceptual orientation that includes information about the space, the organization of the exhibition, what can be seen, where the restrooms are, and the gift shop. Wayfinding allows visitors to understand where they are and how to get to a specific room with minimal effort. The last one is movement – a model of movement in the museum space, a scheme for finding this or that exhibit.<sup>24</sup> The application of these elements will improve the experience and contribute to the visitors'.

The availability of rest areas, quality refreshments, comfortable chairs, and clean restrooms are

<sup>24</sup> BITGOOD, Stephen. *Understanding the Importance of Visitor Navigation*. Online. *InterpNEWS*. 2014. Available from: [https://www.academia.edu/11077412/Understanding\\_the\\_Importance\\_of\\_Visitor\\_Navigation](https://www.academia.edu/11077412/Understanding_the_Importance_of_Visitor_Navigation). [accessed 2024-11-30].

key to ensuring visitor comfort. Physical and mental fatigue can result from wandering around museums. Wandering in museums can occur for a variety of reasons, whether due to a lack of visitor orientation, unclear exhibit management or simply a lack of interest in the exhibits.<sup>25</sup> Time and itinerary can, both prevent and seek a sense of fatigue and over-saturation. It is important to ensure that exhibition spaces are well signposted and that visitors have access to maps and information panels. Another solution is to mark out the main routes or thematic focuses of exhibitions and provide visitors with easy navigation points. An example of an initiative that recognized the importance of seating furniture is the “Please Be Seated” project launched in 1975 by the Boston Museum of Fine Arts.<sup>26</sup> This project challenged contemporary furniture makers to create benches that would serve not only as practical objects but also as works of art. This approach made the benches an integral part of the exhibition space, supporting the idea that the design and placement of seating furniture should be carefully considered along with other elements of the exhibition, such as wall colors and lighting.

For this reason, it is crucial that museums and galleries include seating furniture as a core element of programming requirements for new exhibitions. In this way, exhibition spaces can better serve their purpose while providing

<sup>25</sup> ANTÓN, Carmen; CAMARERO, Carmen and GARRIDO, María-José. A journey through the museum: Visit factors that prevent or further visitor satiation. Online. *Annals of Tourism Research*. 2018, vol. 73, p. 50. Available from: <https://www.sciencedirect.com/science/article/pii/S0160738318300872>. [accessed 2024-08-24].

<sup>26</sup> WHITEMYER, David. Where the Seats Have No Name: In Defense of Museum Benches. Online. In: *American Alliance of Museum*. 19. 10. 2018. Available from: <https://www.aam-us.org/2018/10/19/where-the-seats-have-no-name-in-defense-of-museum-benches/>. [accessed 2024-09-20].

visitors with a more comfortable and enriched experience.

In order to make a visit to the museum stimulating and fatigue-free, it is important that the exhibitions provide a unique experience. This may include unusual objects, new information or unexpected ways of presentation. Exhibitions should not only be informative but also emotionally resonant. Museums should strive to ensure that their exhibitions evoke emotions and help visitors better connect with the themes presented. Well-conceived design that creates a story can help. Interactive and experiential elements can play a key role in this regard and help the visitor move towards an active role.

Easy accessibility to the museum, including parking, is also an important aspect for the overall visitor experience. The cleanliness of the environment, including restrooms, and the availability of rest areas are essential requirements that contribute to visitor well-being.

To reduce fatigue, it is essential to engage visitors in the exhibition and engage them from the moment they enter the institution. The best “cure” for fatigue is complete immersion in the museum environment and creating a space in which the visitor achieves a state of flow. Creating an environment that takes these aspects into account can significantly improve the overall visitor experience and increase visitor satisfaction, thereby reducing fatigue. Interactivity plays a key role in promoting interaction between visitors and better understanding of the material presented. This element helps visitors stay focused longer and absorb information better, which has a positive impact on the overall perception of the exhibition. In addition, the

interactive elements also engage visitors emotionally and help them better remember their visit to the museum.<sup>27</sup> Research suggests that interactivity encourages active participation by visitors, stimulating discussion, watching other visitors, seeking information and sharing their own experiences. However, it is important that assistive technologies are visually appealing and easy to use so that they do not cause visitors stress or fatigue.<sup>28</sup> Above all, any interaction in a museum environment helps in maintaining well-being: it promotes creativity, thinking, emotional intelligence and also broadens the senses.<sup>29</sup> And interactivity lies not only in digital elements, but in any interaction with the exhibits that helps to better understand the purpose and meaning of the exhibition.<sup>30</sup> As a result, the visitor does not waste time and energy trying to understand where and how to move, but is immediately immersed in the context, which prevents fatigue. But interactive elements and activities should be designed to support the main theme and thematic line of the museum exhibition. Their placement and design should be strategically thought out. It is important to

27 SEREDKO, Alena. *Moving between levels of engagement with interactive digital exhibits?* Master thesis. Online. Göteborg: University of Gothenburg, Department of education: communication and learning, 2019, pp. 5–7. Available from: [https://gupea.ub.gu.se/bitstream/handle/2077/64065/gupea\\_2077\\_64065\\_1.pdf?sequence=1&isAllowed=y](https://gupea.ub.gu.se/bitstream/handle/2077/64065/gupea_2077_64065_1.pdf?sequence=1&isAllowed=y). [accessed 2024-08-29].

28 Ibidem, p. 39.

29 ANDER, Erica; THOMSON, Linda; NOBLE, Guy; LANCELEY, Anne; MENON, Usha et al. Generic well-being outcomes: towards a conceptual framework for well-being outcomes in museums. Online. *Museum Management and Curatorship*. 2011, vol. 26, no. 3, pp. 237–259. Available from: <https://www.tandfonline.com/doi/full/10.1080/09647775.2011.585798>. [accessed 2024-08-29].

30 HAYWOOD, Naomi and CAIRNS, Paul. Engagement with an Interactive Museum Exhibit. Online. In: *People and Computers XIX — The Bigger Picture*. 2005, London: Springer, p. 113. Available from: [https://wayf.springernature.com/?redirect\\_uri=https%3A%2F%2Flink.springer.com%2Fchapter%2F10.1007%2F1-84628-249-7\\_8](https://wayf.springernature.com/?redirect_uri=https%3A%2F%2Flink.springer.com%2Fchapter%2F10.1007%2F1-84628-249-7_8). [accessed 2024-09-10].

remember that visitors should be clearly navigated through the museum space and have a clear understanding of what to expect from each interactive activity. Clear instructions and distinct outcomes can help prevent confusion and increase visitor satisfaction.<sup>31</sup>

In *Storytelling: the real work of museum* Leslie Bedford mentions the strategy that is most likely to engage visitors and reduce fatigue – “object theatre”.<sup>32</sup> This strategy is a presentation method that combines elements of traditional sound and lighting effects with modern computer technology to create a multimedia and sensory-rich environment for museum exhibits. This method aims to bring museum artefacts to life without the need for physical interaction with them. It uses a narrative approach that can incorporate different story lines, and relies on the power of story to create connections between the exhibits and visitors’ personal experiences and memories. A key benefit of the narrative approach is that it allows even complex abstract concepts to be communicated clearly through story. This approach encourages visitors to empathize with situations in unfamiliar worlds or cultures.<sup>33</sup> One striking example of this approach was an exhibit called Families at the Minnesota Historical Society, where simple exhibits – such as a piano with framed photographs, a suitcase with a coat, or a birthday cake

31 WOLF, Jakub. Interaktivita v muzeu. Online. *Muzeum: muzejní a vlastivědná práce*. 2009, vol. 47, no. 1, p. 35. Available from: [https://emuzeum.cz/file/571d380cc6503546bb5ee9105570ea77/62387/muzeum\\_1\\_2009\\_finale.pdf](https://emuzeum.cz/file/571d380cc6503546bb5ee9105570ea77/62387/muzeum_1_2009_finale.pdf). [accessed 2024-09-10].

32 BEDFORD, Leslie. *Storytelling: The Real Work of Museums*. Online. *Curator: The Museum Journal*. 2001, vol. 44, no. 1, pp. 30–33. Available from: <https://onlinelibrary.wiley.com/doi/abs/10.1111/j.2151-6952.2001.tb00027.x>. [accessed 2024-11-30].

33 ŠOBÁŇOVÁ, Petra. *Muzejní expozice jako edukační médium*. 1. díl. Přístupy k tvorbě expozic a jejich inovace. Olomouc: Univerzita Palackého v Olomouci, 2014, p. 131.

table – told stories of people’s lives from childhood to old age. These stories, interspersed with personal narratives and authentic experiences of loss and changes in the life cycle, were visualized by illuminating relevant photographs or artifacts. The emotional power of these stories, underscored by the song Everything Must Change, evoked a deep emotional response from visitors.

Nowadays, museums are increasingly turning to the use of interactive exhibits, as this helps greatly in engaging visitors, stimulating their curiosity and encouraging them to think more deeply about the content presented. Interactive exhibits are designed to encourage visitors to actively engage. Instead of being merely passive recipients of information, visitors can become part of the learning process.

## Conclusion

Museum fatigue is a complex phenomenon that encompasses a number of other phenomena such as physical and mental fatigue, information overload, cognitive load, object overload, and excessive competition between objects and texts. When designing exhibitions, it is essential to remember that the emergence of at least one of these phenomena can greatly influence visitor behaviour. The presentation of exhibits in a museum requires a carefully considered design and a strategic approach to the display of objects that takes into account their visual and textual aspects. Over-saturation of displays and competition between visual and textual elements can lead to reduced visitor attention, highlighting the need to strike a balance that promotes the complementary nature of these two aspects. Synergy between objects and accompanying texts is key to increasing visitor understanding

and interest, thereby avoiding museum fatigue. The museum environment has a huge influence on visitor attention, and especially factors such as colour, light sound, ways of communicating with visitors and interpretation of the information shared – it is important to maintain a balance between all these elements. The psychological approach and personal involvement of the visitor is also important when visiting a museum. In museums we can apply insights from neuromuseology to enhance museum experiences by optimizing exhibition design based on how the brain processes sensory information. By using knowledge, museums can create more comfortable and engaging environments that cater to visitors' cognitive and emotional needs, improving attention, memory retention, and overall satisfaction.

<sup>34</sup> Although a museum can arouse curiosity and stimulate a desire for knowledge, without self-interest and intrinsic motivation, the visitor will not be able to fully feel the value of the educational experience that the museum offers. However, it is essential to remember that cultural institutions such as museums have a huge impact on the community, especially on the museum audience. Museums play an important role in promoting the well-being of visitors by offering therapeutic and educational experiences that enhance self-esteem, social cohesion and provide opportunities for self-reflection and relaxation. To achieve these goals, it is essential that museums invest in high quality curation and design of their exhibitions and actively work to create environments that are welcoming, engaging and accessible for all types of visitors.

<sup>34</sup> FOLGA-JANUSZEWSKA, Dorota. Might the museology be a part of neurosciences? Online. *Museologica Brunensia*. 2016, vol. 5, no. 1, pp. 5–14. Available from: <https://digilib.phil.muni.cz/sites/default/files/pdf/135576.pdf>. [accessed 2024-10-01].

## BIBLIOGRAPHY:

- ANDER, Erica; THOMSON, Linda; NOBLE, Guy; LANCELEY, Anne; MENON, Usha et al. Generic well-being outcomes: towards a conceptual framework for well-being outcomes in museums. Online. *Museum Management and Curatorship*. 2011, vol. 26, no. 3, pp. 237–259. Available from: [https://www.researchgate.net/publication/254332547\\_Generic\\_wellbeing\\_outcomes\\_Towards\\_a\\_conceptual\\_framework\\_for\\_wellbeing\\_outcomes\\_in\\_museums](https://www.researchgate.net/publication/254332547_Generic_wellbeing_outcomes_Towards_a_conceptual_framework_for_wellbeing_outcomes_in_museums). ISSN 1872-9185. [accessed 2024-08-29]. <https://doi.org/10.1080/09647775.2011.585798>
- ANTÓN, Carmen; CAMARERO, Carmen and GARRIDO, María-José. A journey through the museum: Visit factors that prevent or further visitor satiation. Online. *Annals of Tourism Research*. 2018, vol. 73, pp. 48–61. Available from: <https://www.sciencedirect.com/science/article/pii/S0160738318300872>. ISSN 1873-7722. [accessed 2024-08-24]. <https://doi.org/10.1016/j.annals.2018.08.002>
- BEDFORD, Leslie. Storytelling: The Real Work of Museums. Online. *Curator: The Museum Journal*. 2001, vol. 44, no. 1, pp. 30–33. Available from: <https://onlinelibrary.wiley.com/doi/abs/10.1111/j.2151-6952.2001.tb00027.x>. ISSN 0011-3069. [accessed 2024-11-30]. <https://doi.org/10.1111/j.2151-6952.2001.tb00027.x>
- BELIVEAU, Jeremy. *Audio elements: understanding current uses of sound in museum exhibits*. Master thesis. Online. Seattle: University of Washington, Department of Fine Art, 2015, pp. 19–39. Available from: [https://digital.lib.washington.edu/researchworks/bitstream/handle/1773/33415/Beliveau\\_washington\\_02500\\_14599.pdf?sequence=2.txt](https://digital.lib.washington.edu/researchworks/bitstream/handle/1773/33415/Beliveau_washington_02500_14599.pdf?sequence=2.txt). [accessed 2024-11-11].
- BITGOOD, Stephen. *An Attention-Value Model of Museum visitors*. Online. Washington, D.C: Center for the Advancement of Informal Science Education, 2010. Available from: [https://www.academia.edu/9159214/An\\_Attention\\_Value\\_Model\\_of\\_Museum\\_visitor](https://www.academia.edu/9159214/An_Attention_Value_Model_of_Museum_visitor). [accessed 2024-08-19].
- BITGOOD, Stephen. Too Much Temptation, Not Enough Value: Why Visitors Lack Commitment. Online. *InterpNEWS*. 2014, pp. 1–4. Available from: [https://www.academia.edu/11077469/Too\\_Much\\_Temptation\\_Not\\_Enough\\_Value\\_Why\\_Visitors\\_Lack\\_Commitment](https://www.academia.edu/11077469/Too_Much_Temptation_Not_Enough_Value_Why_Visitors_Lack_Commitment). [accessed 2024-08-19].
- BITGOOD, Stephen. Understanding the Importance of Visitor Navigation. Online. *InterpNEWS*. 2014, pp. 3–5. Available from: [https://www.academia.edu/11077412/Understanding\\_the\\_Importance\\_of\\_Visitor\\_Navigation](https://www.academia.edu/11077412/Understanding_the_Importance_of_Visitor_Navigation). [accessed 2024-11-30].
- BITGOOD, Stephen. When Is “Museum Fatigue” Not Fatigue? Online. *Curator: The Museum Journal*. 2010, vol. 52, no. 2, pp. 193–202. Available from: [https://www.researchgate.net/publication/229852931\\_When\\_Is\\_Museum\\_Fatigue\\_Not\\_Fatigue](https://www.researchgate.net/publication/229852931_When_Is_Museum_Fatigue_Not_Fatigue). [accessed 2024-08-19]. <https://doi.org/10.1111/j.2151-6952.2009.tb00344.x>
- DAVEY, Gareth. What is Museum Fatigue? Online. *Visitor Studies Today*. 2005, vol. 8, no. 3, pp. 17–21. Available from: [https://www.researchgate.net/publication/292110022\\_What\\_is\\_museum\\_fatigue](https://www.researchgate.net/publication/292110022_What_is_museum_fatigue). [accessed 2024-08-19].
- FOLGA-JANUSZEWSKA, Dorota. Might the museology be a part of neurosciences? Online. *Museologica Brunensia*. 2016, vol. 5, no. 1, pp. 5–14. Available from: <https://digilib.phil.muni.cz/sites/default/files/pdf/135576.pdf>. ISSN 2464-5362. [accessed 2024-10-01]. <https://doi.org/10.5817/MuB2016-1-1>
- GILMAN, Benjamin Ives. Museum fatigue. Online. *The Scientific Monthly*. 1916, vol. 2, no. 1, pp. 62–74. Available from: <https://www.jstor.org/stable/6127>. [accessed 2024-08-19].
- GORTON, Amy Elizabeth. *Is walls color significant to museum visitors? Exploring the impact wall color in an exhibit has on the visitor experience?* Master thesis. Online. Seattle: University of Washington, Faculty of Art History, 2017, pp. 1–15. Available from: [https://digital.lib.washington.edu/researchworks/bitstream/handle/1773/39770/Gorton\\_washington\\_02500\\_17381.pdf?sequence=1](https://digital.lib.washington.edu/researchworks/bitstream/handle/1773/39770/Gorton_washington_02500_17381.pdf?sequence=1). [accessed 2024-08-20].
- HAYWOOD, Naomi and CAIRNS, Paul. Engagement with an Interactive Museum Exhibit. Online. In: *People and Computers XIX — The Bigger Picture*. 2005, London: Springer, p. 113. Available from: [https://wayf.springernature.com/?redirect\\_uri=https%3A%2F%2Flink.springer.com%2Fchapter%2F10.1007%2F1-84628-](https://wayf.springernature.com/?redirect_uri=https%3A%2F%2Flink.springer.com%2Fchapter%2F10.1007%2F1-84628-)

- 249-7-8. [accessed 2024-09-10]. <https://doi.org/10.1007/1-84628-249-7-8>
- JAGOŠOVÁ, Lucie and HLUŠÍ, Eliška. *Blind museum visitors: methodical tips for museum presentation and education*. Brno: Methodical Centre of Museum Pedagogy at the Moravian Museum, 2022. 53 p. ISBN 978-80-7028-579-4.
- JAGOŠOVÁ, Lucie. Emotions in museum education. Potential for the development of a relationship to cultural and historical heritage. Online. *Museologica Brunensia*. 2020, vol. 9, no. 2, pp. 10–16. Available from: <https://digilib.phil.muni.cz/sites/default/files/pdf/143586.pdf>. ISSN 2464-5362. [accessed 2024-10-01]. <https://doi.org/10.5817/MuB2020-2-2>
- JAKUBOWSKI, Robert D. *Museum soundscapes and their impact on visitor outcomes*. Master thesis. Online. Fort Collins: Colorado State University, Department of psychology, 2011, pp. 5–7. Available from: [https://mountainscholar.org/bitstream/handle/10217/47395/Jakubowski\\_colostate\\_0053A\\_10314.pdf](https://mountainscholar.org/bitstream/handle/10217/47395/Jakubowski_colostate_0053A_10314.pdf). Supervisor Paul Bell. [accessed 2023-08-23].
- LLORENS-GÁMEZ, Mar; HIGUERA-TRUJILLO, Juan Luis; SENTIERI OMARREMENTERIA, Carla and LLINARES, Carmen. The impact of the design of learning spaces on attention and memory from a neuroarchitectural approach: A systematic review. Online. *Frontiers of Architectural Research*. 2022, vol. 11, no. 3, 2022, pp. 542–560. Available from: <https://www.sciencedirect.com/science/article/pii/S2095263521000972>. [accessed 2024-10-15]. <https://doi.org/10.1016/j.foar.2021.12.002>
- MELTON, Arthur W. Visitor Behavior in Museums: Some Early Research in Environmental Design. Online. *Human Factors*. 1972, vol. 14, no. 5, pp. 393–403. Available from: <https://journals.sagepub.com/doi/epdf/10.1177/001872087201400503>. [accessed 2024-09-30]. <https://doi.org/10.1177/001872087201400503>
- MUKHORTOVA, Elizaveta. *Problematika pozornosti návštěvníka v muzeu a muzejní únavový syndrom*. Bachelor thesis. Online. Brno: Masaryk University, Faculty of Arts, 2024. Available from: <https://is.muni.cz/th/reg41/>. Supervisor Mgr. Lucie Jagošová, DiS., PhD. [accessed 2024-09-30].
- RATLIFF, Jonatan. *The exploration of color theory in museum education using works found in the J. B. Speed Museum's collection*. Master thesis. Online. Louisville: University of Louisville, Department of Fine Art, 2009. Available from: <https://ir.library.louisville.edu/cgi/viewcontent.cgi?article=2182&context=etd>. [accessed 2024-08-20].
- ROBINSON, Edward S. *The behavior of the museum visitor*. Online. Washington, D.C.: American Association of Museums. 1928, p. 70. Available from: <https://files.eric.ed.gov/fulltext/ED044919.pdf>. [accessed 2024-08-20].
- SEREDKO, Alena. *Moving between levels of engagement with interactive digital exhibits?* Master thesis. Online. Göteborg: University of Gothenburg, Department of education: communication and learning, 2019, pp. 5–7. Available from: [https://gupea.ub.gu.se/bitstream/handle/2077/64065/gupea\\_2077\\_64065\\_1.pdf?sequence=1&isAllowed=y](https://gupea.ub.gu.se/bitstream/handle/2077/64065/gupea_2077_64065_1.pdf?sequence=1&isAllowed=y). Supervisor Alexandra Weilenmann. [accessed 2024-08-29].
- SYLVANIA, Feilo. Lighting for museums and galleries. Online. *Concord*. 2015, p. 5. Available from: <https://www.sylvania-lighting.com/documents/documents/Museums%20and%20Galleries%20-%20Brochure%20-%20English.PDF>. [accessed 2024-08-29].
- ŠOBÁŇOVÁ, Petra. *Muzejní expozice jako edukační médium*. 1. díl, Přístupy k tvorbě expozic a jejich inovace. Olomouc: Univerzita Palackého v Olomouci, 2014. 363 p. ISBN 978-80-244-4302-7.
- ŠOLA, Tomislav. *Eternity does not live here any more – the glossary of museum sins*. Zagreb: Hitra produkcija knjiga, 2013. ISBN 978-953-57136-0-9.
- VÁGNEROVÁ, Marie. *Základy psychologie*. Praha: Karolinum, 2004. ISBN 978-80-246-0841-9.
- WHITEMYER, David. Where the Seats Have No Name: In Defense of Museum Benches. Online. In: *American Alliance of Museum*. 19. 10. 2018. Available from: <https://www.aam-us.org/2018/10/19/where-the-seats-have-no-name-in-defense-of-museum-benches/>. [accessed 2024-09-20].
- WOLF, Jakub. Interaktivita v muzeu. Online. *Muzeum: muzejní a vlastivědná práce*. 2009, vol. 47, no. 1. Available from: [https://emuzeum.cz/file/571d380cc6503546bb5ee9105570ea77/62387/muzeum\\_1\\_2009\\_finale.pdf](https://emuzeum.cz/file/571d380cc6503546bb5ee9105570ea77/62387/muzeum_1_2009_finale.pdf). ISSN 1803-0386. [accessed 2024-09-10].

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