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**Disruption and Maintenance:
New Technologies and Dynamics of Access and Display**

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Declaration

I declare that this dissertation has not been submitted as an exercise for a degree at this or any other university and that it is entirely my own work.

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Date: 26 August, 2022

Abstract

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Maria Gabriela Alvarez

The dissertation examines the constraints and affordances of new technologies of display in relation to established paradigms of access and display within the culture and heritage sphere. It posits that new technologies of display structure and are structured by dynamics of access and display; positioned in the production of knowledge, circulation, and mediation. The research question is explored through: a primary theoretical framework made up of analysis of past literature on discourse, display, and new technologies; and three case studies each exploring a different technology utilized for the display and circulation of knowledge within the culture and heritage context. These case studies involve: Van Gogh: The Immersive experience (studying immersive technologies), Europeana.eu (studying platforms and digitalization processes), and Digital Benin (studying database and interface design). This dissertation utilizes interviews with project team members to gain insights on project production processes, practical challenges of the technologies, and ultimate project objectives. Through these case studies this dissertation traces a form of de facto classification of the technologies adopted by different stakeholders within the sector; classified by organizational purpose, technology affordances, and audience demands. This methodology allows this dissertation to reinforce and track similar themes throughout while also opening up new avenues for the exploration of specific technologies within the realm of culture and heritage. The results show that new technologies of display are not inherently disruptive to established dynamics of access, display, and discourse within the culture and heritage sphere; instead impact is dependent on specific technology implementation methods and informed by these established structures.

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Introduction

If the white wall cannot be summarily dismissed, it can be understood. This knowledge changes the white wall, since this content is composed of mental projections based on unexposed assumptions. The wall is our assumptions. It is imperative for every artist to know this content and what it does to his/her work.....Was the white cube nurtured by an internal logic similar to that of its art?

— Brian O'Doherty, *Inside the White Cube*

The particularities of display hold discursive powers. The move towards digital technologies of display within the culture and heritage sphere is changing the way people interact with culture. While shifting away from the object, new technologies of display structure and are structured by dynamics of access and display; positioned in the production of knowledge, circulation, and mediation.

This idea identifies three main frameworks crucial to this research. The first is the theory of discourse. Particularly, the idea that there is a dominant discourse surrounding the way we see culture and heritage which relies on power and authority as legitimizing actors of knowledge. The second is the idea of practices of display as communicative tools. This is to say that display and categorization give us inscribed messages that change the significance of what is displayed. The tools we use for display are the method of communication for this discourse. The third component in this research are the “new technologies of display” themselves, referring to the push for and use of the digital for access and circulation in the culture and heritage sphere.

Guiding this exploration, I ask: How are the dynamics of access and display changed with new technologies of display? What affordances or limitations do these technologies bring in terms of intent and impact?

The objectives of this research are: 1) to further delineate the ways in which new technologies of display have been utilized for different purposes in the mediation of access and display 2) identify the convergences between their constraints and affordances from a technical and structural perspective (i.e as technologies and in their position within larger structures). The first part of the research looks to establish the theoretical frameworks of discourse, display and new technologies. The second part of the research applies these frameworks to the exploration of three types of “new technologies of display”; elaborating on how these frameworks play out in the application of digital display technologies and analyzing dynamics of access and display in their implementation. This section, made up of

three case studies, reinforces and tracks similar themes throughout while also opening up new avenues for the exploration of specific technologies within the realm of culture and heritage.

While extensive research has been conducted on the participatory culture in new social technologies, this research looks to fill part of the gap tracing the technologies appearing in the culture and heritage sphere and the tensions that arise between traditional discursive display methods and new technologies. This study is an opportunity to pinpoint the ways new technologies of display might be utilized to disrupt and rearrange the existing structures we have as well as maintain a relegitimize these same hierarchies.

Literature Review

1) The Authorized Heritage Discourse and the Consumption of Culture and Heritage

My research requires a foundation on the theorization of the narratives told around objects and display. For the purpose of this dissertation, I will use the term the authorized heritage discourse, as coined by Larajane Smith in 2006, to refer to dynamics of access and display as well as the narratives they put forth. In the framework of my own research, this theory will be utilized to conceptualize the relationships between audiences, experts, and technologies of display.

Defined as an existing dominant way of seeing heritage, the authorized heritage discourse is

“reliant on the power and knowledge claims of technical and aesthetic experts... this discourse takes its cue from the grand narratives of nation and class on the one hand, and technical expertise and aesthetic judgment on the other”. (L. Smith 2006a, 11)

The discourse theorized by Smith works within the realms of the tangible and intangible in that a narrative around tangible objects is established by people through intangible established power dynamics. As explained by Smith, the authorized heritage discourse is often grounded in material objects or heritage sites preserved with the idea of duty from current generations to care, protect, and revere in an effort to pass down these objects and the discourse surrounding them to imaginary future generations. That is to say, an effort to create “a common identity” or narrative based on the objects or heritage on display. (Smith 2006) This description of the authorized heritage discourse clearly identifies three key aspects for it to be properly dissected, these being: authority, audiences, and display.

Firstly, in its relationship with authority through its positioning as “authorized”, the authorized heritage discourse has been identified as holding a particular quality of frequent invisibility. As identified by Smith while the authorized heritage discourse explicitly promotes the values and experiences of those in power it also gives the expert and their values more weight than the values of the non-expert in an effort to obscure and marginalize rival discourses. (L. Smith 2006a; Akagawa 2018) That is to say, in that it comes from a ground of authority it often conforms to hegemonic ideals and hinges on the opinions of established sources of authority which are often embedded to the point of invisibility.

Another important aspect of the literature on the authorized heritage discourse and authority itself is that it assumes a top-down view of the circulation of information surrounding display. There seems to be an absent “sense of ‘action’ or critical engagement on the part of the non-expert users of heritage”, instead objects and the information circulating around them are presented with the presumed objective of wisdom or knowledge imparted by experts such as curators, historians, or archaeologists. (L. Smith 2006a) With this conception of the role of experts in the authorized heritage discourse information is meant to be received by audiences with no active participation. Hence, information is mediated by experts and the mediation is reliant on their focuses, aspirations, and experiences.

Furthermore, this theorization introduces another stakeholder in the authorized heritage discourse; audiences. In its reliance on experts, the authorized heritage discourse constructs a passive view of visitors and audiences. As examined by Mason early models of display frequently concentrate on the process of communication from the viewpoint of the “transmitter”, audiences simply receiving a one-way message from experts.(2004) Moreover, in this approach, the sender is in control of the communication process “and envisages the recipient as an empty vessel waiting to be filled with information of knowledge”.(Mason 2004) This construction then reiterates the relationship between experts and audiences where the discourses championed in some sections of audiences are ignored or silenced and audiences are expected to act passively in relation to display.

Within the context of the authorized heritage discourse scholars have identified a pervasive view of visitors as foreigners to the “objects” on display. (Samuel 1994; L. Smith 2006a; Hewison 1987) In his work *The Heritage Industry* Robert Hewison theorizes this view—which positions audiences within the heritage and culture sector as consumers of heritage—as a contributor to the gap between authorized discourse and audiences. (Hewison 1987) When identified as foreign, audiences lose the authority they hold over the narratives presented and the singularity of an authorized heritage discourse is bolstered. (Samuel 1994) Ultimately, this separation of belonging works to widen the gap between object and audiences; thus diminishing audience authority over discourse.

It is important to note that this theorization doesn’t come without an acknowledged tension between the conceptualization of audiences and the reality of their relationship to culture and heritage. Hewison recognizes the conceptualization of audiences as foreign

visitors eliminates room for differing discourses. Multiple scholars have challenged past conceptualizations of audiences as entirely accepting of the hegemonic authorized heritage discourse. (Handler 1987; Hooper-Greenhill 2000; L. Smith 2006a; Richardson and Almansa-Sánchez 2015) Smith in particular situates this theorization as a result of the idea of the consumption or commodification of display. This has been explored through a variety of lenses from Hewison with his coined term, the “heritage industry”, to the more recent exploration of the “Disneyfication” of culture and heritage. (1987; Waitt 2000; Malpas 2007) A common thread in this research is the acknowledgment of this “market” and its function in the simplification of complex or differing discourses and the information mediated for the public.

The tension between these theorizations ultimately implies the fact that the authorized heritage discourse can be affected by audiences themselves as their interaction with display is expanded. As explained by Abercombie and Longhurst in “Changing Audiences; Changing Paradigms of Research”: “contemporary media audiences do not simply consist of a mass of separated individuals; rather they are made up of complex and interacting social groups and individuals.”(1998) While consumption might be assumed to be passive, this must not be conflated with the true nature of audiences or the reality of existing discourses.

Hewison’s, Waitt’s, Malpas’, and Abercombie and Longhurst’s work brings into the fore ideas of consumption, commodification, and economics as they relate to display. This in turn, highlights conflicting discourses, not only around the theorization of audiences but around objects themselves: where differing discourses exist but are not viewed as authorized, and in fact often must be delegitimized in a traditional display setting.

Consequently, the authorized heritage discourse is contingent upon a third factor: display. That is to say, the vehicle through which it is communicated. In the context of heritage: the idea of the “disneyfication of heritage” or the commodification of heritage introduces the importance of modes of display into the communication of discourse itself. (Hollinshead 1997; L. Smith 2015) The authorized heritage discourse is transmitted to audiences not through the objects or heritage on display but the display practices themselves.

The authorized heritage discourse then is reliant on display as its mode of communication. As discussed by Merriman in *Beyond the Glass Case* the “imposing

architecture” and “glass cases” of traditional displays “have symbolically and literally excluded large sections of the population from them <museums>”. (2016) This is to say, there is a physical or material distance as well as a discursive distance placed between object and audience in traditional display. Consequently, the aesthetics of display itself work to give “authority” to the discourse presented and the institution it has been curated by as they have the privilege of proximity and ownership often denied to audiences.

2) Communication and Display

The interrogation of display is a particularly large part of the field of art history. Merriman’s “glass case” mentality is part of larger scholarship on display and its effect on the relationship between audiences, objects, and experts. Much of this scholarship falls outside the scope of this paper, however the interrogation of the museum or exhibition space itself in relation to the ‘public’ is a fundamental starting point. As described by Tony Bennett in *The Birth of the Museum*, the exhibition space has historically functioned as a “reformatory of manners in which a wide range of social routines and performances take place”. This established social performance is largely in part due to the historical role of museum, in which display techniques have been used to create narratives in which past is linked to present, object to viewer. Bennett however pushes this historical identification to posit that the display space’s capacity to maintain this social performance often hinges on exclusion and a mediation to a limited number of “audience members”. (1995)

The museum then, is the medium through which narratives are constructed, that is to say the authorized heritage discourse is again often communicated through display. Sociological ideas of the artistic exhibition space identify art and display as a social practice in which multiple agents contribute to the recognition of specific objects and artists; positioning the discourse transmitted through exhibits not just as communicated but created and sustained in part by particularities of cultural capital, social positioning and choices of display. (Bourdieu 1968)

As put by James Putnam then, the museum and its display technologies can be interpreted “as medium” through which narratives and discourses are created or advanced. For example, a visual structure or statement is made when a collection of objects is displayed in a vitrine, implying that they are related to one another on a formal or cultural level. (Putnam 37) Ultimately, exhibition spaces and institutions through their “chosen mode

of display”, have the authority to transform almost anything into a work of art or part of heritage that connects with the public. (Putnam 2001)

This points to Walter Benjamin’s seminal 1935 text, “The Work of Art in the Age of Mechanical Reproduction” which plainly posits that art, its role in society, and how we perceive art itself is unequivocally changed by new technologies. Benjamin theorizes the work of art to have an “aura”; tied to its history as an object: “the authenticity of a thing is the essence of all that is transmissible from its beginning, ranging from its substantive duration to its testimony to the history which it has experienced.” (1969) However, as new technologies emerge (Benjamin in this case referring to photography and film) the “aura” of art loses importance as access to an artwork becomes less entrenched with a specific object and consequently an experience tied to time and place. The experience of seeing an artwork then is less about ritualistic display, or cult, as images and objects can be presented and re-presented in a variety of ways. (1969)

Furthermore, Benjamin’s interrogation of the “aura” also brings up the opportunities for access and reproduction brought about by new technologies. While Benjamin himself speaks of the camera, his ideas have been applied to a large range of the subsequent technological advances in display and reproduction in relation to art. (Manovich 2002; Hayles 2000; Mulvey 1975; Bennett 1995) Benjamin posits that the declining significance of the aura opens up the discursive avenues for art. More specifically, because new technologies change how we experience the work of art, the work of art itself changes to include the viewer. That is to say, it is no longer just about a single “authentic” object but about the effect an object or display can have on the audience. As its “cult” value declines its “exhibition value” is bolstered.(1969)

Benjamin’s text is seminal to the study of new technologies within art history, particularly in relation to the democratization of art and the interrogation of its display. Questions on the accessibility of art are part of a long line of theory on the democratization of cultural institutions; from questions of gender disparity and class, to mediation.(Nochlin 1988; T. J. Clark 1985; Berger 1972) It is important to note that this interrogation comes as product of the relationship between art historical practice and the museum or gallery space, for example for Nochlin, art historical practice is imbued with patriarchal notions that result in the lack of valorization and display of women artists and their art. The particularities of some of these theories will be further explored in subsequent chapters as they become

relevant to the scope of this research, however a common thread that remains most relevant throughout is their positioning of display technologies and practices as inherent to the communication of the authorized heritage discourse.

3) New Technologies of Display

It is important to note that these theorizations of display as medium are grounded in tangible tools and elements: display cases, frames, labels. New technologies of display (by which I mean technologies utilized to manage or enable access and circulation of culture, heritage, and information surrounding it) are similarly informed by the practicalities of the technologies themselves and have the capacity to disrupt traditional methods of display. Thus fostering an interrogation of these new technologies and the possibilities they present with regards to dynamics of access and display, or the authorized heritage discourse. (Shehade and Stylianou-Lambert 2021; Batchelor, Schnabel, and Dudding 2021; Giaccardi 2012; Jones 2010; Kidd 2011)

Much of the literature has theorized new technologies of display as a challenge to established discursive authorities. Where new technologies of display have “made heritage more polyvocal and less dependent on ‘experts’. Consequently, values can be expressed more freely and feedback given when in museum galleries or engaging elsewhere in heritage”. (Taylor and Gibson 2017) While new technologies of display heighten accessibility and institutional possibilities they also open up a two-way dialogue between institutions and audiences that often was previously closed. Thus, offering new avenues for engagement.

An important distinction made by Taylor and Gibson however is that the expansion of access possible through new technologies of display doesn’t ensure their effectiveness at challenging the authorized heritage discourse itself. For example, while a digital exhibit might be created to foster engagement and audience feedback this doesn’t ensure that the exhibit itself or the community moderation surrounding it isn’t tailored to favor feedback from a segment of the audience in particular. (Taylor and Gibson 2017) Taylor and Gibson’s observations speak further of the constraints and affordances that come with new technologies of display; where platforms, software, and hardware might be used for a variety of purposes.

Moreover, while technology and new display methods have been theorized as a democratizing force in the realms of culture and heritage in relation to access, the opposition between the material and virtual space has been challenged as not nuanced

enough for a proper interpretation of new technologies of display and the avenues they offer. (Chakrabarty 2002; A. Witcomb 2007) This theorization speaks to a broader literature on the relationship between technology itself and established social systems; in which technology is informed by the systems within which it is constructed and utilized and vice versa. (O'Neil 2016; Gillespie 2018; Van Dijck, Poell, and Waal 2018; Couldry and Hepp 2016) Consequently, new technologies of display are held to constraints and affordances both of both the technologies themselves and dynamics of access and display.

Within the scope of this dissertation, new technologies of display in the realm of culture and heritage have been largely discussed under three frameworks: engagement and education, digitalization and mediation, and information circulation and management. Immersive technologies have been particularly implemented within the framework of education and entertainment experiences; the adoption of these technologies for this purpose has largely been accredited to immersive technologies' use as a didactic tool as well as its interactivity and entertainment value. (Kidd and Nieto McAvoy 2019; Addis 2005; Kavanagh et al. 2017) On the part of digitalization and the mediation of cultural heritage, large scale platforms have been identified as the technologies of choice; circulating large amounts of content with a user focus. (Pesce, Neirotti, and Paolucci 2019; Ciasullo, Troisi, and Cosimato 2018; Kizhner et al. 2021) Finally, information circulation and management has largely adopted database interfaces, with a focus on metadata, classification, and user access-points. (Loukissas 2019; Baca et al. 2007) The adoption of these new technologies of display, for the specific purposes identified above, can then be tied to the involvement of specific actors in the production of projects where these technologies are implemented. This can in part also be attributed to their inextricable link to and simultaneous shaping of our current social structures.

Methodology

This dissertation is mainly constructed through the analysis of qualitative data collected from interviews with professionals involved in projects based on new technologies of display through the lens of dynamics of access and display. The first chapter traces the three main theoretical pillars of the dissertation: beginning with the theorization of the authorized heritage discourse, display as a tool for discourse communication, and finally new technologies of display themselves in their theorized impact and varying forms. The three subsequent chapters focus on three interview based case studies (one each) that have been selected to highlight a particularly relevant new technology of display currently propagated within the culture and heritage sector.

Given the often invisible nature of dynamics of access and display, interviews provided a way to gain unique insights into the intent and productions of these projects; as intersection of these particular areas of interest is often not included in project documentation or public project data. Interviews with key project participants allowed for a comprehensive view of the application of new technologies of display and their broader implications. Interviews were conducted utilizing a semistructured interview model, in which a base set of similar questions were posed to interviewees but follow up questions and project specific questions were also posed in order to gain more in depth insight into projects.

A sample of general interview questions, aiming to gather information on the changing dynamics surrounding new technologies of display of culture and heritage from the view of project creators as well as, the affordances and limitations of new display and archive technologies, included:

- Can you describe your project?
- Are there specific objects/artifacts at the center of this project?
- If so, were there any particular concerns you had in how these objects/artifacts were presented and the meaning they might take on?
- What would you say were the objectives of the project? (exhibition, experience, classification?)
- What were the main challenges in the creation of this project?
- How was the project conceptualized and produced?

- How did you come to select the tools you would ultimately use to create the project?
- Who would you identify as the main actors involved in its production and reception?
- Do you think this project bolsters or aids the voice of certain actors? Why or why not? And how?
- Do you think this project silences or pulls focus away from certain actors? Why or why not? And how?
- What would you identify as the main innovations brought on by your use of digital tools in this project?
- How do these innovations specifically aid your success in reaching your intent/objective?
- Who do you identify as the audience for this project? Are there multiple audiences?
- How has this audience shaped the project itself? Before and after its presentation to the public?
- Does the digital aspect of this project bolster the audience/user's role in shaping the project itself?

Interviews for these case studies were conducted as approved by the School's Research Ethics Committee. I contacted participants through publicly available email addresses with requests for interviews; no incentives or compensation were offered for their participation. I also provided a one page information sheet and consent form for participants to sign. This document outlined background on the research, procedures of the interview, and where the final project would be shared. All final participants signed the consent form.

Data was collected through interview recordings utilizing Otter.ai's Google Meet recording plug-in as well as Zoom's recording option, included in the desktop application. After the interviews took place, recordings were downloaded as mp3 files onto my computer and re-uploaded on Grain.com in order to utilize their transcription software. Grain transcripts were reviewed for obvious transcription errors and downloaded as pdf and .docx files. All of the files mentioned above are uploaded onto a Google Drive folder for storage.

The projects and participants contacted were chosen through various criteria. This first involved preliminary research on prevalent new technologies of display and their uses

within the culture and heritage sector. Of these research I identified three main perspectives that would allow me to provide a deeper understanding of the breadth of new technologies of display. I identified these perspectives as: private sector for-profit initiatives, non-profit intermediary platforms, and institutional projects.

Most prevalent within private sector for-profit initiatives were edutainment experiences that involved immersion and interactivity in some way. (Steane and Yee 2018)I chose to focus on Exhibition Hub's Van Gogh: The Immersive Experience in part because of the recognition of the exhibition in previous scholarship on new technologies of display, particularly the Serpentine Galleries' Future Art Ecosystems report. The focus of the exhibition on a singular and well renowned artist would also allow me to further my investigation on the application of immersive technologies for display as the exhibition focused on a singular overarching narrative. Mario Iacampo, founder and director of Exhibition Hub and producer of Van Gogh: The Immersive Experience itself was then a key resource as he was able to provide project specificities as well as information on broader picture ideas around immersive displays and for-profit exhibitions.

The area of non-profit intermediary platforms also signified an expansive range of projects to choose from. However, in my exploration of these platforms as intermediaries within the ecosystem of new technologies of display I narrowed my scope to platforms that offered services to a broader range of audiences and institutions and had a focus on content and user engagement. Of these larger platforms offering original content I chose Europeana due to its clear working framework within institutions and the public, particularly in regards to digitalization. Jolan Wuyts was a particularly relevant resource from the organization to interview due to his position both within the editorial team and the Diversity and inclusion cross team at the platform; which would allow me to collect unique insights on platform particularities and content creation as well as broader challenges of platform moderation.

The realm of institutional projects utilizing new technologies of display around culture offered various technologies of display to focus on. For the scope of this dissertation I specifically chose to focus on projects that utilized and displayed already available data and data sets. This characteristic was particularly relevant in that it offered a view at direct knowledge creation and stewardship as well as a link between new technologies of display and the primarily institutionalized framework of collection management and classification.

Digital Benin was of particular interest to me in that it would offer a particularly up to date view on database creation and display, the consolidation of various datasets, as well as a focus on a collection with existing debates on its circulation access and display. The project is also larger than most projects of this kind, which allows in part for customization of the technology to the datasets. Dr. Anne Luther was the point of contact in my exploration of this project in her position as Project Catalyst and Principal Investigator with a background in Digital Humanities heritage projects would allow me to gain insights from the ideation of the project through its production process. The fact that the database has not yet been launched was also taken into consideration; although limiting as no insights on ultimate impact and reception can yet be gained the primary scope of my research relies on the project production and development itself which can be analyzed from the prototype I was able to view in the interview.

Chapter 1: Immersive Technologies as Vehicle for the “Art Stack” in *Van Gogh: The Immersive Experience*

The adoption of immersive technologies for engagement and education is most evident in the proliferation of immersive “edutainment” experiences. Produced for profit by companies within the private sector, these experiences can be identified by their production models that blend entertainment with culture and heritage through immersion or virtual reality-based technologies. The market for immersive experiences dedicated to “edutainment” is notably large and in a process of expansion; exhibit production companies securing high profile investments and sometimes even with multiple exhibits on the same artist occurring simultaneously in one city. (Lawson-Tancred 2022; Capps 2021) There has also been a notable impact on the culture sector as GLAM (Galleries Libraries Archives and Museums) sector stakeholders recognize their introduction into the ecosystem. (Ivanova and Lerner 2021)

The private enterprise-backed “full stack” production model that comes with the technologies of choice in these exhibits proposes new mediations of previously established dynamics of access and display, utilizing technologies particularly suited for private sector interests. For the purpose of this research, *Van Gogh: The Immersive Experience*, produced by Exhibition Hub, proves a valuable case study on the application of immersive and virtual reality technologies within the cultural heritage space by the private sector.

1) Project Description: *Van Gogh: The Immersive Experience*

On view since 2017 and the first of Exhibition Hub’s immersive digital art exhibitions, *Van Gogh: The Immersive Experience* is a particularly interesting case study of for-profit immersive experiences that center new technologies of display in ways that disrupt traditional forms of display. The exhibit itself is made up of three main components: an initial informational section featuring small thematic rooms with projected digital displays, their main immersive room with large 360° projections, and finally a virtual reality tour.

The initial section focuses on anecdotal information about the artist’s life. Going from an initial introduction of his career, life timeline, and family into a larger display on printed canvases of his works as well as his artistic influences and role in the impressionist movement. This part of the exhibit features information panels that seek to engage with visitors using relatable language, for example, quantifying the artist’s work into “tennis courts”. It also communicates broader artistic themes in Van Gogh’s work, such as

portraiture and vase paintings through small projection rooms where images of paintings are paired with music and projected onto large models of the theme in question. (See fig.1)

This section of the exhibit is the most similar to a traditional art display; utilizing a setup similar to the traditional “white cube” gallery model where prints of the artworks are framed by blank walls and small identifying signs beneath them to maintain attention on the artwork itself. (O’Doherty 1999) Notable, however, is the magnitude of the space and the number of prints on display; lining three large walls. The projections in this section are placed in sections off the main display space although still prominent at each end of the large display room. (See fig. 2).

Another evidently important section of the exhibit is the immersive display space. Visitors access this room through a hallway with a moving sunflower projection on the floor and one wall and a mirror-like surface on the other; creating a dreamlike sensory experience. The hallway then leads into a large open space where the immersive display takes place. This space offers a 360° projection of a light show featuring two hundred of Van Gogh’s works playing the thirty-five-minute original sound and light show on a continuous loop; projected on a 1000 m² total surface area. (Exhibition Hub n.d.) The room has multiple cloth chairs, with the exhibit logo, for visitors to sit in while enjoying the projection. The show itself is a mix of images of Van Gogh’s artworks and animated digital art both framing and animated onto the pieces; all accompanied by music produced for the display. (See fig 3.)

The immersive experience is followed by a small activity-based section where visitors can take and fill out coloring sheets of the artist’s most famous works, which are then scanned and displayed on a large projection screen.

The third and final robust section of the exhibition is the virtual reality experience. This section includes an attendant that places the virtual reality headsets on visitors and is at hand to help with any technical difficulties or virtual reality motion sickness. The “tour” itself features “a day in Van Gogh’s life” going through the various compositions depicted in his works around Arles (where he resided in his final years). This animation, as opposed to the immersive experience, includes more storytelling with text appearing on the images and a narration included in the show. It is important to note that this part of the exhibition comes at an extra cost on top of the initial entrance fee. (See fig. 4)

2) Exhibition Hub

Exhibition Hub describes itself as “curator, producer, and distributor” of exhibitions across the world. With more than seventy exhibitions produced, the company aims at attracting a high volume of visitors to its productions which take place on a global scale (concurrent exhibits taking place at multiple locations around Europe, Africa, Asia, Australia, and the Americas at the time of writing this dissertation). Although one of many similar exhibition production companies, Exhibition Hub stands out for the variety of its offerings, ranging from “Dinos Alive” to multiple exhibitions on the world's most renowned artists (including Monet, Klimt, and Frida Kahlo among others on top of Van Gogh). (Exhibition Hub n.d.)

The company’s exhibitions also stand out for their placement in unconventional venues such as churches, shopping malls, historical buildings, and industrial settings. The exhibitions are not only located in vacated spaces or venues “in transition” but also often outside of areas with a high concentration of entertainment venues; veering away from neighborhoods usually deemed cultural hubs and opting instead for venues with close transportation infrastructure to facilitate visitor’s trips. (Iacampo, n.d.)

It is important to note that Exhibition Hub did not begin its work as a producer of immersive exhibits; instead its foundational exhibit in 2015, “The Art of Brick”, featured sculptures made of lego bricks by American artist Nathan Sawaya. By 2017 however, the company had begun its shift into what it calls “digital art exhibitions” including immersive 360° projections of their in-house produced digital shows; the majority of which focus on a specific artist or cultural artifact. (Exhibition Hub n.d.)

3) Immersive Technologies

Of the various technologies used within *Van Gogh: The Immersive Experience*, the immersive room and the virtual reality headset are the two primary technologies of interest for the topic at hand. Studied in conjunction, the use of these technologies highlights their affordances and limitations when it comes to dynamics of access and display. It is fundamental, however, to first clearly establish the characteristics and past uses of these technologies in order to situate and comprehensively analyze their use case in digital art displays.

360° projection rooms such as the one featured in *Van Gogh: The Immersive Experience* can be classified as Immersive Projection Environments or IPEs. (Bruder et al.

2015) This category of technology encompasses a wide range of products and uses with ranging interactivity. These forms of projections have historically been used for entertainment and educational purposes. Essentially an “image space”, these 360° projection spaces have been identified as stemming from a combined technology of image circulation and illusion; situated somewhere between “cult frescoes” and the “CAVE” (an immersive virtual reality environment combining 360° projection and interactivity, invented in 1992). (Grau 2002; Cruz-Neira et al. 1992)

The second type of immersive technology under the scope of this case study is that of the virtual reality wearable device. This type of technology, perhaps by way of its more recent development as well as practical applications, holds much more delineated history and congruent definitions. On an experiential level Virtual Reality has been defined by encompassing “most of the senses, including sight, hearing, and touch” and representing “an alternative to reality”. (Pope 2018) From a technical point of view, Virtual Reality as it relates to its applications in display has been defined as “ a complex technology which exploits more low-level technologies (such as computer science, 3D graphics, robotics etc.) in order to create a digital environment in which users feel completely immersed inside, and which they may interact with.” (Carrozzino and Bergamasco 2010, 454)

Virtual Reality has developed interdisciplinarily between the education, military, and video game arenas. In accordance with Carrozzino and Bergamasco’s definition the development of Virtual Reality technology comes as a product of the advancement of a variety of technologies including military training simulators and “human-computer interaction techniques” such as joystick controls. (2010) This history places virtual reality firmly within a mixed research and entertainment or commercial background; fundamental to its expansion being the “the rapid increase in affordable computer power in the 1980s” (Schroeder 1993, 965)

4) Immersive Technologies and “Edutainment”

The application of these immersive technologies within the educational space is particularly relevant when discussing “edutainment” experiences such as *Van Gogh: The Immersive Experience*. In practice, the use of this technology has continued to grow since its expansion in the 80s, particularly in higher education institutions, with a 2017 study projecting 60% of higher education institutions in the United States to adopt virtual reality technology by 2021 (Hutson and Olsen 2022) The adoption of this technology comes in part

as a push for engagement from educators and cultural sector specialists; with studies showing it to be positively correlated with with “increased enjoyment of learning”, motivation, and long-term retention.(Apostolellis, Bowman, and Chmiel 2018)

It is also important to note that while immersive technologies have predominantly been integrated into educational experiences as primarily part of science programs they have increasingly been integrated as a tool for Humanities education. (Christou 2010; Hutson and Olsen 2022) This has occurred particularly in the realm of cultural, heritage and archaeology where the benefits of accessing virtual environments have been recognized particularly early. (Pujol 2004)

Nevertheless, as beneficial as this technology has proven to be for educational and entertainment purposes, barriers in research and access have kept it from gaining wider adoption by non-profit or educational organizations. As highlighted by Hutson and Olsen, studies conducted have considered a limited number of factors relating to pedagogy, collaboration, and “the gamification of experiences”. (2022) Additionally, and perhaps more relevant to the scope of this dissertation, are the “limitations of available scholarship and range of studies can be attributed to the budgetary and technological constraints” prevalent until recently in relation to the accessibility of immersive technologies. (Hutson and Olsen 2022)

Kavanaugh et al. identify these limitations in the necessity of hardware for immersive technologies as well as inaccessible price points and a previous lack of consumer availability. (2017)However recent developments in the technology like Facebook’s release of the Oculus Quest 2 in 2020, has made the use of these technologies more accessible for the general public. (Hutson and Olsen 2022) These limitations can also explain why the technology has been more readily adopted within the private “edutainment” sector.

Private developers have increasingly sought to tap into the GLAM market; evident for example with VIVE’s release of VIVE Arts, a program “ which enables users to both create and exhibit works of art within the virtual space”. Virtual Reality has also been implemented into large GLAM sector festivals such as the Venice Biennale, which now holds a VR competition showcasing work in the medium. (Bylieva 2022) These initiatives not only showcase interest in the implementation of the technology into the sector but marketability to the public.

5) “Edutainment” and Dynamics of Access and Display

The expanding inclusion of immersive technology in the GLAM sector should not be confused with a total embrace or lack of tension between the new technology and the historical keepers of the authorized heritage discourse. As described by Carrozzino and Bergamasco while the inclusion of immersive technologies “on one side, has helped in making culture accessible to the mass audience, on the other side, it has started a process of desacralization of the museum institution, which would extend its boundaries across the modern entertainment industry.” (2010, 452) This is to say, in their provision of wider access and entertainment value, immersive technologies in the realm of cultural heritage have been perceived as threatening to the authority of recognized cultural institutions. A threat that has resulted in a “distrust towards technological innovations within the institutional cultural sphere” (Ibid. 2010, 453)

These anxieties on the side of the “institutional cultural sphere” can be attributed to a variety of factors. In part, this resistance can be seen as a product or extension of the resistance towards “edutainment” as part of the perceived “Disneyfication” of the cultural sector “a critique that < has come> to be specifically directed at attempts to incorporate diversity of viewpoints and other innovations into museum practice.”(L. Smith 2006a) In relation to the authorized heritage discourse then, one can attribute these tensions in part to the perceived threat to the authority of “experts” as the creators of discourse itself; as “unauthorized” private sector entertainment producers take on the task of creating immersive displays (as is the case with Exhibition Hub and *Van Gogh: The Immersive Experience*).

In the case of *Van Gogh: The Immersive Experience*, these concerns are in part recognized and in some ways resolved through the implementation of the technology in conjunction with the exhibition design. To begin with, exhibition producers recognize a need for a certain amount of audience education prior to engaging with the immersive room in order for visitors to connect with the projection. When speaking about his exhibition design Iacampo says, “when you're in the immersive if you haven't been prepared for what you're about to watch, then you're just looking at a bunch of beautiful images.”¹ Iacampo points to the limitations of the technology as a projected digital display with no interactive features; where the polysensory affordance of the technology minimizes the storytelling,

¹ Mario Iacampo, interview by author, 22 July 2022.

informational qualities of the display (where for example images are not accompanied by clear labels and contextualizing panels).

Consequently, there is a considerable amount of mediation required before the visitors engage with the technology in order for the “edutainment” experience to be achieved. *Van Gogh: The Immersive Experience* achieves this through the inclusion of a more traditional display in the first section of the exhibit; not leaving an open-ended display of Van Gogh’s oeuvre but instead mediating the display in a way that echoes what institutional experts feel is a need. (Davies, Paton, and O’Sullivan 2013)

Nevertheless, it is important to note that this mediation, although similar in format, also varies from the traditional exhibition labels in the approach it takes. Instead of relying on art historical paradigms, Exhibition Hub chooses to take an “anecdotal approach”, opting for “easy-to-read” museum labels that explore Van Gogh’s family relationships, auction sales, and personal correspondence.² A choice product perhaps of the combining factors of a for-profit exhibition producer, a wider target audience, and a “non-expert” curatorial team.

Moreover, the Virtual Reality in Exhibition Hub’s *Van Gogh: The Immersive Experience* provides a different perspective on the affordances of different immersion display technologies. Utilizing the Oculus Quest 2 Headset for Iacampo “in the virtual reality...you can really zero in on a small subject.” as opposed to the immersive room where it is “much more difficult” as there are too many sensory factors and freedom for the viewer.³ The main affordance of the virtual reality technology for the exhibition’s creators then is its storytelling value, allowing producers to guide the story and the viewer’s attention throughout the eleven-minute experience.

Iacampo’s emphasis on the storytelling aspects of virtual reality is replicated in academic scholarship on the use of virtual reality for educational purposes within the cultural sphere. Recent Virtual Reality and museum research suggest its storytelling affordances primarily come from its reliance on “sensorial feedback (images, sounds, etc.) and therefore easily understood even by non-specialized users.” (Carrozzino and Bergamasco 2010) These affordances can in part be attributed to the technology’s development background despite its wide variety of applications, primarily designed for the “gaming

² Iacampo, interview.

³ Iacampo, interview.

market". An, evidently, entertainment and storytelling-focused sector. (Moorefield-Lang 2015)

The adoption of immersive technology specifically by private enterprises, like Exhibition Hub, working within the culture sector might also come down to the technologies' affordances in allowing companies to take full control of the creation of an exhibition; that is cutting multiple traditional stakeholders from the business model. In this case, instead of curating and borrowing a series of authentic Van Gogh artworks (limited by institutional and private collection lending practices and logistics to name a few) Exhibition Hub uses licenced photographs of Van Gogh's work which falls under public domain to produce original immersive digital art displays. (Iacampo, n.d.)As described in the Serpentine Galleries' Future Art Ecosystems 2021 report, Exhibition Hub's Van Gogh exhibit is produced utilizing an "art stack" model. This term is inspired by the web development "full stack" term referring to both front-end and back-end technologies used to design a platform, website, or application. An "art stack" then refers to exhibitions or cultural experiences that take advantage of technologies to gain full control of the exhibition production process, including the creation of the content on display. (Ivanova and Larner 2021) An affordance from the technology that takes away an exhibition production monopoly from lending institutions.

Aside from the profitability afforded in the "art stack" model, the use of licensed photographs displayed through visuals-focused immersive technologies expands the corpora of artworks that can be included in an exhibition. *Van Gogh: The Immersive experience*, in particular, features over 350 paintings, 200 of which are displayed in the immersive room.(Exhibition Hub n.d.) This is a clear contrast to the number of works on display at a traditional exhibition; an upcoming Van Gogh exhibition at the Detroit Institute of Art featuring "around 70 authentic Van Gogh works".("Van Gogh in America" 2022)

For Iacampo the amplified corpus available due to the technology at hand allows Exhibition Hub to create displays with a fuller "scope" of an artist's work while also allowing the audience "to interact through a level of detail that they normally wouldn't be able to..., looking at the original".⁴ This remark can be interpreted as commentary on the limitations of traditional displays; a wider scope offers audiences a more expansive interaction with an artist's work that points to a shift not only in the ways in which audiences interact with art

⁴ Iacampo, interview.

itself but in the perspective of those mediating these interactions to communicate the discourse surrounding art and artists.

Nevertheless, an expansion in the breadth of the work does not come without constraints of the technology—namely visual quality. As Iacampo explains the Oculus Quest 2 requires “compromises on the digital resolution combined with the complexity of the image, combined with the fluidity, the frames per second.”⁵ In the case of Van Gogh’s virtual reality tour while “the content itself is at 6k resolution... the technology can’t follow that kind of complexity”.⁶ This constraint addresses a particularly high tension between for-profit “unauthorized” producers and the “institutional cultural sphere” where digital visual quality is a main concern, digitization projects often being contingent on access to high resolution imaging and digitization technology.(Valeonti, Terras, and Hudson-Smith 2019)

Similarly, the need of immersive technologies “for rather large spaces, even if they are limited only to visual feedback” limits the adoption of this technology by many cultural institutions (Carrozzino and Bergamasco 2010) In contrast, Exhibition Hub’s lack of attachment to an institutional building and production model of exhibitions as iterating events might be in a part an incentive for the adoption of immersive technologies.

It is important to note that in Exhibition Hub’s marketing of artist-based exhibitions a key component is the presence of these artists in the public sphere as brands. Comparing the Van Gogh exhibit to their exhibits featuring different themes, for example, Dinosaurs, “to some extent they're both brands”.⁷ This marketability of artists and their creation as established brands is directly linked to the increasingly heightened ability to reproduce and circulate artistic work. Consequently, Exhibition Hub’s very interest in producing a Van Gogh based digital exhibit in part comes as a direct consequence of the adjustments in access and display from technological advancements. Van Gogh in particular is an artist particularly present in visual culture, high fashion and fast fashion brands presenting Van Gogh based collections in recent years.(Van Gogh Museum 2018; MoMA 2022) The reliance on an artist’s “brand” as a basis for the production of an exhibit could then be interpreted as further evidence of the separation from materiality, or “cult value”, brought on through immersive experiences ultimately resulting in a consumption of culture and heritage. (Benjamin 1969)

⁵ Iacampo, interview.

⁶ Iacampo, interview.

⁷ Iacampo, interview.

That is to say, when applied in a for-profit venture the aim of the technology becomes engagement above cultural display.

Furthermore, these “brands” although based on products of cultural heritage hold a different audience than cultural heritage institutions; an audience that pushes exhibition producers to adjust the established discourses surrounding an artist and art display. In lacampo’s mind it is a question of “reinterpreting the art”, trying to “apply <the digital technology> to augment a subject”, with a focus not on the technology itself but how it is being implemented.⁸ In its vision of the artist as a brand the exhibition could then be interpreted as bolstering an established discourse of the mythological “great artist”; thus excluding critical views on the valorization of artistic work and its exclusionary nature. (Nochlin 1988)

Conversely, this valorization of engagement pushes towards and valorization of technological trends and implementation. This is evidenced in the proposed inclusion of NFT’s “within the exhibit” for visitors to take. Admittedly, a reaction to a trending development in the world of digital art, the inclusion of this technology is telling of a prioritization of engagement and audience experience on the part of the producers. This engagement relies greatly on the polysensory experience provided by these immersive technologies. As lacampo explains, people “want to feel ... who the person was in a raw sense”.⁹ In their polysensory affordance the technologies provide an emotional engagement between audience and display, “diminishing critical distance to what is shown”.(Grau 2002) In establishing a closeness between audience and artwork the use of immersive technologies for display could in some ways be interpreted as bridging the gap upon which authorized heritage discourse relies.

6) Conclusion

Ultimately, Exhibition Hub’s *Van Gogh: The Immersive Experience* provides an insightful look into the ways in which immersive technologies work within and disrupt dynamics of access and display. It is clear that the affordances and limitations of the technology manifest themselves in the stakeholders, objectives, and outcomes of the exhibition production.

⁸ lacampo, interview.

⁹ lacampo, interview.

Immersive experiences and virtual reality lend themselves as the technology of the for-profit “art stack” because they distance the exhibition from the object themselves and open up capabilities for display to new audiences and producers. These new productions, although not directly designed to challenge the authorized heritage discourse in some ways, disturb established hierarchies surrounding display and expertise that seem to expand certain narratives.

Furthermore, the proximity of the art to the imaginary of visitors is—if perhaps paradoxically—heightened as immersive technologies focus on creating a polysensory experience. This deviates from the exceptionally transitory engagement between visitors in a traditional display setup. It could be argued that the closing of this gap in some ways challenges a fundamental aspect of the authorized heritage discourse in that audiences are encouraged to feel a sense of belonging to the work itself.

Nevertheless, it is important to note that these same disruptive affordances often rely on established discourses of “greatness” and the valorization of artistic work. More research is needed when it comes to gaging true access to the technology on the part of audiences and institutions. Likewise, the “art stack” nature of the project relies on the elements of the authorized heritage discourse itself; holding a symbiotic relationship between disruptor and institution.

Chapter 2: Platforms as Intermediaries in Europeana

Platforms in general comprise some of the most commonly used technologies today; brokering daily social interactions to education, transport, and housing through the classification and circulation of data. (Van Dijck, Poell, and Waal 2018) Sector-specific platforms to circulate and display cultural heritage are one of the first and most accepted new technologies of display in the GLAM sector. This early adoption and continued interest within the sector can be attributed not just to the social adoption of platforms in general but also to the historical role of culture and heritage institutions in creating taxonomies and classifying objects within their collections.

With the growth of digitization and digitalization identified as key to increasing access to cultural heritage thematic, regional, and global platforms have developed as intermediaries between institutions and the public; offering institutions a digital space in which to house their collections and metadata so that it can circulate amongst interested users.

Europeana, created by the European Union to house and circulate the collections of more than three thousand culture and heritage institutions, is illustrative of an intermediary platform in which established dynamics of access and display are mediated in a content-based model, as well as the constraints and affordances of a platform built on Web 2.0 design.

1) Project Description: Europeana

Europeana itself was funded by the European Commission as “part of a digital libraries initiative to integrate access to Europe’s distributed digitized cultural heritage resources”(Purday 2009) In its development as a public sector project it is now operated as the Europeana Foundation, with a wide range of projects including the Europeana platform and Europeana Pro which connects the Europeana Network Association (ENA).

Europeana states its audiences as “ “cultural heritage enthusiasts, professionals, teachers, and researchers with digital access to European cultural heritage material.” and its objectives “to inspire and inform fresh perspectives and open conversations about <European> history and culture. To share and enjoy our rich cultural heritage. To use it to create new things.” (Europeana n.d.) Ultimately the platform aims to continue the digitalization of cultural heritage throughout Europe with a vast objective and audience.

The platform now hosts more than 53 million objects (in varying formats) from over four thousand institutions. This large variety of data, scope, and scale however have proven challenging in the development of the platform as well as the ultimate user experience—particularly in terms of “search and exploration”. (Petras et al. 2017) Ultimately the platform offers a simple design with a home page featuring main stories, collections, and galleries on the page, a collections page featuring different ways to explore the platform’s collections (by theme, topics, and organizations), a stories page featuring blog posts and digital exhibitions, a profile page where users can view their liked objects and personal galleries, and a final query bar where users can search for specific items or narrow down their query by different parameters.

2) Platforms and Digitalization

Platforms themselves hold an expansive definition within the technology sphere, at their core, however, they are characterized by their circulation of information to provide users with specific services. Historically, platforms were initially theorized as disruptors of established social structures, bringing interactions and transactions away from institutions and towards users. Nonetheless, in practice they have resulted in what has been theorized as “the platform society”, which identifies them as working in conjunction with societal structure in a mutually informing network—that is to say platforms not only “reflect the social: they produce the social structures we live in.” (Van Dijck, Poell, and Waal 2018 2)

Tarleton Gillespie has identified three main characteristics that comprise a platform: “1. shares, hosts and classifies “users’ shared content or social interactions”, 2. does not “produce or commission” the majority of the content, and 3. is “built on an infrastructure, beneath that circulation of information, for processing data for customer service, advertising, and profit”. (2018 18) In their positioning as hosts and circulators, as described by Tarleton, platforms are in their foundation intermediaries. Although this role is evolving, the platforms referred to within the scope of this dissertation, in their foundation within the culture and heritage sector, fall under this category.

Europeana itself can be classified as part of what has been described as Web 2.0; referring to the developments occurring during the early 2000s on the world wide web. Although wide in range and thus difficult to describe Web 2.0 refers to the “emphasis on social networking, the content generated by users, and cloud computing” of the platforms and sites created around this time. (Hosch 2017) In practice, this theorization has been

characterized by platforms highlighting “rich user experiences” and “harnessing collective intelligence”. (O’Reilly 2005) This theorization of the web has been criticized and evolved with the competing Semantic Web and Web 3.0, which refer to a machine-readable web of data. (Berners-Lee, Hendler, and Lassila 2001) However, it is evident in its reliance on content creation and image circulation that Web 2.0 can be an apt description of platforms like Europeana

In their positioning as circulators of “user,” data and content platforms operate firmly in the “digitalization” space; when speaking in relation to art and cultural heritage however it is important to note the difference between the former and “digitization” Where digitization refers to the tangible process of scanning or otherwise digitally rendering a physical object digitalization refers to: “the way in which many areas of social life are restructured around digital media and communication infrastructures” (Brennen and Kreiss 2016) This is to say, while cultural heritage platforms like Europeana often rely on digitization as the basis of their content much of their operational space and the ultimate impact is in the digitalization of cultural heritage.

Digitalization in the culture sector is particular in its foundation on often tangible objects. In this regard:

“Digitalisation applied to cultural heritage transposes the essence of cultural objects presented in their physical form into the digital world, making this essence available to visitors from anywhere and at any time effectively and efficiently.”(Petras et al. 2017)

Consequently, not only does digitalization largely rely on creating access once limited by the reliance of cultural heritage on objects but it deals with the idea of an object’s “essence”, or as articulated by Benjamin the “aura”, in ways other sectors do not. This essence in some ways refers not just to the object itself but the “cult value”, or discourse surrounding it. This theorization of digitalization positions the platforms engaging in this process within the cultural sphere as intermediaries between the objects, institutionalized discourse, and the public.

3) Intermediary and Dynamics of Access and Display

My analysis of Europeana in relation to dynamics of access and display is largely based on the insights gained from an interview with Jolan Wuyts, Europeana Collections editor and co-chair of the Diversity and Inclusion cross team at the organization along with

further research on the organization itself and the particular challenges it faces.¹⁰ Europeana's role within the European culture and heritage ecosystem in relation to the authorized heritage discourse can be explored through two interrelated spaces: first, its editorial production and content creation models, and second, its confrontation of content moderation challenges.

Due to platform design, Europeana's mediation in part falls upon an editorial team that both supports institutions in content creation and creates original content for the platform. This content is then shared through the platform's social media channels as well as the home and stories pages on the platform itself. The role of the editorial team is in some ways to mediate the expansive Europeana database through curated storytelling. In the case of Europeana the editorial content comes from various sources: from partners and contributors creating exhibits and blog posts to content created in-house by the editorial team around a certain theme or point of interest (including "Broadcasting Europe" and "Crafting" among others).¹¹ This editorial based model as a mediation of larger databases is not new to digitalization within the GLAM sector; editorial being a core part of other major GLAM platforms like Artsy and Google Arts & Culture.¹² In fact, in the culture and heritage sectors digital storytelling has been identified as a significant tool in creating user engagement. (Vrettakis et al. 2019) Europeana's editorial team works between the institutions and aggregators and the Europeana audience to mediate the expansive database into digestible content for users to circulate and engage with.

The key stakeholders involved in the production and circulation of this content are relevant to the relationship between this editorial model and the authorized heritage discourse as mediated by Europeana. While the content is meant to engage the largest denominator within the Europeana audience ("people that are interested in cultural heritage in general") it is important to note that the majority of the content itself is created by institutional partners or least with the data provided with these partners as foundation.¹³ Ultimately this network between institutions, Europeana, and the general public is similar to traditional methods of display. Through a top-down model, introducing Europeana, and other platforms, as new technologies of display (being where objects are shared, accessed,

¹⁰ Interview used as a primary source

¹¹ Jolan Wuyts, interview by author, 04 August 2022.

¹² <https://www.artsy.net/> , <https://artsandculture.google.com/>

¹³ Jolan Wuyts, interview.

and circulated) as its editorial team seeks to curate stories that speak to as large a public as possible, with Europeana's core objectives and values in mind (rather than the originating institution's).

One of the tensions identified by Europeana's team in the application of platforms as a new technologies of display is the constraints of the platform and its position as mediator in evolving content formats. An example of this is the recent evolution from image-based content to audiovisual content, as Wuyts explains "the way that stories are being told or that people are interacting with heritage is changing very rapidly; is going towards more video based editorial"¹⁴ This evolution however, doesn't just come from the heritage space but instead from a general evolution of the ways in which platform users, particularly young audiences are engaging with content; namely through the rise of TikTok as the most downloaded social media platform throughout the past three years with "one billion active monthly users" opening "the app about eight times per day, spending about 52 minutes per day watching and engaging with video content." (Boffone 5) This rise of popularity in short-form audiovisual content has not been ignored by other large social media platforms; most relevant to this discussion, Instagram's recent announcement that it is no longer a photo-sharing app and instead will focus on sharing audiovisual content. (Clark 2021)

The limitations of the format in which the platform operates reflect the "platform society", in this case conflicting platform norms and . On the one hand interface constraints of Europeana itself—which centers its content around images and text rather than audiovisual algorithm-recommended content. On the other hand, there is a steep institutionalization that relies on a level of "authority" or formality with which to construct narratives around culture and heritage; as contributing partners hold "more traditional views" on the role of GLAM sector institutions.¹⁵ This formality, however, is at odds with the current comedic and informal tone of popular audiovisual content that engages a younger and wider audience. (Linke 2022, Schellewald 2021) In the case of Europeana this means that the "platform... would have to change drastically to accommodate" this evolution.¹⁶ Likewise, the top-down content production model presents contradictions between the objectives of contributors and the engagement goals of the editorial team. These developments imply a need for large changes in Europeana itself as a platform, from

¹⁴ Wuyts, interview.

¹⁵ Wuyts, interview.

¹⁶ Wuyts, interview.

interface design to organization structure, in order for a new tone and content format to be adopted.

Similarly, both in terms of platform design and content creation, Europeana's data oriented, digitization-based design can be in some ways a hindrance to the operability of the page and ultimately user access and engagement. The vastness of the database and its simple query model for object retrieval means "you might get lost on the website or if you just want to read an interesting story, you might not find immediately where that is".¹⁷ While querying options are particularly useful to culture and heritage researchers, who might rely on the available metadata, these instead exclude users who require more varied avenues of access to the data hosted by Europeana. (Schofield et al. 2015) Ultimately, in its initial design as a database rather than a platform Europeana could be interpreted as closing off the platform to audiences that require engaging mediation or modes of discovery of the objects on display rather than access to vast amounts of images and metadata.

This shift in consumption habits on the part of users ultimately affects Europeana's audience. Wuyts points out that the platform has noticed a change in audience towards more research focused, education focused users from an older demographic.¹⁸ This however is at odds with the ultimate goal of the editorial team, which seeks engagement from a broader audience. It is important to recognize that while Europeana might have a highly loyal audience of experts, its position in some ways as intermediary in a chain-like structure rather than a closed loop calls for it to adapt to engage larger audiences. Simultaneously one could identify that Europeana's current audience largely belongs to the experts identified within the authorized heritage discourse system, which might speak to the tensions between engagement and institutional discourse the editorial team finds.

Furthermore, these tensions also manifest in metadata that reflects outdated and harmful discourse at odds with Europeana's mission and audience. This is particularly evident in the metadata surrounding objects directly related to colonial pasts. Where colonial and racist terminology is included to describe an object, due to its policies Europeana itself does not have the ability to change the metadata included. In relation to content creation and circulation as Wuyts describes the tension lies in some ways in the valorization of institutional authority "we will never alter the content that comes in because

¹⁷ Wuyts, interview.

¹⁸ Wuyts, interview.

we believe in the authority of the institution... but we also cannot publish this or show this in the way that it's presented today.”¹⁹ This results in Trust and Safety concerns for Europeana as well as limitations on the Diversity and Inclusion cross team’s efforts to create a platform that shares a variety of discourses and moves away from one “Authorized” discourse created by the most powerful group.

An expansion of user-created content on the platform might attenuate these limitations. Most recently, an added feature of the site has been for platform users to be able to curate their own “galleries”; collecting specific works within the Europeana website in themes of their choosing. Users can create thematic galleries that they can then add to when viewing an object from Europeana’s collections page. These added objects are then displayed in the user’s profile under their gallery in a board-like layout. While these galleries can be shared by users through links they are not published on the main Europeana platform, remaining instead as part of a user’s profile. Europeana’s editorial team then chooses galleries to display on the platform’s main page. The inclusion of user-generated curation, although still limited, opens up the possibilities of who is allowed to curate the platform’s content and the narratives that might be highlighted.

However, one of Europeana’s challenges in its position as an intermediary and in relation to the authorized heritage discourse is the need for content moderation that vast amounts of user-created content brings. Content moderation in general has proven fundamental to the development of platforms as a whole, expanding with them and providing a window “to reveal their inner workings, their animating logics, their economic imperatives, and the actual footprint they leave on the dynamics of sociality and public discourse.” (Gillespie 2018)

In the short-term, Europeana has enforced content warnings of harmful content statements as a way to reduce user risk when exploring the page. For example, a recent Europeana gallery titled “Black People in European Art” has a content warning under the subtitle that read “some of these artworks’ descriptions of people are outdated, derogatory and racist.”²⁰ While this content warning acknowledges the Trust and Safety concerns that the content on the page brings, it is important to note that it is not displayed in a pop-up or otherwise notable way, which might limit the number of users that read it. Likewise, while

¹⁹ Wuyts, interview.

²⁰ <https://www.europeana.eu/en/galleries/black-people-in-european-art>

content warnings are a relatively practical way to warn users on the part of the platform guaranteeing they are read is difficult as the use of pop-ups or other forms of eye-catching warnings might have detrimental outcomes when it comes to user engagement with limited efficacy. (Boysen et al. 2019) Wuyts also acknowledges that Europeana views warnings as a temporary solution while it allows “ institutions to do the real de-colonizing work in their collections and fix the items in and of themselves”. This comment points to a broader need to challenge entrenched discourses from within institutional frameworks, where knowledge is being created and consolidated.

Furthermore, as intermediary Europeana is tasked to moderate dynamics of access and display, and the narratives surrounding its collections through moderation policies. For the broader moderation of content and long-term platform moderation Europeana is looking at a hybrid model: mixing platform mandated guidelines and user moderation.²¹For Europeana data providers (institutions) this entails compliance with the Data Exchange Agreement, namely to provide data that does not constitute “ iii. an infringement of public order or morality (hate speech, obscenity,etc.)”(Europeana Foundation 2015) For Europeana, this requires the creation of clear glossaries and content guidelines to ensure clear platform moderation. The second aspect of this model entails user moderation in which users are allowed to report content from guideline violations, which Europeana can then review and take further action if warranted.

4) Conclusion

As intermediary, Europeana, and platforms similar to it, offers new avenues for access and display while still working within entrenched discourses that substantially rely on the social construction of institutional authority and exclusion. Platform constraints in terms of content moderation and user engagement present tensions between the different stakeholders within the Europeana ecosystem.

Nevertheless, it is important to note Europeana’s efforts to engage with the evolution of digitalization outside its platform with the creation of podcast series and audiovisual content hosted on other platforms. This element, of external content creation, is in line with the adoption on the part of cultural institutions of popular platforms to curate a more approachable social media presence with the hopes of funneling that engagement into internal users, viewers, or visitors depending on the organization.(Kelly 2013) In some ways,

²¹ Wuyts, interview.

the reliance of Europeana on larger social media and content-hosting platforms for content circulation is telling of the platform's limitations while simultaneously evidence of its objectives to reach a wider audience.

Ultimately, their position as intermediaries also provides platforms with the unique position of mediating access and display between two sides of the ecosystem; thus requiring them to introduce policies to respond to user and broad audience demand in a way that traditional institutions of display might not be incentivised to. These avenues of change, however, can be limited by platform constraints when engagement-centered content is involved.

Chapter 3: Database Design as Vehicle for Knowledge Creation and Circulation in Digital Benin

Projects dedicated to information circulation and management around a specific collection or limited number of collections offer unique opportunities to explore “made-to-measure” technologies of display; in which classification and digital interfaces are primary concerns. (Feinberg 2012; Dörk, Comber, and Dade-Robertson 2014) This characteristic consequently, results in concrete products that facilitate further analysis for objectives, design, discourse, and projected impact. These projects are usually more closely aligned with Digital Humanities practices as well as academic and GLAM sector institutions; as they often set out to work on a collection held by a particular institution or from scholars that work there. Projects with these characteristics are often supported through grant funding from larger foundations; meaning an aligned objective between project, foundations, and hosting institutions.

Digital Benin, the upcoming project made possible by the largest grant awarded by the Ernst von Siemens Kunststiftung (Art Foundation) to be launched in November 2022, set out to bring together data from collections worldwide of the royal artworks looted in the 19th century now known as the “Benin Bronzes”. The project’s focus on consolidating data from differing institutions offers a particularly interesting view of the constraints and affordances of a singularly focused application of new technologies of display.

1) Project Description: Digital Benin

Digital Benin’s objective initially stemmed from a workshop with the Benin Dialogue Group in 2019, which identified the question of displaying the objects together whilst also accounting for and recognizing their current state of dispersion across institutions. This workshop resulted in a project proposal approved and funded by the Ernst von Siemens Kunststiftung with the MARKK (Museum am Rothenbaum) as the international project office. (Museum am Rothenbaum 2020)

The project set out to capture the knowledge production of institutions housing the Benin Bronzes, translocated from present day Edo State, Nigeria. Digital Benin looks not to display an online catalog of the objects but to bring in knowledge about the cultural embeddedness of the objects currently spread out in about 20 countries. This is of particular note within the context of the Benin Bronzes’ historical treatment and display post-looting, in which the objects have historically been displayed divorced from their cultural context and as “artifacts” or through a formalist lens—informed by colonial and racist

discourses. With this objective and background Digital Benin worked to develop an online accessible resource that compiled the digital information surrounding the objects that museums had within their collections. The project then focused on consolidating differing data sets within one single database; working with over data from over 250 institutions including over 130 museums. (Museum am Rothenbaum 2020)

Digital Benin was divided into three project phases taking place from 2020 to 2022. The first, Data collection, creation of an institution catalog, typology of digital availability. This phase included unique research from the project team, not only aggregating available or transferred data but digitizing knowledge of Lagos-based institutions as well as collecting broader contextual knowledge from oral histories, hierarchies, and geotagging among others. (Maples 2021) The second phase focused on the development of prototypes for data merging and interface; notably the project included full stack development of the resource. The final stage of the project included a beta testing focus group, documentation code and development, and release; this phase will culminate in November of 2022. (Museum am Rothenbaum 2020)

2) Collection Context

The specificity of the project means the historical context of “the Benin Bronzes”, particularly their translocation to the west, is important in order to properly analyze Digital Benin’s mediation of access and display. “Benin Bronze” is the term used to refer to a wide range of the kingdom’s treasures (including plaques and ivory carvings) these items hold cultural significance as “a record of history, spiritual beliefs, and artistic progression over the centuries.”(Phillips 2021)

The Benin Bronzes were looted when Benin City was taken by a force of 1,500 men on Feb. 18, 1897. This invasion largely resulted from British economic interest in controlling palm oil and other of the Kingdom of Benin’s commodities. While by 1890 the British had slowly encroached on the Benin River area, peaceful approaches to take the city and trading rights were not working. The Oba (king of Benin and the Edo people) closed all markets to outside trade in 1896. Despite being told by the Oba not to come James Phillips (British deputy commissioner and consul general of, at the time, the Niger Coast Protectorate) went on a military expedition to Benin City. After ignoring the Oba’s warning, all but two members of the expedition were killed. In February of 1897, Benin City was invaded by British forces in

retaliation for the killing of Phillips and his men. Thousands of the Benin Bronzes were looted in the attack. (Coombes 1994; Igbafe 1970)

Throughout the history of the Benin Bronzes in the West, display has become an inherent tool for discourse and narrative formation. There have been three main frameworks in Western displays identified that present the objects as: anthropological artifacts, artworks, and as part of a theorized universal human heritage. (Wood 2012) The Benin Bronzes were first put on display as anthropological objects only six months after the attack on Benin City. These narratives focused largely on decontextualizing the objects and reaffirming racist imperialist ideologies by placing them in a mythological “ancient past” rather than as objects taken in a contemporary military expedition. A second framework is found in the inclusion of the bronzes in Art Historical discourse; the reworking of the Western definition of art through modernism lead to the construction of racist categories, like Primitive Art, that identify non-western art by form or expression and advance theories of “cultural evolution”. The third narrative identified by Paul Wood is that of a universal human heritage which poses the objects as part of material culture, and a means “of engaging with other cultures” or “tokens of difference” (2012)

The looting and, now long, history in the West of the Benin Bronzes has resulted in repatriation efforts and debates—namely between the museums and private collections holding the bronzes, the Nigerian people (represented institutionally by the Benin Dialogue Group), as well as artist communities in Nigeria and around the world. (Hicks 2020; Phillips 2021) The irregular and violent provenance of these objects has resulted in a lack of a comprehensive database of the objects and the institutions that house them as well as decontextualized knowledge within institutions, making repatriation even more difficult. Notably, Daniel Hick’s 2020 publication, *The Benin Bronzes, Colonial Violence and Cultural Restitution*, was significant in its inclusion of “A Provisional List of Museums, Galleries and Collections that May Currently Hold Objects Looted from Benin City in 1897” . (2020)

3) Technology and Knowledge Production

In its aggregation of knowledge through multiple databases Digital Benin is largely a project concerned with information science and the ways in which technologies of data collection and circulation affect the data we collect themselves. These challenges and the scholarly work surrounding them have greatly expanded along with the circulation of data through the popularization of platforms (as explored in chapter three) and digitalization.

Collection-focused databases are particularly interesting in their need to develop or adapt technologies to the particular needs of their collections. Moreover, their reliance not on content itself or on direct narratives but on the input of specific data within a metadata structure results in a level of subjectivity often rendered invisible.

For the scope of this case study two theorizations are relevant. The first is the challenging of data as neutral. Where the fallacy of seeing all data as neutral is prevalent in our day to day lives, the “created” and thus subjective nature of data has been proven and theorized. (Zimmerman 2008; Edwards 2010; Vertesi and Dourish 2011) Through this theorization, data can be interpreted in a broader sense as tools for the communication and circulation of information. (Leonelli 2015) That is to say, they are made and circulated with a purpose and objective that can be infused with discourse. To push this further, “data are cultural artifacts created by people, and their dutiful machines, at a time, in a place, and with the instruments at hand for audiences that are conditioned to receive them.” (Loukissas 2019) This does not mean that data should be disregarded or deemed inaccurate but instead, that the “local conditions” within which data are created can provide additional information about data themselves and identifying these conditions can ease the effective use and transmission of data for further knowledge creation. (Ibid. 2019)

Second, is the idea that the technologies and systems of classification we use to keep collections of data in turn affect the data themselves. Classification and classification methodologies are particularly important in the context of culture and heritage objects as they form part of collections guarded by institutions and managed through cataloging and classification. (Baca et al. 2007) As Bowker and Starr assess, “each category valorizes some point of view and silences another.” Metadata categories signify choices on what information is or isn’t recorded and how. These choices consequently have practical implications in relation to how we perceive the data this metadata refers to—specific people, places, and things with specific contexts. (1999) In this sense data included or excluded from collection documentation can be reflective of organizational interests, discourses, and focuses. Nevertheless, similarly to the authorized heritage discourse, in classification work local conditions and choices are often rendered invisible through the authority of the “standard” or category.

4) Database Design and Dynamics of Access and Display

In the case of Digital Benin, the project's consolidation of multiple datasets resulted in working with a wide range of differing categories and institutional data standards which, through visualization and database design can yield previously invisible information on "local" data features to each institution. Digital Benin's objective of consolidating and linking data from varying institutions and in varying forms is first evident in the projects' data transfers from institutions. Asking institutions to transfer data in its original form, as it is held in their institutional databases, Digital Benin took into account two challenges. First, that of varying levels of resources on the part of institutions to dedicate human resources to reformatting information to a different standard or liaising with the Digital Benin team. Second, the possibility of loss of data if the data was to be restructured, changed or otherwise "cleaned" once in the hands of the Digital Benin team.²² In essence these considerations account for the ways in which the restructuring of data could lead to a limited view of the databases cons accounts for the ways in which data standards and the choices made when populating metadata categories inevitably result in data getting "lost in translation" and thus a limited view of the data made accessible in a broader database like the one Digital Benin set out to create. (Loukissas 2019)

Moreover, the project team identified the influence of technology on knowledge production within the museum space, and vice versa and the constraints of broad classifications in relation to collection management was evident in the data transfers received. As put by Luther "it seems almost deliberate that institutions never captured the native descriptor or designation for objects."²³ Luther refers to the Edo language designations of the objects included in the Benin Bronzes. This gap in the data received by Digital Benin pinpoints particularities of the perspective from which the original data was gathered; in which a decontextualization of the objects aligns with discourses of display. (Wood 2012) The gap however, also identified spaces for new qualitative research to take place as the project team consulted with various stakeholders in Benin City to identify the appropriate designations for the objects and thus fill this gap. (Obobaifo 2021)

Design and Development is a particularly important part of the project, as it constitutes the spaces through which Digital Benin manages the data received. This is

²² Anne Luther, interview by author. August 10, 2022.

²³ Luther, interview.

particularly evident in the design and development team involvement from the proposal writing stage and the concurrent production of the design and development of the project and the data consolidation and research process. This working model diverges from other Digital Humanities projects where research and data consolidation occurs before design and development is introduced to the project; prioritizing one over the other. (Dooley 2011) Instead, in the case of Digital Benin, “researchers inform<ed> the development team and the development team inform<ed> the researchers”.²⁴ This dynamic resulted in an early decision to custom build the full development stack.²⁵ In terms of information classification and knowledge production, full stack development would allow the project to create a structure that fit the data in the database rather than import the data into a prebuilt structure that would replicate past risks of data loss or further decontextualisation. Through this methodology, the project could be interpreted as seeking to create a more flexible and expansive version of the technology in a way that reduces the discursive constraints of limiting or singular classifications.

Furthermore, Digital Benin’s positioning as a “custom built” project where content is not primarily informed by database design (like an intermediary platform)--resulted in an expansion of points of access to the database. Responding to the data consolidated through Digital Benin authored research and institutional data transfers Digital Benin adopted the concept of a variety of linked access points through which the database could be accessed. Although users can still access objects individually, the database’s main points of access come in the forms of contextual object groupings that prioritize networked information. For example, data can be accessed through location, provenance, institution, and oral history among other groupings. Consequently, Digital Benin’s development process can be interpreted as a “research through design” methodology, where project teams seek to bridge the gaps and variances between datasets through design and development of their interface; rendering visible previously invisible choices of information access and display. (Gaver 2012; Schofield et al. 2015) This results in a presentation that diverges from traditional “museum data” structures that prioritize objects with the intent to present new avenues for data exploration and knowledge creation.

²⁴ Luther, interview.

²⁵ Luther, interview.

In practice the connection of multiple data sets results in a vast, if almost overwhelming, database with researcher identified access points for exploration. As observed from a prototype, the database presents users with data sets classified by institution, object groupings, provenance, the history of Benin, oral history and geotagged maps.²⁶ This variety in access points intends to provide a variety of engagement options as well as multiple visualizations of the data stored in the database.

Furthermore, the interface itself continues to prioritize data over traditional content displays. Instead of presenting objects simply through images, many of the access points quantify the data through an initial visualization similar to bar graphs. Here the objects held at institutions or coming from specific people, in the provenance access point, are quantified and identified through color coded object categories connected to each titled entity. These visualizations recontextualize the data, now presented in a way that somehow divorces it from past institutional databases where an image-text format might have been prioritized. In other words, a new technology of display is employed in a way that ultimately changes the ways in which the data has been previously accessed and displayed.

The prototype's commitment to displaying the data as received from institutional data transfers also works to pinpoint further data gaps or differences between internal and external data. Gaps in the data are evident where fields included in museum's database standards but left blank in the data transfer are displayed in the object profiles, effectively marking missing data. Similarly, when there are differing internal and external data for specific objects both data sets are displayed; which might facilitate the comparison between these datasets to reveal new insights on collection management and information access as it pertains to these objects.

Additionally Digital Benin specific research works to further contextualize the datasets on display as well as introduce new object groupings based on qualitative research. This research includes displaying Benin Kingdom hierarchies, oral histories surrounding the objects, and visualizing their current physical locations.(Obobaifo 2021) Not only does this provide a more vivid qualitative access point into the database but it can be interpreted as responsive to public demands for further contextualization of the objects (as opposed to historical AHD) as well as a comprehensive identification and location of the objects, which

²⁶ Luther, interview.

might have practical implications in regards to repatriation efforts.(Ezuluomba 2021; Phillips 2021)

Likewise, it is important to note that Digital Benin itself has developed a metadata structure, from the received data, that acts as tags in order to connect data between datasets. A controlled vocabulary to facilitate query has also been constructed. This metadata structure could predictively act both as affordance and constraint to the access and display of the data in Digital Benin, both allowing for cross data set investigations while applying a certain structure that of course reflects the situation and perspective surrounding Digital Benin itself.²⁷ In this case, this new metadata structure might also open up new comparisons between the general institutional structures containing the data received and Digital Benin's structure constructed for this particular dataset.

In its design and development Digital Benin also seemingly looks to avoid "the myth of digital universalism" in which an assumed universal digital presence ignores the nature of digital access informed by social and material realities. (A. S. Chan 2014) This myth hinders access and propagates inquiries in dynamics of access and display as digitization projects seem to mostly cater to a European and US context by ignoring diverse digital uses within a broader context (including digital divides and the adoption of differing technologies). Digital Benin itself was initially developed for a mobile format, taking into account the digital habits of people in Nigeria itself. Where the majority of digital access happens through smartphones and mobile internet rather than router based networks (99.2% smartphone ownership among internet users as opposed to 54.1% desktop or laptop ownership) creating a desktop based interface would in fact hinder access to the database consolidated by the project.(Dokua Sasu 2022) By prioritizing a mobile-based interface the project effectively identifies its largest, or perhaps most invested audience, while not limiting its audience base to a certain region by way of ignored needs.

Similarly, the project addresses concerns over the digital divide by introducing approaches to take the database offline. Through educational print-outs created by Osaze Amadazun, Benin City artist, that include object illustrations, english and Edo designations, as well as introductory texts the project team hopes to ensure the database can be used "in a classroom that doesn't have a set of forty laptops"²⁸ This disposition is an example of the

²⁷ Luther, interview.

²⁸ Luther, interview.

project's objective to appeal to a variety of audiences from young students to provenance researchers and activists through a dynamic presentation of the data.

5) Conclusion

The “research through design” model evidenced in Digital Benin’s project structure creates a dynamic database focused on recontextualization of the datasets offered by the platform—particularly relevant to the collection at hand. Moreover, the inclusion of qualitative based project research along with data visualizations works to render visible the “local” qualities of the data sets presented; illustrating discourses held within data structures. Similarly, development and design is evidently informed by the imagined user of the interface, rejecting “digital universalism” in order to center accessibility and audience engagement.

The consolidation of this data results in opportunities for further knowledge creation and the production of unique insights about the objects and their translocation. As a result, in the development process and prototype Digital Benin presents the possibility of a dynamic database generative of further research, activism, and discourse. Within the framework of new technologies of display, the flexibility evidenced in the approach to database access points and collection specific interfaces presents tangible opportunities for the mediation of dynamics of access and display. Further analysis is needed to confirm these possibilities after the project becomes publicly available.

Final Conclusions

New technologies of display demonstrate a wealth of modes to negotiate dynamics of access and display. In their positioning within the culture and heritage sphere as well as their conditioning as technological tools these new technologies of display are held to constraints and affordances of the technologies themselves as well as those unique to the creation of knowledge and mediation of culture and heritage. Paradigms explored within the theorization of technology itself are encountered time and time again in new technologies of display, including: the “locality” of data, content moderation and the platformization of society, and the possibilities of a “full stack” model. Similarly, paradigms exploring the valorization of art, discursive authority, and mediation and engagement are still found within the application of these new technologies. In perspective, it is imperative to understand new technologies of display as expansive tools within paradigms of display while not inherently disruptive to pre-established dynamics of access and display.

The classification of new technologies of display by stakeholders and project objectives can be useful as a point of access for further analysis on the constraints and affordances of the projects themselves. The analysis of *Van Gogh: The Immersive Experience* highlights the magnitude of engagement brought on by immersive technologies and the choices made in exhibition design with stakeholders that differ from traditional discursive authorities. The adoption of immersive technologies by the private sector is also indicative of access to the technologies themselves and opportunities of profitability in the sector. The exploration of Europeana’s challenges in user engagement and platform mediation pinpoints questions intrinsic to intermediary platform models in which digitalization exposes and develops pre existing “analogue” tensions. The study of Digital Benin’s design and development is revelatory of the ties between knowledge creation and the circulation of discourse, as well as the possibilities brought on for further institutional research by way of digital design.

Consequently, new technologies of display can be thought of through their impact and intent when implemented for varied purposes. Where new mediations, knowledge creation, and intermediary actors set out differing project objectives while ultimately continuously focusing on the circulation, adjustment and exchange of information or discourse.

Nevertheless, a network framework is important to understanding the interconnected nature between the project explored and the actors involved in their implementation. Institutional knowledge creation, intermediary platforms, and new mediations of culture and heritage inform one another; exchanging information and innovations rather than working in parallel to one another. Immersive experiences produced by the private sector are informed in some capacity by institutional discourse on education and art historical research. Intermediary platforms are informed by private sector content formats and audience engagement trends. Institutional projects make an effort to provide content generative outside of an institutional framework. New technologies of display offer the possibility of new perspectives of culture and heritage display. That is to say, in which display can be produced from a wide range of positions within the cultural ecosystem with expansive objectives beyond the construction of the authorized heritage discourse.

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Figures



Figure 1. Dan Swartz. 2021. Van Gogh: The Immersive Experience. Photograph. Exhibition Hub & Fever.



Figure 2. Arjun Jain. 2021. Van Gogh: The Immersive Experience. Photograph. 34thStreet.
<https://www.34st.com/article/2021/09/vincent-van-gogh-philadelphia-immersive-experience-virtual-reality-to-wer-theatre>

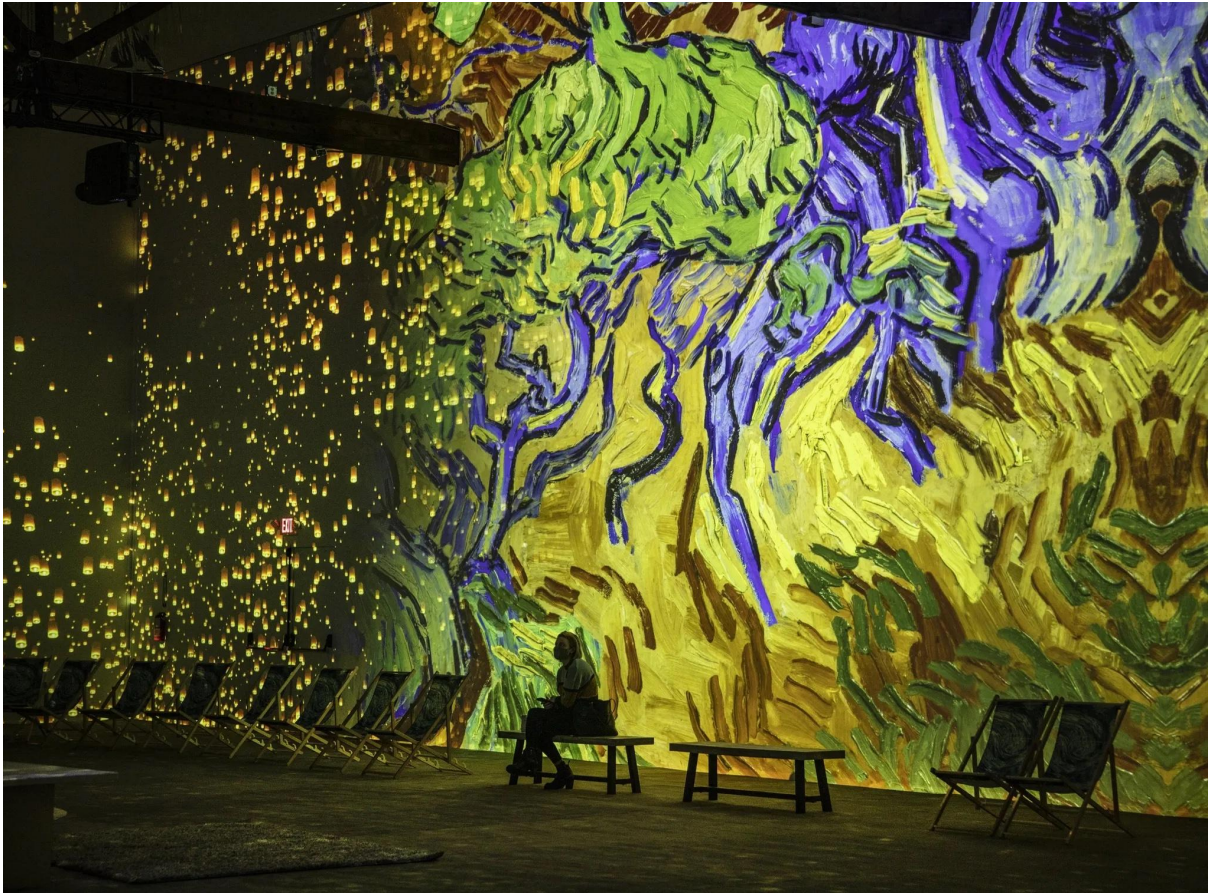


Figure 3. Steve Ringman. Van Gogh: The Immersive Experience. The Seattle Times.



Figure 4. Dan Swartz. 2021. Van Gogh: The Immersive Experience. Photograph. Exhibition Hub & Fever.

Appendix

[Participant consent forms, interview recordings and transcriptions](#)

[Application for Certificate of Ethical Approval](#)