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# COVID-19 and immersion: physical, virtual, and home spaces

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## Abstract

This article considers the dramatic adaptations that have occurred in themed immersive spaces as they have dealt with the challenging dynamics of COVID-19. As COVID-19 has been a respiratory disease, it has impacted the operations of theme parks, casinos, cruise ships, and other immersive spaces, especially as such spaces have relied, traditionally, on physical forms of entertainment and immersion. The writing begins with a consideration of the COVID-19 challenges noted in the theme park and cruise ship industries. OceanMedallion™ and MyMagic+ technologies are considered for their possible positive role in addressing the operational dynamics during the pandemic. Issues of guest accessibility, environmental design, and psychological and existential conditions of guests are also discussed. The second section of the article focuses on how virtual forms of immersive design may assist in the safe operation of immersive spaces. Included is an emphasis on virtual and augmented reality technologies of rides, including those at Toy Story Mania, Fear the Walking Dead Survival, and Swamp Motel. The article concludes with a discussion of home-based immersion, including interactive media, exercise technology, and virtual tourism. Case studies that are analyzed include Faroe Islands virtual tourism, NordicTrack/iFit exercise bikes, and the Void virtual reality space.

**Keywords:** COVID-19; virtual space; immersion.

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## 1. Introduction

On October 1, 2021, the opening of the world's exposition in Dubai, United Arab Emirates (UAE) was marked by a number of unique circumstances. The expo is the first to be hosted in the Middle East and was originally slated to have opened in 2020. The COVID-19 pandemic caused not only a delay to the opening but a number of virus-related worker deaths and initiated wider concerns about the safety of a six-month event in the time of a global pandemic, especially as it is expected to draw 25 million visitors. The Dubai Expo organizers, perhaps in part due to the concerns about hosting a physical event, have promised a series of virtual attractions that will allow guests to experience the hundreds of pavilions and attractions at a distance ("Expo 2020 Dubai," 2021).

Expo 2020 Dubai is one of many examples of the dramatic impacts that COVID-19 has had on tourism, consumer space, and entertainment. During the initial surge of the virus, worldwide tourism dropped between 68-82%, depending on the region (Pillai, 2021). Most notably impacted in this era of tourism decline have been themed and immersive spaces, including theme parks, museums, cruise ships, casinos, and other traditional physical venues. This analysis of these impacts will concentrate on the convergence noted between the public health and safety demands of in-person immersive spaces and emerging opportunities for hybrid, non-physical, and app- and technology-enhanced forms of immersion and design. Overall, three specific instances of immersive space – physical, virtual, and home – will be considered in terms of their relationship to the dynamics of the COVID-19 pandemic.

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## 2. Physical space

The etymology of “physical” suggests a meaning of the corporeal, the bodily, and that which connects to perception and the senses (OED, 2021). Since the days of Coney Island amusement parks in the early 1900s and into their contemporary theme park examples in the 1960s and onwards, immersive spaces have relied on physicality and a focus on the guest’s body and their senses for the delivery of their thrills (Lukas, 2008). Parks like George Tilyou’s Steeplechase Park used the kinetics of rides and their sensory effects on guests to great result, while contemporary theme parks like Disneyland create three-dimensional forms of storytelling in ride and attraction spaces that rival the immersive potentials of film and video games (Lukas, 2022). During the challenging times of the COVID-19 pandemic, immersive spaces have been forced to close their operations, and even during reopening, major changes to the layout and operation of these spaces have challenged operators’ abilities to use space and its immersive potentials in the ways noted in the past. Some immersive spaces, notably cruise ships, have had greater challenges in terms of adapting to the physical conditions of the pandemic. Like other spaces, measures that have included vaccination requirements, COVID-19 testing, contact tracing technologies, physical distancing, and mask wearing have been applied, but the inherent close quarters and limited spaces at play on cruise ships have pushed the industry to its financial and operational limits.

One possible remedy for these challenging circumstances in the cruise ship industry is technology like Carnival and Princess Cruises’ OceanMedallion™ and PlayOcean games. Wearable and app-based technologies that are similar to Disney’s MyMagic+ suggest an opportunity for pandemic-impacted physical immersive spaces to utilize big data, guest tracking, and queue-control technologies to augment the immersive potentials of customizable, transmediated, and virtual-enhanced forms of storytelling and immersion (Lukas, 2022). Additional possibilities, including redesigned and virtual-enhanced spaces under development (such as the Star Wars: Galactic Starcruiser two-day experiential hotel; Sampson, 2017) suggest possibilities for physical spaces to use the public health challenges of the pandemic as opportunities for new forms of immersive spatial design. The remaking of the architectural and spatial realms of these contemporary entertainment worlds suggests additional ideas for dealing with other pressing public health and environmental concerns. Creating better accessibility for guests with disabilities and constructing new spaces that meet Leadership in Energy and Environmental Design (LEED) and other environmental design and operations requirements are examples of how post-COVID-19 physical spaces may be remade in positive senses (Lukas, 2020). In addition, due to the ways in which psychological and existential conditions have developed in the wake of the global pandemic, it may be high time to alter the topics and contexts that have been considered in traditional physical spaces of the past. Disturbing, dark, and existentially challenging forms of theming, spatial design, and narrative may be more appropriate for the redesigned physical spaces of the future as they better reflect their guests’ pressing psychological concerns (Lukas, 2015; Lukas, 2020).

## 3. Virtual space

During the pandemic and simultaneous with the changes noted in the immersive entertainment industry, systems of higher education began to rely more heavily on virtual forms of pedagogy and learning delivery. Some educators and students expressed concerns about what were perceived to be quality issues with the design and delivery of such instruction. The meaning of “virtual” suggests a thing which is in essence or effect, though not in fact, as well as “capable of producing a certain effect” (OED, 2021). Similar to the concerns related with virtual education, immersive industry fans and designers have expressed doubts about the design and delivery of virtual and physically augmented immersive experiences (Lukas, 2022). Yet, both of these concerns seem to misunderstand the nature of “telepresence” as it relates to virtual experiences and also underestimate the ways in which physical spaces have begun to merge with forms of the virtual (Boyer, 1997). As well, as noted in the museum industry and its adaptations to COVID-19, there are pressing “meta” concerns (including accessibility, affordability, and pedagogy) that, while ignored in the past, may now be addressed under conditions of the pandemic (Billock, 2020; Lukas, 2021).

Prior to the COVID-19 pandemic, virtual and augmented reality technologies had begun to impact the design, form, operation, and experience of theme park rides and attractions. Since the 2000s, more and more, video game and virtual reality technologies found their ways into the traditional brick and mortar spaces of themed and immersive spaces. Rides like Toy Story Mania (Disney) and entire experiences like those of the defunct Fear the Walking Dead Survival in Las Vegas (which combined escape room, live acting, haunted house, and ride-video game hybridity

features in one space) illustrate that the relationships between video games, virtual reality, and traditional space-based immersive entertainment are becoming more pronounced (Lukas, 2022).

In August 2021, the Immersive Industry Homecoming Summit – held at the innovative Area 15 interactive immersive venue in Las Vegas, Nevada and streamed virtually – provided an opportunity to consider the unique confluence of virtual spaces and post-COVID-19 physical spaces. Notably, every speaker at the event spoke almost exclusively about the challenges faced in adapting to the pandemic as physical spaces are concerned. Many of the conference speakers suggested that the main means of adaptation would be the deployment of virtual, augmented reality, and video game technologies within the traditional physical spaces of immersion. One of the presenters represented the UK-based Swamp Motel – a company making the news for its online-based adventure games that combine live actors common to popular physical escape rooms with innovative media and production approaches in online streaming experiences (Collins, 2021). Most positive at the immersive summit was the sense of optimism that so many of the speakers shared in terms of not doubting their abilities to maintain successful themed and immersive spaces, albeit with a good degree of remaking and adaptation required. In the midst of the pandemic, Starbucks CEO Kevin Johnson suggested an interesting adaptation in terms of the chain’s focus on the “third place” – that space between the home and the workspace. According to Johnson (2020), the third place has a new mission in terms of it becoming a “mindset” focused on public health and safety and a specific “adaptation” through “extended and enhanced” foci on digital technologies and experiences. His suggestions for a remaking of the third place parallel the concerns and optimism shared by the many in attendance at the immersive summit. While doubts remain about the immersive and sensory qualities of many virtual and virtual-physical hybrid rides and attractions, the ability of designers and operators to reimagine their sensibilities in terms of spatial design and operation will be fundamental in safely reopening these spaces during the lingering pandemic.

#### 4. Home space

During the pandemic, new questions about the safety of travel outside of the home arose, especially as it might involve travel to immersive venues that are characterized by close-contact interior spaces conducive to the spread of the COVID-19 respiratory virus. Etymologically, the “home” has typically suggested a fixed space, a dwelling, from which one travels but in which one spends much of their time (OED, 2021). Prior to the pandemic, new media experiments ranging from Virtual Reality (VR) gaming (such as Oculus technology), immersive exercise equipment (including Peloton and NordicTrack with iFit), and open-world consumer media (such as Netflix’s *Black Mirror: Bandersnatch* of 2018, which features 250 “choose-your-own-adventure” video segments, yielding over one trillion possible paths for the viewer) have suggested that the space of the home could become much more than a vessel of quiet contemplation and dwelling. It could, quite possibly, become a “fourth place” in which the thrilling immersive experiences of physical venues are brought into the intimate spaces of the home.

Prior to the pandemic, The Walt Disney Company, among other major immersive media corporations, experimented with online, interactive, and participatory forums that augmented the physical spaces of their theme parks. The idea of expanding the reach of the physicality of themed and immersive spaces is a consequence of new immersive technology as well as forms of intellectual property (IP) and transmedia that provide for a richer exploration of the worlds of fantasy and storytelling created in theme parks, video games, and other media worlds (Lukas, 2022). As the COVID-19 pandemic worsened worldwide, a number of experiments with virtual tourism and immersion began to take hold. One of the most unique virtual experiences was offered by the Faroe Islands in what it called “remote tourism” (Faroe Islands, 2021). Visitors to the live streaming video platforms were provided with an opportunity to control a local Faroese guide who was outfitted with a first-person action video camera. In the immersive video events, each visitor was given control of the experience using a primitive virtual overlaid gaming control pad (consisting of up, down, left, right, run, and jump controls only) in which they were able to provide real-time controls to the Faroese guide who then responded to the commands as if part of a video game.

The Faroe Islands experiences and the virtual approaches of Swamp Motel (discussed earlier) seem to be outliers in terms of the immersive nature of most COVID-19 virtual experiences. Many websites and YouTube videos that offered similar claims of “virtual” tourism or immersion reflected, in fact, low-quality experiences in terms of their immersive characteristics (Lukas, 2013). Critical to future explorations of immersion within the home space will be a focus on multi-sensory (including haptics), live, and participatory (interactive and user-feedback-driven) technologies and experiences that will make the immersive opportunities of physical spaces seem more real to the

guest (Lukas, 2017). New technological advances in certain home devices, including exercise equipment, suggest that such an immersive future may be closer than imagined. The NordicTrack exercise bike, as an example, features a guide-based video tour with an iFit trainer who discusses aspects of the rider’s course, exercise goals, and tips. What is most unique about the experience is the combination of the trainer’s video perspective (appearing just in front of the virtual rider), the trainer’s voice, musical selections, and, most significantly, incline and resistance controls that follow the real-world elevations and terrain changes experienced by the trainer. Technologies like those of NordicTrack, perhaps if expanded in more Holodeck-inspired (*Star Trek*) contexts, could expand the previous limited potential for at-home immersive entertainment. Immersive experiences like those of the defunct The Void virtual reality venues in the U.S. (in which VR-goggle-wearing guests moved through actual physical spaces and could touch objects) illustrate potentials for future technology that, albeit expensive and technologically complex, could take shape in the fourth places of the home (Lukas, 2022).

As has been noted in terms of the lifespace, “Whereas in the past themed spaces purported to take the consumer into new and exotic worlds, in the present the lifespace takes the consumer on a more inward and reflexive journey in which the orientation of the space is decidedly focused on the lifeworld of the individual” (Lukas, 2010, p.147). One of the most positive results of the convergence of the pandemic and the noted remaking of physical immersive spaces is a return to the meta contexts of what constitutes the nature of these spaces from their conceptual beginnings.

## 5. Conclusions

As the challenges of COVID-19 continue to impact the viability of themed and immersive spaces, the possibilities of transforming these spaces and their technologies in lines with the needs of guests who are, more and more, psychologically and existentially impacted by these same crises of tourist and consumer spaces may be the optimistic developments that are most needed. Since this research was initiated in 2021, developments in the U.S. home media and entertainment industry suggest that such immersive transformations and adaptations may be more challenging than imagined. In 2022, Peloton, a manufacturer of popular immersive home exercise machines, announced that it was suspending production of a number of its bicycle and treadmill products (Song, 2022). During this same period, popular media streaming corporation Netflix admitted to struggles with adding new subscribers to its platform, in part due to increasing competition among media players including Hulu, Amazon Prime Video, Disney+, and HBO (Lee, 2022). In both cases, it could be argued that these challenges may be temporary downturns in the media and entertainment industries and not necessarily signs that the popularity of new immersive home media is waning with consumers. At the same time, it will be important for designers of themed and immersive spaces to analyze such cases for possible prescient insights. This research has considered the possibilities of COVID-19 adaptations in the worlds of physical, virtual, and home spaces as they may be applied to the design and operation of themed and immersive venues. While many possible innovations have been considered, designers, operators, and analysts of these spaces should continue to focus on the tendencies and concerns noted in the Peloton and Netflix examples.

## References

- Anon. (2020). Expo 2020 Dubai: Connecting minds, creating the future. *Expo 2020 Dubai*. <https://www.expo2020dubai.com/>
- Billock, J. (2020, September 16). How will Covid-19 change the way museums are built? *Smithsonian*. <https://www.smithsonianmag.com/travel/how-will-covid-19-change-way-future-museums-are-built-180975022/>
- Boyer, M. C. (1997). *Cyber cities*. Princeton Architectural Press.
- Collins, K. (2021, March 14). Swamp motel’s escape room/scavenger hunt mashup is the most fun I’ve had in a year. *CNET*. <https://www.cnet.com/news/swamp-motel-escape-rooms-scavenger-hunt-mashup-is-the-most-fun-ive-had-in-a-year/>
- Faroe Islands. 2021. Remote tourism. *Remote tourism*. <https://www.remote-tourism.com/about-the-project>
- Johnson, K. 2020. Starbucks CEO: The third place, needed now more than ever before. *Starbucks*. <https://stories.starbucks.com/press/2020/starbucks-ceo-the-third-place-needed-now-more-than-ever-before/>
- Lee, W. (2022, 20 January). Netflix’s subscriber growth slows as streaming rivals challenge its market share. *Los Angeles Times*. <https://www.latimes.com/entertainment-arts/business/story/2022-01-20/netflix-fourth-quarter-earnings-subscriber-growth>

- Lukas, S. A. (2022). The theme park ride (in and of itself) as a cultural form. In D. Gottwald, G. Turner-Rahman, & V. Vahdat (Eds.), *Virtual interiorities*. ETC Press.
- Lukas, S. A. (2021). A consumer public sphere: Considering activist and environmental narratives in the contexts of themed and consumer spaces. In J. A. Duerk (Ed.), *Environmental philosophy, politics, and policy* (pp.159-176). Lexington.
- Lukas, S. A. (2020). On architecture, entertainment, and discomfort. *The Right Angle Journal*, 3(4), 6-8.
- Lukas, S. A. (2017). Why immersion matters. In L. Terry (Ed.), *CLADBook* (pp.120-126). The Leisure Media Company.
- Lukas, S. A. (2015). Controversial topics: Pushing the limits in themed and immersive spaces. *Attractions Management*, 20(4), 50-54.
- Lukas, S. A. (2013). *The immersive worlds handbook: Designing theme parks and consumer spaces*. Focal.
- Lukas, S. A. (2010). From themed space to lifespace. In J. Schlehe, C. Oesterle, M. Uike-Bormann, & W. Hochbruck (Eds.), *Staging the past: Themed environments in transcultural perspectives* (pp.135-153). Transcript.
- Lukas, S. A. (2008). *Theme park*. Reaktion.
- Online Etymology Dictionary. (n.d.). Physical (adj.). *Online etymology dictionary*. <https://www.etymonline.com/search?q=physical>
- Online Etymology Dictionary. (n.d.). Virtual (adj.). *Online etymology dictionary*. <https://www.etymonline.com/search?q=virtual>
- Online Etymology Dictionary. (n.d.). Home (n.). *Online etymology dictionary*. <https://www.etymonline.com/search?q=home>
- Pillai, A. (2021, May 21). How virtual tourism can rebuild travel for a post-pandemic world. *World Economic Forum*. <https://www.weforum.org/agenda/2021/05/covid-19-travel-tourism-virtual-reality/>
- Sampson, H. (2017, August 8). Disney's new Star Wars hotel sounds like next-level immersion. *Skift*. <https://skift.com/2017/08/08/disneys-new-star-wars-hotel-sounds-like-next-level-immersion/>
- Song, V. (2022, 20 January). Peloton's woes continue as it temporarily halts bike, treadmill production. *The Verge*. <https://www.theverge.com/2022/1/20/22893462/peloton-bikes-treadmills-production-connected-fitness>