Exhibition Review

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The Horizon of Khufu: A Journey in Ancient Egypt, Phoenix Center, Beijing, China, 20 February 2024 – 10 August 2024

The Horizon of Khufu: A Journey in Ancient Egypt is an innovative virtual reality (VR) experience that transports participants to the burial site of Pharaoh Khufu (who reigned circa 2589–2566 BC), which is renowned as one of the Seven Wonders of the Ancient World (Malek 1992; Clayton 2006: 42). This immersive exhibition is the result of an 18-month collaboration between Excurio and a research team from Harvard University. Excurio is a production company dedicated to making culture accessible to all through an "immersive exhibition" format using VR technology.¹ The Giza Project – a non-profit initiative based at Harvard University, launched in 2011 and currently led by Egyptologist Professor Peter Der Manuelian – aims to digitally assemble and provide access to all archaeological records related to the Pyramids and their surrounding sites.² The Giza Consolidated Archaeological Reference Database (GizaCARD) serves as a key component of the initiative, functioning as a free, open-access database that organizes over 150,000 archaeological records and files from the 1800s to ongoing excavation efforts by the team. It consolidates data from the Giza Project's digital archive, allowing users to easily access a variety of resources, including a digital repository of archaeological documentation, 3D reconstruction models, and research articles. This integration enhances the overall mission of the Giza Project to promote understanding and engagement with Giza's archaeological heritage.³



Figure 1: A scene from the narrative, overlooking the pyramid with Mona and Bastet (Excurio, 2022)

The entire experience lasts around 40 minutes, during which participants wear VR goggles and follow instructions provided by a virtual tour guide named Mona. To progress through the experience, participants must physically engage by moving between designated spots with Mona's guidance. She directs participants to walk along a preset route from the entry to the exit. The exhibition is set in Giza, Egypt, highlighting a 4,500-year-old heritage from the

Fourth Dynasty (circa 2613–2494 BC) through a scenario reconstructed from archaeological findings. It begins with an evocative scene in which participants join a night-time sightseeing tour of the Great Pyramid of Giza, guided by Mona. The experience culminates in a dark chamber featuring a black cat, Bastet – the Egyptian goddess of protection, pleasure, and good health. The virtual tour is both informative and engaging, with Mona and Bastet offering insightful facts about the pyramid and ancient Egyptian customs, including the pyramid's inner structure and the mummification process.



Figure 2: A scene from the narrative, guided by Bastet (Excurio, 2022)

In contrast to traditional museological approaches that focus on showcasing physical artifacts - often referred to as a collection-focused or object-oriented approach (Velázquez Marroni 2017; Smeds, 2019; Robbins 2023) - The Horizon of Khufu presents a novel method for exhibition presentation and design, supported by research data from the Giza team.⁴ By emphasizing exhibition design and curation, this method creates an engaging experience for participants, encouraging them to connect with the narrative and surrounding context. It highlights thematic storytelling and visual impact while ensuring educational values, moving beyond mere object display to foster deeper interaction with, and understanding of, the content. The experience relies entirely on VR technology, which employs 3D near-eye displays and pose tracking to create a virtual world that users can interact with through wearable displays (Riva et al. 2015). A key advantage of VR is its ability to provide users with an immersive sensation of physical presence in a non-physical environment (Barfield et al. 1995). This immersion creates a spatially realistic experience that enhances informative engagement. For instance, when participants reach specific points in the narrative, they are introduced to the pyramid's inner structure, triggering relevant information through their VR goggles. Such interactions transcend spatial and temporal boundaries, transforming the public from passive spectators into active participants who engage with the narrative from a customized first-person perspective. This invitation for active physical participation fosters a deeper level of engagement and playful learning.

Moreover, *The Horizon of Khufu* capitalizes on the emerging role of VR and other technologies within the museum sector and makes them the forefront of this project. As we navigate the twenty-first century, technological advances have transformed our lifestyles and improved living standards in various ways. The increasing demand for technology in everyday life underscores its growing impact, suggesting that it will continue to become even more influential in the coming years.⁵ Thus, integrating technology into curation and exhibition design is essential to meet contemporary societal needs. *The Horizon of Khufu* is at the vanguard of this development.



Figure 3: A scene from the narrative, overlooking the site with Mona and Bastet (Excurio, 2022)

In light of the fact that museums offer 'varied experiences for education, enjoyment, reflection, and knowledge sharing', it is crucial to uphold these values in exhibitions in general, including this innovative mode of presentation and design.⁶ Similar to exhibitions that are based on more traditional museological approaches, The Horizon of Khufu also maintains a commitment to researched and authentic exhibition. The datasets utilized for this VR reconstruction are archaeological, architectural, scientific, and historically verified, rendering it a representation of ancient Egyptian heritage with very credible claims to authenticity.⁷ In terms of active. direct enjoyment and reflection, this emerging approach can offer a critical edge over the more traditional approaches to curation. For instance, the approach of providing immersive experience with playful interactive devices can arguably diminish one of the criticisms in museology related to subjectivities in curation. Existing approaches to curatorial authority in museum practices are being guestioned (Longair 2015), and Stephen Turner provides substantial criticism, stating that 'curation is a form of censorship...subconscious manipulation' (2022: 69). While I agree with Longair and Turner that it is essential to acknowledge potential subjectivities, the embodiment of prejudices and perceptions in exhibitions is unavoidable, akin to a subconscious reflection. However, the German philosopher Hans-Gorg Gadamer argues in Truth and Method that prejudices cannot be entirely eliminated, as all understanding begins with them, but they can be minimized through play. He emphasizes that no one can manipulate play in a truly playful manner (2013: 112). Thus, the concept of play can address the issue of potential subjectivities from a philosophical perspective. Given that immersive VR technology enables a more comprehensive representation of data, participants are encouraged to engage in playful encounters within a virtual environment, exploring information based on their own interests - in this case the burial site of Pharaoh Khufu. By wandering and immersing themselves in play, the influence of subjective interpretations from the producer(s) can be reduced, countering the risk of curatorial manipulation and achieving what is known as "open play". The concept is explained by Jacques and Worthy, who state that 'children and families define it [play] on their own terms' (2014: 15), which draws parallels with Gadamer's concept of play. Yet, establishing rigid rules and permissions for various forms of play-led activities in museums implies a clear aim or learning outcome, which diverges from the concept of open play. Jacques and Worthy further emphasize that the 'way in which play is currently framed suggests the uneasy relationship between museum culture and play' (2014:15). Both aspiration and encouragement are essential for fostering spontaneous play. Indeed, further research is needed to explore how the philosophical concept of play can be effectively integrated into the museological context in order to both minimize subjectivities in curation and focus on the visitor experience.

In fact, the museum and heritage sector has already engaged with the concept of play in practices for decades as an enhancement strategy, as well as an essence for healthy personal development (Jacques and Worthy 2014).⁸ Regarding the effectiveness of learning through interactive devices, one of the latest research projects undertaken by Anne Rørbæk Olesen and Nanna Holdgaard highlights a renewed interest in understanding play within the contexts of learning and innovation (2024: 1). Scholars argue that audiencefocused activities and playful initiatives in museums can transcend traditional educational settings, thereby recognizing the importance of play in fostering development, creativity, and problem-solving (Zosh et al. 2018; Eberle 2008; Taylor and Kervin 2022). In the early twenty-first century, Marc Prensky (2003) has suggested that games in education increases student motivation and engagement effectively, while James Gee (2003) agreed that games make literacy-heavy aspects or complex concepts more interactive and fun for the purpose of learning. Acknowledging the trajectory of technological development and the evolving engagement approaches within society, the incorporation of new technologies represents an undeniable new trend for museums, and is likely to accelerate in the future to meet its social and educational expectations. However, compared to studies on children in museum (Gee 2003; Jacques and Worthy 2014; Zosh et al. 2018), research into the intersection of adult play in these spaces has not yet gathered momentum. On one hand, adults are not the primary target of play-led activities in museums. On the other hand, a report prepared by BritainThinks for the Museum Association indicates that public perceptions view museums as 'places of learning for adults but especially for children' (2013: 12). This perception gives the impression that it is difficult for adults to engage in play and enjoy it in spaces that they associate with pedagogic purposes. The introduction of VR technology could expand the concept of play for adults as a potential research interest, enhancing engagement through immersive experiences, and helping to illuminate the impacts of play on adult participants within the museological framework.

In addition to discussions within academia, this immersive exhibition has received positive feedback from visitors (mostly from adults), as well as media outlets in major cities such as London, Paris, and Montreal.⁹ Having overcome the environmental constraints of exhibiting physical artifacts, this exhibition has recently launched in multiple cities in China, including Xi'an, Beijing, Shanghai, and Chengdu. Due to high demand, the exhibition in Beijing was extended for an additional two months, reflecting the growing popularity of immersive cultural experiences among Chinese audiences. This trend is evident in the overwhelming popularity of similar immersive activities across various cities in China. For examples, the VR experience at the Palace Museum in Beijing attracts a vast number of visitors each day, while the Dunhuang Academy China captivates audiences across the country with the beauty of various figures and features on Dunhaung's religious murals by employing Extended Reality (XR) – a hyponymy of augmented reality (AR), virtual reality (VR), and mixed reality (MR) in exhibitions and virtual interactive tours on the exhibition website (fig.4-5).¹⁰

The success of these exhibitions demonstrates that VR technology can offer a new approach to museology. By enhancing accessibility and engagement, these technologies facilitate curatorial decisions for presenting diverse content in an alternative way, enabling unique contexts and interpretations of cultural narratives. This approach goes beyond traditional text-based and object-oriented methods, fostering physical engagement through visual, tactile, and sensory interactions, stimulating in audiences a curiosity about the future.¹¹ While more research into this new museological approach is needed, the evidence so far suggests the transformative potential of VR to contribute significantly to maintaining the relevance of museums within contemporary society.

In conclusion, the popularity of *The Horizon of Khufu: A Journey in Ancient Egypt* suggests a promising future for museum experiences that rely on VR and other immersive technologies. This exhibition introduces an emerging museological approach that recognizes the potential for visitor engagement through playful interaction in both physical museum environments and virtual platforms such as devices, websites, and mobile applications for online interactive exhibitions. By leveraging the power of the internet, it increases access to exhibitions and provides additional offsite experiences for visitors. This approach prioritizes the visitors' experiences in the curation process while emphasizing the opportunity to foster

personal engagement through play. By underscoring the public's growing acceptance and interest in these technologies, this event demonstrates a successful adaptation of the latest advancements within the field. The practicality of the approach suggests potential pathways for the future of museology, enhancing the societal roles and relevance of museums to the public. Moreover, it encourages moving conversations beyond academia, making knowledge more accessible and maintaining public interest in cultural heritage and exhibitions. VR technology is one way to address social and educational expectations in a rapidly changing world. Future recommendations for museums considering the adoption of similar technologies include deepening our understanding of the effectiveness of play in engaging both children and adults within museological contexts, analysing the philosophical dimensions of play and its connection to museums, and promoting the educational benefits of immersive experiences. Ultimately, these technologies have the potential to significantly enhance visitor experiences and redefine museum practices.



Figure 4: Dunhuang Light and Shadow Art in Shenzhen 2024¹²



Figure 5: Digital Dunhuang 2023 held both online and offline in Dunhuang¹³

Notes

- ¹ Excurio. 'Immersive Expeditions', Excurio, 2024. https://www.excurio.com/en/, accessed 2 October 2024
- ² Digital Giza, 'Digital Giza', Havard University 2024. http://giza.fas.harvard.edu/about/, accessed 2 October 2024
- ³ Digital Giza, 'Digital Giza', Havard University 2024. http://giza.fas.harvard.edu/about/, accessed 2 October 2024
- ⁴ Horizon of Khufu. 'A unique VR expedition to discover the wonders of Egypt', Horizon of Khufu: Journey in Ancient Egypt 2022. https://horizonkheopsexperience.com/london/, accessed 2 October 2024
- ⁵ Charlie Giattino, Edouard Mathieu, Veronika Samborska and Max Roser, 'Artificial Intelligence', Our World in Data 2023. https://ourworldindata.org/artificial-intelligence, accessed 2 October 2024
- ⁶ International Council of Museums, 'ICOM approves a new museum definition' ICOM 2022. https://icom.museum/en/news/icom-approves-a-new-museum-definition/, accessed 2 October 2024
- ⁷ Digital Giza, 'Digital Giza', Havard University 2024. http://giza.fas.harvard.edu/about/, accessed 2 October 2024
- ⁸ Play England, 'Charter for Play', Play England 2020. https://www.playengland.org.uk/ charter-for-play, accessed 2 November 2024
- ⁹ Christophe Levent, ' Réalité virtuelle: à l'Institut du monde arabe, L'horizon de Kheops» dévoile les secrets de la pyramide', Le Parisien 2022. https://www.leparisien.fr/culture-loisirs/ realite-virtuelle-a-linstitut-du-monde-arabe-lhorizon-de-kheops-devoile-les-secrets-de-la-pyramide-12-06-2022-DN6XOIQ6HVCIHHME66ZAZAZ7HM.php, accessed 2 October 2024; Camille Bigot, "L'horizon de Khéops": un époustouflant voyage en réalité virtuelle au cœur de la pyramide du pharaon d'Egypte antique', Franceinfo Culture 2022. https://www.francetvinfo.fr/culture/patrimoine/archeologie/lhorizon-de-kheops-unepoustouflant-voyage-en-realite-virtuelle-au-coeur-de-la-pyramide-du-pharaon-degypte-antique_5293105.html, accessed 2 October 2024
- ¹⁰ XR represents a spectrum of experiences and technologies that bridge physical and digital worlds, allowing for a variety of interactions and applications across multiple platforms and devices. Each technology serves a different purpose and offers a unique experience. For example, augmented reality (AR) overlays digital content onto the real world, while virtual reality (VR) immerses users in a completely simulated environment. Mixed reality (MR) combines elements of both, allowing digital and physical objects to coexist and interact in real-time.
- Ernest Adams, 'Postmodernism and the three types of immersion', Gamasutra 2004. <u>http://designersnotebook.com/Columns/063_Postmodernism/063_postmodernism.htm</u>, accessed 4 October 2024.
- ¹² Sina, ' '科技创新赋能 探索敦煌文化新篇章 二十四史书院启元·遇见敦煌XR数字艺术展开幕 典礼举行', 新浪深圳, 2024. <u>https://shenzhen.sina.cn/news/e/2024-10-01/detail-incqzcxu</u> <u>7610849.d.html?vt=63&cid=179405&node_id=179405</u>, accessed 2 November 2024
- ¹³ Digital Dunhuang, 'Digital Lab', Digital Dunhuang 2024. https://www.e-dunhuang.com/ index.htm, accessed 2 November 2024.

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