

## **Panoramic and Immersive Media Studies Yearbook**

# **Panoramic and Immersive Media Studies Yearbook**



Edited by  
Molly C. Briggs, Thorsten Logge  
and Nicholas C. Lowe

## **Volume 2**

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Molly C. Briggs, Thorsten Logge and Nicholas C. Lowe

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# Contents

PIMS Yearbook Editorial Board — XI

Call for the PIMS Yearbook, volume 3, 2026 — XIII

## 1 Scholarly Essays

Liz Crooks, Melissa Wolfe

**Introduction — 3**

Rachel Burke

**Henry “Box” Brown’s Reflection of Slavery and the American Landscape:  
Reconstructing the Moving Panorama *Mirror of Slavery* — 7**

Conor Lauesen

**Slabs of White: Panoramic Whales and Photographic Guano in the Mid-Nineteenth  
Century — 37**

## 2 Forum

Molly C. Briggs, Thorsten Logge, Nicholas C. Lowe

**Introduction: Context and Conversation in Panoramic  
and Immersive Media Studies — 79**

Adela-Iuliana Negustor

**Beyond the Global Gaze: Celebrating Planetarium Diversity and Shaping a Spherical  
Worldview on Their Centennial — 81**

Richard A. Pegg

**“Panoramas” in East Asia — 93**

Mgr Beata Stragierowicz

**The History of Chinese Panoramas Began with a Visit to the Panorama of the Battle  
of Raławice — 105**

### 3 Reprints

Molly C. Briggs, Thorsten Logge, Nicholas C. Lowe

**Introduction: How a Great Battle Panorama is Made — 113**

Theodore R. Davis

**How a Great Battle Panorama is Made — 117**

### 4 Restoration, Management, and Field Reports

Gabriele Koller, Patrick Deicher

**Introduction: Restoring, Reconstructing and Reviving Historic Panoramas — 137**

Christian Marty

**The Bourbaki Panorama and the Challenges of Restoring the Optical Apparatus — 139**

Ryszard Wójtowicz

**The Raławice Panorama and its Two Counterparts: Reconstruction in the Process of Panorama Revitalization — 153**

Vera Bras

**The *Panorama of the Battle of the Yser* at Nieuwpoort: How One of the War Heritage Institute's War Panoramas is Presented in a New Permanent World War I Exhibition in Westfront Nieuwpoort, Belgium — 165**

Carl Smith, Geoffrey Alan Rhodes

**The Chicago Fire Cyclorama Reimagined: A Prototype for Immersive, Object-based Storytelling — 177**

### 5 Visual and Creative Essays

Ruby Carlson, Sara Velas

**Introduction: Immersive Empires, Expansive Texts — 193**

Stephanie Ellis Schlaifer

**Men Arrived on Horseback (Boas) — 195**

Megan Koester

**A Façade on a Façade: The Necessity of Universal Studios' Immersive Fictions — 201**

Ursula Brookbank

**Lens, Light, Mirror: Various Experiences Made with an Overhead Projector — 211**

Blagovesta Momchedjikova

**Panorama Poem — 223**

Jeffrey Ose Ohuaregbe

**The Multidimensional Living Manifesto — 231**

Matilda Bathurst

**The Wilderness Shall Blossom as the Rose — 237**

Tonia Ramogida

**Panorama: IPC 2024 Post-Conference Tour — 247**

## **6 International Panorama Council Conference Report & Papers**

Tonia Ramogida, Daniel Jaquet, Sarah Kenderdine

**Panoramas as Memory of the World: Perspectives from the 33rd IPC Conference Hosts — 261**

Patrick Deicher

**Short History of the Swiss and International Panorama Initiatives and Ideas Regarding UNESCO — 273**

Suzanne Wray

**Charles A. Chase and the Electric Cyclorama — 281**

Ruby Carlson, Sara Velas, Weiling Deng

***The Nova Tuskhut: A Walk-in Archive of “Arctic” Things — 289***

Rod Bantjes

**An Archaeology of Time and Memory in Panoptic Media — 311**

Ulrike Heydenreich

***Verlangen naar de verte / Longing for the Distance—Reflections on My Solo Exhibition at Museum Panorama Mesdag in The Hague, 2023 — 323***

Chiara Masiero Sgrinzatto

**Illustrating a New Memory: Panorama Key and Virtual Tour for the Exhibition *Panorama of Congo* — 335**

Karolina Wójtowicz

**Redefining Perception of Cultural Heritage: Extending Reality with 3D Models, VR, AI, and Gaming Technology — 355**

**Conference Program — 376**

**Presentation Abstracts & Author Biographies — 382**

## 7 Reviews

Victor Flores, Linda King

**Interview—Exposing Contrasts: A Conversation with Matthew G. Stanard on the *Panorama of Congo* and Belgian Colonial Propaganda — 419**

Gabriele Koller

**Book Review—*The Panorama of the Battle of Racławice and its Two Counterparts* by Ryszard Wójtowicz — 433**

Blagovesta Momchedjikova

**Book Review—*Sacred Spaces of New England: Cultural Heritage and the Panorama* by Seth Thompson — 441**

Andrew J. Reading

**Exhibition Catalog Review—*On the Spot: Panoramic Gaze on Istanbul, A History* — 447**

## 8 Call for the 2025 Conference

**The World at a Glance: Panoramic and Peep Technologies — 453**

**Index — 457**



**Cover image:** Fire detail. Detail of the *Panorama of the Battle of Murten* (Louis Braun, 1893–1894), oil on canvas, 10 × 100 m. Image, EPFL Laboratory for Experimental Museology, 2024.



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## Call for the PIMS Yearbook, volume 3, 2026

The *Panoramic and Immersive Media Studies Yearbook* (PIMS Yearbook) is the annual yearbook of the International Panorama Council (IPC, Switzerland), published by De Gruyter Oldenbourg (Germany). It surveys the historical and contemporary landscape of panoramic and immersive media. This interdisciplinary field includes—but is not limited to—optical and haptic devices; 360-degree paintings; long-form paintings, photography, and prints; dioramas; museum displays; games; gardens; literature; maps; music; printed matter; still and moving images; virtual and augmented reality; and theatrical productions. Whereas the notion of the panoramic describes extensive, expansive and/or all-embracing vistas, immersion refers to porous interfaces between representation and the real, observer and observed, nature and culture, and past, present, and future. Together, the concepts of panorama and immersion have catalyzed time- and space-bending strategies for creating, experiencing, and transforming culture, ideas, and built social space across the arc of human history.

The PIMS Yearbook welcomes contributions from a range of disciplinary perspectives with the understanding that methodologies in the humanities, the arts, the sciences, design disciplines, social sciences, engineering, and other fields contribute important perspectives to the interdisciplinary field of panoramic and immersive media studies. The PIMS Yearbook is published in full color, in print and open access digital formats.

The International Panorama Council is an international organization of panorama specialists committed to supporting the heritage and conservation of extant nineteenth and early-twentieth-century panoramas, and to promoting awareness of the medium's history, derivative forms, and contemporary iterations. As a non-governmental and not-for-profit association, subject to Swiss law, the IPC is active in the fields of panorama research, restoration, financing, management, exhibition, and marketing. The PIMS Yearbook succeeds the *International Panorama Council Journal* (IPCJ), a selected proceedings of the annual conferences of the IPC, published 2017–2023.

This open call invites scholarly, creative, and practical contributions in seven areas including scholarly essays (subject to double-blind external peer review); visual and creative essays; restoration, management, and field reports; opinion forum pieces; IPC conference reports & papers (this section is open only to IPC conference presenters; contributions are subject to single-blind peer review); reviews; and reprints. Contributions may explore a range of ideas in panoramic and immersive media, such as historical and contemporary uses of immersive technologies; innovative methods in preservation and heritage interpretation; tools for applications in museum interpretation and display, contemporary art practices, or educational settings; exploring contested heritage; and analyzing nationalist and imperialist discourses.

We welcome contributions from IPC members and non-members alike. The PIMS Yearbook is managed by three Executive Editors, a team of Section Editors, and an Editorial Advisory Board. In addition, each issue invites one or more Guest Editors. Review the complete and most-current call for contributions at [https://panoramacouncil.org/en/publications/the\\_panoramic\\_immersive\\_media\\_studies\\_yearbook/](https://panoramacouncil.org/en/publications/the_panoramic_immersive_media_studies_yearbook/).

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## 1 Scholarly Essays



Liz Crooks, Melissa Wolfe

## Introduction

The two papers in this volume's scholarly section demonstrate the ways in which panoramas, and more specifically moving panoramas, situate themselves within the tangled interstices of a remarkable array of critical and creative inquiries. In part, this is a result of the complicated nature of these otherwise seemingly straightforward popular entertainments. Moving panoramas are, all at once, a multiplicity of visual, auditory, sensory, performative, narrative, static and temporal agencies. They contain systemic impulses of immersion and control as much as they do of rupture and slippage. As both authors focus on specific moving panoramas, they draw upon a breadth of disciplines and perspectives to engage or disrupt these complex dynamics, revealing in operation not only the potential of panorama studies to contribute to a multiplicity of dialogues, but also the potential for future directions of inquiry.

In "Henry 'Box' Brown's Reflection of Slavery and the American Landscape: Reconstructing the Moving Panorama *Mirror of Slavery*" Rachel Burke explores the ways in which Brown—who self-emancipated from slavery by shipping himself to Philadelphia in 1849—created a panorama performance with the narrative of slavery directed by a Black authorial voice. Throughout the paper, Burke reveals ways in which Brown exploits the instability of both the panorama and landscape formats and structures to disrupt racial erasure. Brown situated his narrative on the movement of a Nubian family from Africa, through enslavement in the United States, to an imagined future of emancipation. He usurped white authorial agency through strategies such as the geo-temporal juxtaposition of locations made possible by the scrolling action of the panorama.

Burke shows that one of Brown's most powerful disruptions to white narrative authority, however, was his own irrefutable physical presence and authorial voice as a fugitive from slavery. The demonstrated centrality of the role of a live narrator in this paper suggests the important contributions that performance studies can offer the direction of panorama scholarship. Similarly, Burke's analysis of the modes by which Brown disrupted disempowering narratives to give authority to Black experience offers a powerfully regenerative model for contemporary scholars and curators of panoramas to deconstruct or read against other, often colonizing, narratives of erasure. Her work here suggests that panoramas have the potential to be equally adept visual sites to engage and counter such narratives as they have been shown to sustain them.

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The second paper in this section is “Slabs of White: Panoramic Whales and Photographic Guano in the Mid-Nineteenth Century” authored by Conor Lauesen. As Lauesen notes, his work is situated “at the fulcrum” of multiple fields of inquiry, drawing into its intellectual scaffolding a wide breadth of disciplines and scholarship. It is a model of the intersectional possibilities of panorama studies. Lauesen’s inquiry brings a close and critically informed lens to bare on Benjamin Russell and Caleb Purrington’s *A Grand Panorama of a Whaling Voyage ‘Round the World*. The paper considers the panorama in the collision / collusion of capitalistic industry and artistic production in the realms of whaling, guano harvesting, photography, and moving panoramas. Like many panoramas created in the early nineteenth century, Russell and Purrington’s works to sustain the erasure of violence and greed that enabled colonializing wealth accumulation. And, Lauesen suggests that, also like many panoramas, the ambitions of its content and performance stressed the abilities of its construction. Panoramas are slippery objects or, as Lauesen quotes Allan Sekula, panoramas are “paradoxical,” “potentially unstable,” and their “Expansive. . .space is always haunted by the threat of collapse.”

To reveal the colonializing power operative through *Whaling Voyage*, Lauesen pushes on the paradoxical, self-destructive impulse of panoramas; they work to assert an indisputable “real” authority that they simultaneously destabilize. Their additive nature—a compilation of literary, historical, and geological details and tropes stitched together through visual, spoken, and contextual modes—supports claims of factuality made even more convincing through the power of their scale and immersive, sensory rich presentation. All this presses so hard on claims to reality that it begins to pull at its seams, showing the presence of the panorama’s narrative stitching. Claims of verisimilitude are further undermined by the panorama’s compositional structure. As Lauesen demonstrates, besides a narrative that normalizes erasure, easy entry into the landscape sustains the colonializing gaze. However, the scrolling movement of moving panoramas works counter to a stable gaze that instigates visual entry. And, given the oceanic location, the horizontal movement joins the unending tide of waves to side-swipe the stance of the viewer, making them work against the movement of the image in any attempt to gain possession of the land they gaze upon. In giving presence to the narrative suturing and unstable access, Lauesen’s inquiry is disruptive, bringing to light the violence these elements worked to shade. It pulls apart the compositions of visual material—both *Whaling Voyage* and the series of photographs he also brings into the scope of this paper—revealing them to be too unstable to contain the structure of power they work to sustain.

In introducing these two papers, we have been led to suggest disruptive strategies, both in critical inquiry and in the inversion of panorama narrative, and performance theory as promising directions and dialogues for panorama studies. However, what this section also brings into focus is the scale of production that panoramas engaged. Panorama creation and performance were and are large-scale collaborative projects. They are “produced” in both the theatrical and workshop senses of this word. They are

multi-faceted presentations that perhaps require something more like “syncing” than a more singular-dimensional concept of “stitching,” and their failing more like “falling out of sync” than gaping. Panorama scholars could move even more than we have to date to think “in the round” in order to understand the gaps, anxieties, narratives, experiential, and ephemeral aspects of panoramas and the political, socio-economic, and creative dynamics in which they are participants.



Rachel Burke

# Henry “Box” Brown’s Reflection of Slavery and the American Landscape: Reconstructing the Moving Panorama *Mirror of Slavery*

**Abstract:** Henry “Box” Brown self-emancipated from slavery in 1849 by shipping himself to Philadelphia, Pennsylvania in a cargo crate. After his delivery, he was moved to Massachusetts, where abolitionists from the Massachusetts Anti-Slavery Society positioned him as a kind of celebrity fugitive. In 1850, he produced *Mirror of Slavery*, an antislavery moving panorama that was modelled after common abolitionist illustrations and popular American landscapes. This essay provides a cursory reconstruction of the now-lost panorama, asserting that Brown’s act of pictorial appropriation can be understood as a reclamation of authorial agency. Furthermore, *Mirror of Slavery* structures a reexamination of nineteenth-century American landscape practice, exposing how popular depictions of destinations in the United States erased Black presence and naturalized white relationships to land.

**Keywords:** Landscapes, abolition, print culture, slavery, panorama, race

## 1 Introduction

In 1849, Henry Brown escaped slavery by climbing into a wooden cargo crate that was mailed from Richmond, Virginia to abolitionists in Pennsylvania. He spent twenty-seven anxious hours in darkness, blindly traveling across state lines, until he was finally delivered to Philadelphia. Despite being north of the Mason-Dixon, being so close to Virginia Brown was still unsafe, so abolitionists sent him to Massachusetts, where he found work speaking at antislavery conventions. He worked closely with people in the Massachusetts Anti-Slavery Society (MASS) and quickly became a successful public speaker, adopting the persona Henry “Box” Brown. He was a sensation on the antislavery circuit, captivating audiences with speeches and songs about his daring escape. Leveraging his newfound success and support within the antislavery community, in 1850 he produced a moving panorama, *Mirror of Slavery*, which debuted to enthusiastic reviews. As a show about the history of slavery that incorporated parts of his autobiography, Brown’s panorama was a natural extension of his antislavery appearances that also solidified his reputation as a skilled performer. When the Fugitive Slave Act forced Brown to relocate to England later that year, he supported himself as a panoramist,

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with English critics reporting theaters “crowded to suffocation” to see *Mirror of Slavery* (*Leeds Mercury* 1851a).

Unfortunately, like many moving panoramas from this period, the painted canvas to *Mirror of Slavery* has since been lost. Moreover, the available ephemera is limited to a few reviews, advertisements, broadsides, and one ticket; if Brown ever made preparatory sketches or issued a pamphlet to accompany the panorama, they have not been found. Among this material, however, are enough written descriptions for historians to analyze *Mirror of Slavery* within the context of Brown’s life and career. According to advertisements, *Mirror of Slavery* staged a history of American enslavement and emancipation, “painted from the best and most authentic sources of information,” that featured characters including Brown and other real-life “fugitives” from slavery, people who emancipated themselves by physically fleeing the geography of bondage (*Liberator* 1850b). A list of scene titles reveals that although his canvas depicted slavery—plotted as a journey from Africa through the United States, unfurling behind Brown as he narrated—it was a panorama that organized a universe around Black protagonists. Most of his scenes were copied from pre-existing images, sourced from abolitionist material and American landscape prints, but Brown arranged and animated them in a way that platformed Black agency. He still managed to appeal to white audiences, however, and *Mirror of Slavery* launched his long entertainment career in England (Wolff 1996, 23). His success as a Black performer in Victorian theaters has inspired a growing body of academic literature, including three books on his life and work (Ruggles 2003; Chater 2020; Cutter 2022). Contemporary artists, too, have been drawn to Brown, identifying his act of escape as a performance and precursor to his work on stage.<sup>1</sup>

Despite this interest, however, *Mirror of Slavery* has yet to receive significant art historical attention.<sup>2</sup> I address this oversight in the following essay, adding to discourse that positions moving panoramas within the larger practice of American landscape rep-

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1 See Torkwase Dyson, *I Can’t Breathe (Water Table)*, 2018; Wilmer Wilson IV, *Henry “Box” Brown: Forever*, 2012; and Glenn Ligon, *To Disembark, Sheldon*, 1993–1994, among others.

2 Most scholarly accounts situate the moving panorama within Brown’s biography or the broader histories of nineteenth-century performance and antislavery activism. *The Unboxing of Henry Brown*, published in 2003 by Jeffrey Ruggles, is the foundational text on Brown, offering an invaluable aggregate of his performances across his lifetime. Ruggles also built out Cynthia Wolff’s claim that “virtually none” of *Mirror of Slavery*’s images were new by identifying specific source materials Brown consulted (Wolff 1996, 23–45; Ruggles 2003, 95–108). Performance studies scholars such as Daphne Brooks have elaborated on this scholarship, understanding Brown within the racial politics of nineteenth-century entertainment and putting *Mirror of Slavery* in dialogue with other Black creators’ work (Brooks 2006, 66–130); research that Hannah-Rose Murray has recently expanded with evidence that situates Brown alongside renowned African American actors like Ira Aldridge (Murray 2021, 1). In 2020, Kathleen Chater published a book that enriched the biography of Brown, focusing on his life and performances in England (Chater 2020). Also in 2020, Martha Cutter added to the performance timeline established by Ruggles with access to new archival material and filled a gap in the literature by addressing “how performance work was threaded into Brown’s life as a whole (Cutter 2020, 6).” While these accounts have all been critical to my own research, with the exception of Ruggles’ chapter, they provide little insight to the actual panoramic

representations.<sup>3</sup> To analyze a lost object, I first recover what is known about Brown’s performance appearances. I then refer to a list of scene titles and written descriptions to situate *Mirror of Slavery* in the context of 1840s exhibition culture in Boston, ultimately connecting information about Brown’s abolitionist network with trends in antebellum landscape production to generate a sketch of what *Mirror of Slavery* looked like, focusing on the latter half of the panorama that unfurls a journey in the United States. My analysis considers how Brown’s appropriation of images by white creators for white consumers disrupts expectations of the American landscape. This consideration builds on performance studies scholarship led by Daphne Brooks, who asserts that *Mirror of Slavery* worked to “re-present slavery,” elevating the “fugitive experience into the historical imaginary” (Brooks 2006, 91). Specifically, I argue that his performance activates re-presentations of familiar geographies in the South, staging a conflict between Brown’s panoramic authority and his lived experience. At these points in the show, Brown guided theater-goers through spaces where he would have been arrested in real life; seized and re-enslaved. By constructing a universe around fugitive motion, I conclude that *Mirror of Slavery* ultimately surfaced how American landscape representations implicitly worked to naturalize white mobility.

## 2 The Performance Landscape

Brown first exhibited his moving panorama after barely a year in Massachusetts. On March 23, 1849, he climbed into his box in Richmond; on April 11, 1850, he was on stage at the Washingtonian Hall in Boston for the debut of *Mirror of Slavery* (Ruggles 2003, 32). To effect such a transformation, Brown relied on collaborators at every step of his journey. In Virginia, he worked with James C.A. Smith, a free Black man, who coordinated Brown’s delivery to abolitionists in Pennsylvania, who arranged for his move north. In Massachusetts, Brown found work and help with *Mirror of Slavery* from local reform activists, including members of MASS. Since Brown was illiterate, most of what is known about his immediate life after Virginia comes from this network of associates. Without any personal writings or sketches, it is difficult to pinpoint exactly why or what motivated Brown’s decision to make a panorama, but Jeffrey Ruggles and other historians have been able to delineate the basic contours of Brown’s production and process from the records kept by those around him. Between the personal correspondences of his colleagues, MASS documents, and newspaper coverage, it is clear that *Mirror of*

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canvas. This is the first attempt to expand Ruggles’ research in an art historical consideration of the visual sources Brown used for *Mirror of Slavery*.

<sup>3</sup> To quote Angela Miller, integrating the panorama within the “ecology” of landscape art has begun to mitigate the “blind spots” in landscape art history produced by the “siloeing of visual studies by genre and medium” (Miller 2017, 35).

Slavery was an ambitious and collaborative project, led by Brown and facilitated by the connections he made among activists in Massachusetts.

Since the 1830s, Massachusetts had been a destination for American fugitives from slavery, where abolitionists helped connect self-emancipated people to shelter and employment opportunities (Minardi 2010, 159). Understandably, few fugitives became public figures, but Brown readily found work as an antislavery speaker. His first public testimony to the abuses of slavery was at the New-England Anti-Slavery Convention in June 1849, during which he concluded the story of his escape with a hymn of thanksgiving that he sang upon his arrival in Philadelphia. Audiences were instantly charmed and Brown was brought out several more times over the course of the convention, lauded by other speakers who reflected on the symbolism of the man who “arose from the temporary coffin into a living life” (*Liberator* 1849). Brown left the convention rechristened Henry “Box” Brown, equipped with the distinction of a new persona that would launch his long career in showbusiness.

According to the 1851 *Narrative of the Life of Henry Box Brown, Written by Himself*, Brown had been a performer prior to his move to Boston. While in Richmond, he “had for a long while been a member in the choir,” cultivating a love of song that “burst forth” when he rose from his box in Philadelphia and launched into an impromptu hymn of thanksgiving inspired by Psalm 40. Despite the title, this narrative was based on first edition written and published by white abolitionists who editorialized Brown’s life under slavery according to their political aims. Yet the truth about Brown’s talent is borne out in nearly every account of his first convention appearance, where he reportedly revealed “a singularly melodious voice” that left the air “rent with loud applause.” (*Friends’ Weekly Intelligencer* 1849; *New England Evangelist* 1849)

Regardless of his background, Brown was clearly suited for the stage. He started making regular appearances on the Massachusetts antislavery circuit, sharing his escape story and singing his arrival hymn to excited audiences. He soon added a secular number to his repertoire that reverberated with the chorus,

Brown laid down the shovel and the hoe,  
Down in the box he did go;  
No more slave work for Henry Box Brown,  
In the box by express he did go.

The song was set to a popular blackface minstrel tune “Old Uncle Ned,” replacing the patronizing lyrics of a recently deceased enslaved laborer with seven verses about Brown’s determined journey to freedom (quoted in Howard 2021, 137). Although exact authorship of these new lyrics is uncertain, Daphne Brooks draws a parallel between Brown’s vocal performances and the “almost ritualistic investment in revision and improvisation” that characterized Negro spirituals and other forms of Black religious artistic expression. (Brooks 2006, 116) In the case of “Old Uncle Ned,” Brown leveraged a beloved melody to explicitly emphasize his agency as a “freeman in full custody of



**Engraving of the Box in which HENRY BOX  
BROWN escaped from slavery in Rich-  
mond, Va.**

### **SONG,**

*Sung by Mr. Brown on being removed from the box.*

I waited patiently for the Lord ;—  
And he, in kindness to me, heard my calling—  
And he hath put a new song into my mouth—  
Even thanksgiving—even thanksgiving—  
Unto our God !

Blessed—blessed is the man  
That has set his hope, his hope in the Lord !  
O Lord ! my God ! great, great is the wondrous work  
Which thou hast done !

If I should declare them—and speak of them—  
They would be more than I am able to express.  
I have not kept back thy love, and kindness, and truth,  
From the great congregation !

Withdraw not thou thy mercies from me,  
Let thy love, and kindness, and thy truth, always preserve me—  
Let all those that seek thee be joyful and glad !  
Be joyful and glad !

And let such as love thy salvation—  
Say always—say always—  
The Lord be praised !  
The Lord be praised !

Laing's Steam Press, 1 1-3 Water Street, Boston.

**Fig. 1:** *Song, Sung by Mr. Brown on being removed from the box.* Boston: Laing's Steam Press, 1849.  
Image, Library of Congress.

his own labor and musical ability” (Howard, 137). This correspondence between his emerging persona as a celebrity fugitive and his gains in personal autonomy was manifest in the single-page song sheets of his lyrics that were printed with illustrations of his famous box (fig. 1). The box became his icon, and by selling copies of his song sheets during appearances, Brown reversed the dynamic of his enslavement to profit from his own spectacular self-commodification (Ruggles 2003, 56).

Capitalizing on his rising popularity, Brown worked with white abolitionists to release a narrative of his fugitivity in September. So-called “fugitive narratives”—texts that claimed to relay a first-hand account of enslavement and emancipation from the perspective of the titular fugitive—were a popular genre that began in the 1830s as a way to incorporate the personal testimony of self-emancipated people into antislavery material. White abolitionists packaged the experiences of Black fugitives into accessible, formulaic stories that supported abolitionist initiatives and were read and published worldwide (Sekora 1987, 496). The inclusion of esteemed white activists, such as William Lloyd Garrison, as preface authors or as amanuenses responsible for the entirety of the text, served to authorize the validity of the account (Olney 1984, 50). This ideological and financial control, while responsible for the circulation of over one hundred distinct narratives, often created a racialized power dynamic that undermined fugitive autonomy (Sekora 1987, 483; Aje 2013, 27). In the first edition of Brown’s narrative, for example, the *Narrative of Henry Box Brown, who Escaped from Slavery Enclosed in a Box Three Feet Long, Two Wide, and Two and a Half High. Written From a Statement of Facts Made by Himself, with Remarks Upon the Remedy for Slavery, by Charles Stearns*, it is his editor and amanuensis, Charles Stearns, who is credited with authorship. Stearns was an outspoken abolitionist deep ties to the Boston reform community through his mother and uncle, George Ripley, who founded the famed utopian communal living experiment at Brook Farm. Despite his good politics and intentions, however, Stearns produced a story that subordinated Brown’s voice to his own aggrandizing, didactic asides. Stearns’ “loose and declamatory style” was so overpowering that even a reviewer from the *Liberator*, Garrison’s abolitionist newspaper, had to concede it distracted from Brown’s narrative. However, Brown worked closely with Stearns to promote the book, going on a promotional tour across Massachusetts. Their efforts ultimately paid off: by some estimates, over 8,000 copies of Brown’s narrative were sold in two months, selling out the first print run (Ruggles 2003, 65).

While Brown toured his book with Stearns across Massachusetts, moving panoramas were a staple of the popular media environment. They were an extension of the midcentury demand for American landscape images, offering audiences a chance to be tourists through the national territory. A cursory glance of newspaper classifieds from 1849 reveals that moving panoramas were exhibited in several Massachusetts cities, including Northampton, Pittsfield, and Nantucket (*Hampshire Gazette* 1849; *Pittsfield Sun* 1849; *Nantucket Inquirer* 1849). Among the shows in Boston, the panorama *Stockwell’s Colossal Moving Panorama of the Mississippi River* was being performed at Armory Hall from late August to at least early December (*Daily Evening Transcript*

1849; *Atlas* 1849). It simulated a steamboat voyage, presenting topographical depictions of the Mississippi River frontier into a chronological sequence of events. These river journeys were the most popular moving panoramas in the United States, appealing to a growing territorial consciousness among middle-class white Americans by presenting the landscapes of national expansion as a simple history of time and space, unfurling as the natural consequence of temporal progression (Miller 1996, 45–46). By far the most famous of these panoramas was John Banvard's *Panorama of the Mississippi River*, which came through Boston just a few years before Brown's arrival (*Daily Evening Transcript* 1847). Banvard's show exploited New Englanders' curiosity about the West, offering an immersive view of the Mississippi without the expense or discomfort of travel (Hanners 1981, 38).

Brown's exposure to other moving panoramas is not documented; however, it is known that by the winter of 1849 he enjoyed enough financial stability from his appearances and book sales to begin work on *Mirror of Slavery*. He was living in Boston, where his old partner, James C. A. Smith, had relocated after news of Brown's escape made it dangerous to stay in Virginia. Although he initially avoided prison for his participation in Brown's emancipation, Smith was brought to court again shortly after on nebulous charges that he had left the state. According to Virginia law, not only did free Black people have to apply to move across the state, they were forbidden from returning to Virginia if they left "for any purpose to a none-slaveholding state."<sup>4</sup> He decided he would be safer in Boston, and Ruggles' trenchant research has uncovered letters that reveal Smith spent the period between December 1849 and April 1850 fundraising, traveling, and doing "every thing to help get the means to finish paying for the Panorama." Brown, meanwhile, "procured the execution," working his connections through MASS and Stearns for resources to complete the canvas (Ruggles 2003, 74). He ultimately hired Josiah Wolcott, a local limner active in local reform communities, to paint the panels, and by April *Mirror of Slavery* was ready to premier (*Liberator* 1850a). The panorama promised a history of trans-Atlantic slavery in forty-six scenes that was delivered in two parts: after Part I concluded the journey of a fictional "Nubian" family across the Middle Passage to South Carolina, where they were ultimately enslaved, Part II traced a new trajectory, following the Nubians as they and other fugitives from slavery moved northward along the eastern states to freedom. *Mirror of Slavery* ended on a positive note, in an imagined future where "Universal Emancipation" was waiting.

According to an advertisement printed by the *Liberator* that named the scenes audiences could expect to see, *Mirror of Slavery* was a sequence of panels copied from pre-existing images (fig. 2). For Part II, Brown drew his fugitive protagonists, which included a character of himself, from antislavery media and plotted their movement with scenes modelled after recognizable Southern geographies, such as the Natural

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4 *The Code of Virginia: With the Declaration of Independence and Constitution of the United States and the Declaration of Rights and Constitution of Virginia* (Richmond: William F. Ritchie, 1849). 747

NEW AND ORIGINAL  
**PANORAMA!**

**HENRY BOX BROWN'S MIRROR OF SLAVERY**, designed and painted from the best and most authentic sources of information.

The Diorama will be exhibited This Evening, May 10, at WORCESTER, and continue every evening until further notice.

From the pressing invitation of the friends at Worcester, Mr. Brown has been compelled to comply with their request for the present. There are numerous invitations from other places, which will be attended to in due time.

The following are the scenes:—

**PART I.**

The African Slave Trade.  
The Nubian Family in Freedom.  
The Seizure of Slaves.  
Religious Sacrifice.  
Beautiful Lake and Mountain Scenery in Africa.  
March to the Coast.  
View of the Cape of Good Hope.  
Slave Felucca.  
Interior of a Slave Ship.  
Chase of a Slaver by an English Steam Frigate.  
Spanish Slaver at Havana.  
Landing Slaves.  
Interior of a Slave Mart.  
Gorgeous Scenery of the West India Islands.  
View of Charleston, South Carolina.  
The Nubian Family at Auction.  
March of Chain Gang.  
Modes of Confinement and Punishment.  
Brand and Scourge.  
Interior View of Charleston Workhouse, with Treadmill in full operation.

**PART II.**

Sunday among the Slave Population.  
Monday Morning, with Sugar Plantation and Mill.  
Women at Work.  
Cotton Plantation.  
View of the Lake of the Dismal Swamp.  
Nubians, escaping by Night.  
Ellen Crafts, Escaping.  
Whipping Post and Gallows at Richmond, Va.  
View of Richmond, Va.  
Henry Box Brown, Escaping.  
View of the Natural Bridge and Jefferson's Rock.  
City of Washington, D. C.  
Slave Prisons at Washington.  
Washington's Tomb, at Mount Vernon.  
Fairmount Water Works.  
Henry Box Brown Released at Philadelphia.  
Distant View of the City of Philadelphia.  
Henry Bibb, Escaping.  
Nubian Slaves Retaken.  
Tarring and feathering in South Carolina.  
The Slaveholder's Dream.  
Burning Alive.  
Promise of Freedom.  
West India Emancipation.  
Grand Industrial Palace.  
Grand Tableau Finale—UNIVERSAL EMANCIPATION.  
May 10

Fig. 2: "New and Original Panorama!," *The Liberator*, May 10, 1850. Image, Library of Congress.

Bridge and Mount Vernon. Wolcott, whom Stearns probably introduced from their shared association with the utopian living experiment Brook Farm, was a sensible choice for the panorama. He had worked with abolitionists before, was committed to reform work, and had a background in landscape painting. Through Wolcott, Brown appropriated images that circulated in the Boston print market for the consumption and collection by middle-class, white consumers, and recontextualized them in a narrative that centered fugitivity.

*Mirror of Slavery* was a product of an urban exhibition culture informed by a growing appetite for landscape images. Landscapes were an integral part of antebellum American identity, operating as the “national art” of a republic that linked land-ownership and cultivation to civic participation and liberty (Miller 1993, 223). These representations circulated across Northeast cities through a robust image ecosystem characterized by pictorial recycling. Academic landscape painters drew from moving panoramas, while panoramists, like Brown, hired landscape painters to paint their canvases. Even successful academic artists, like Frederic Church and Jasper Cropsey, both associated with the Hudson River School, were employed on panorama projects. The show they both worked on, the 1850 *Moving Panorama of Pilgrim’s Progress*, also lifted directly from pre-existing print media (Routhier 2015, 28). *Mirror of Slavery* debuted in a visual economy that took advantage of reproductive technology to reach wider audiences—using familiar images, especially landscapes, for new projects was convenient, cost-effective, and expected.

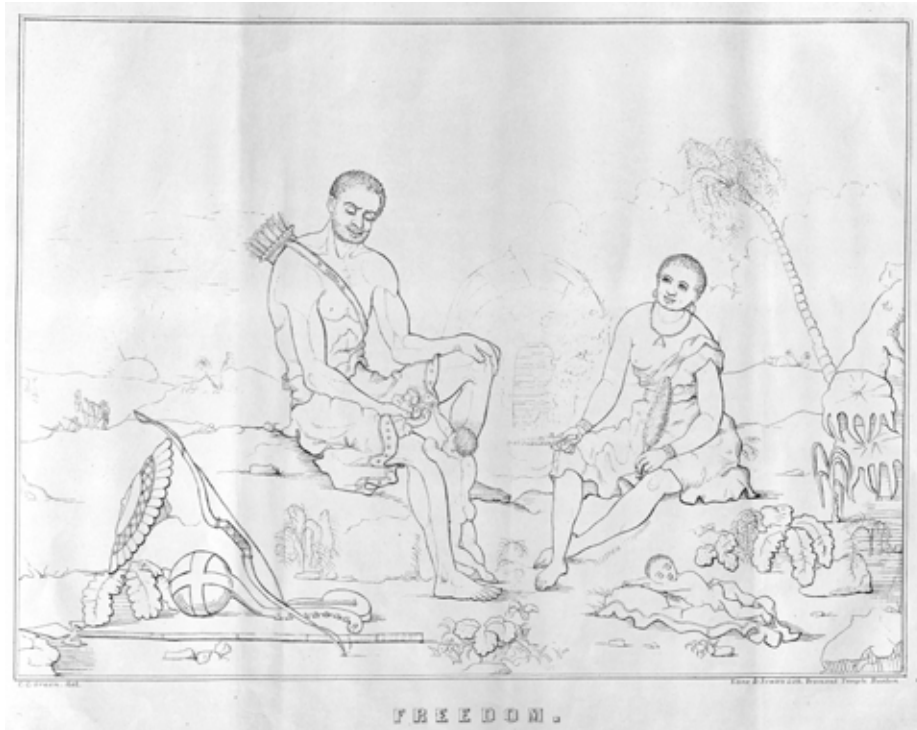
### 3 The Landscape of American Whiteness

Landscapes, or images that focused on topographic expressions rather than narratives enacted by recognizable figures as the primary source of pictorial meaning, were not an American invention. However, over the first half of the nineteenth century, landscape painting was elevated from its humble position in the Anglo-European hierarchy of genre to become the national vernacular. American arts academies identified the apparently “wild” and “untouched” character of American geographies as the means through which artists could develop a style distinct from their Anglo-European peers. Yet “wilderness” was relative, and operated as a construct that erased generations of native stewardship, minimized contemporary policies of indigenous genocide and dispossession, and denied tribal sovereignties coequality with American governments—all while simultaneously positioning the descendants of colonists as the true inheritors of land, justifying territorial expansion as manifest destiny, and, above all, equipping white Americans with the language to distinguish their new republic from the storied legacies upon which Anglo-European societies were built. Landscape production was the result of cultural, political, and religious investment in the transformation—through dominion and ownership—of the “wild” environment. Although tastes in land-

scape practice fluctuated over the years, indexing changing attitudes and policies, the centrality of land, conceptualized as property, remained the source of national identity and character.

Since Barbara Novak situated landscape practice within the social context of the nineteenth-century United States in the 1980s, art historians have understood the appeal of landscape paintings as an instantiation of expansionist ideology (Novak 1995; Boime 1991; Miller 1993). The visualization of land as a comprehensive recession from foreground to background subordinated space to the viewer, thus naturalizing the impulse to value territorial expansion—national efforts to see even more, to record even more of the environment—as human progress. The diversity of subjects indexed developments in transportation infrastructure—documenting geographies opened up to travel—and the desire for representations of these places to supply specific topographic details corresponded with the attendant practice of understanding space cartographically, as fixed geographies in a system defined by human access. Successful American landscape painters, led by names associated with the Hudson River School, responded to the tastes of their patrons. Therefore, as Alan Wallach has argued, landscape paintings are inseparable from the formation of the New York bourgeoisie and register the interests of a patronage class of industrialists and professionals whose wealth was tied to commerce and expansion (Wallach 2017, 43–44).

*Mirror of Slavery*, in turn, offers insight into how these impulses manifested in Boston's popular culture scene in the 1840s. Boston had a robust exhibition market which circulated trends from New York City, the epicenter of antebellum arts production. Brown's panorama reflected these tastes with nine scenes that depicted specific American geographies. In Part I, the "Nubian Family in Freedom," introduced in the second scene, is followed across the Atlantic until the "View of Charleston, South Carolina" announced their arrival on American soil (fig. 3–4). The rest of the scenes appeared in Part II, which opened on a nondescript plantation before following the Nubians as they escaped bondage. After four panels of enslaved life on the plantation, the fugitive journey began with "View of the Lake of the Dismal Swamp," a panel that referred to the wooded wetland on the border of North Carolina and Virginia. The panorama then transitioned to "Nubians, escaping by Night," before advancing to the next panel featuring Ellen Craft, a real-life fugitive and contemporary of Brown who escaped slavery in 1848 by passing as a white slaveowner. Together, they travelled through depictions of Richmond, Virginia, after which the character of Brown, shown in his box in the tenth scene, "Henry Box Brown, Escaping," joined the cast. The movement of the panorama as it unfurled through subsequent panels of the Natural Bridge in Virginia, Washington D.C., Mount Vernon, Fairmount Water Works, and an aerial view of Philadelphia implied the fugitives' movement through these spaces, leveraging the recognizable specificity of these locations to visually communicate a northward journey.



**Fig. 3:** Charles C. Green (American, 1818–1881). *The Nubian Slave*. Boston: Lane & Scott, 1845. Image, American Antiquarian Society.

Chances are that middle-class members of Brown's audience would have recognized these landscapes from their encounter in other contexts. In the 1820s and 1830s, the Boston Athenaeum exhibited several canvases of Washington, Mount Vernon, Fairmount Water Works, and Philadelphia painted by different artists. For viewers who were perhaps too young or otherwise unable to visit the elite institution, landscape paintings by less successful artists or amateurs (who often imitated the work of their academic peers) could be seen at one of the many warehouses or auctions that sold art and other household items throughout the city. Most likely, however, was that Brown's audiences had become familiar with these images through reproductions facilitated by print technology. A growing population of middle-class white consumers, while rich enough to have disposable income but too poor to patronize artists, could afford to collect printed landscapes. Subjects were often American destinations that held appeal for their beauty and cultural significance, reproduced as prints and other household goods in an image market that familiarized national audiences with regional geographies.



**Fig. 4:** William James Bennett (American, 1787–1844). *City of Charleston, South Carolina*, 1838. 54.8 × 75 cm. Image, Library of Congress Prints and Photographs Division.

The scenes “View of the Natural Bridge and Jefferson’s Rock” and “Washington’s Tomb, at Mount Vernon,” for example, referenced two landscapes in Virginia that were recognizable in the Northeast due to their patriotic associations (fig. 5–6). The Natural Bridge, a roughly two-hundred-fifteen-foot limestone arch in the Shenandoah Valley once owned by Thomas Jefferson, and the tomb of George Washington’s remains, enshrined on his Mount Vernon plantation overlooking the Potomac River, were both famous destinations that invited tourists to commemorate American history by retracing the steps beloved founding fathers. The bridge, as drawn in an aquatint published by the New York firm L. P. Clover, was often represented from the south side, shown in the middle ground arching over Cedar Creek as it flows from the lower left-hand corner to the distant mountain forests. Geographic fidelity is suggested through a composition that captures both the towering height and the geologic specificity of the limestone, organized according to a perspective that grounds the viewer among the figures of well-dressed white tourists as a witness to the scene. Prints of Mount Vernon similarly emphasized the non-human qualities of the landscape, sowing the brick tomb in the middle ground and the mansion in the background among leafy foliage, all emerging from a ground of grass that blankets the empty plantation. In a drawing by W. H. Brooke that established the composition for subsequent representations, the viewer is again encouraged to enter the scene, following a path that opens onto the burial grounds and

winds alongside the Potomac River that flows into the distance. The landscape feels intimate, tailored to the perspective of a singular beholder, yet expansive, plotting a clear overview of the plan of the estate.



**Fig. 5:** William James Bennet (American, 1787–1844). *View of the Natural Bridge*, 1835. 49.85 × 65.09 cm. Image, National Gallery of Art, Collection of Mr. and Mrs. Paul Mellon.

The four cities depicted in *Mirror of Slavery* were also common subjects, published as semi-aerial cityscape views in illustrated periodicals and as collectors' items. As urban centers grew over the nineteenth century, artists were commissioned to document American cities from distant, high angles, furnished with enough specifying details for the spaces to be cartographically legible. For middle-class consumers, these prints, usually lithographs, were affordable alternatives to hand-drawn or painted maps that offered apparently neutral records of familiar locations (Reps 1998). A lithograph of Charleston also published L.P. Clover, for example, captures the city with a scope and clarity that exceed the ability of human vision, creating the impression of being an objective, if not scientific, document. The diminutive, featureless, well-dressed white figures imply social movement and activity over a fixed scene, reinforcing the assumption that space is a stable entity that can be objectively mapped. These figures also reas-

sured the white viewers of their entitlement to the city, populating a document that effectively naturalized a very specific raced and classed experience of place. Non-residents of Charleston and other important urban centers also purchased these depictions as a means to experience different parts of the country. Like prints of tourist destinations in less obviously developed geographies, cityscapes encoded a latent possibility of travel and occupation by representing the United States as perpetually available to middle-class white consumers.



**Fig. 6:** William Henry Brooke (British, 1772–1860). *Residence and Tomb of Washington, Mount Vernon, on the Potomac*, c.1850. 12.38cm × 15.56 cm. Image, George Washington's Mount Vernon, Gift of Mrs. H. P. Schulack, 1964.

Brown's proximity to these images reflected a culture unified by a shared spatial entitlement. Despite mounting sectional tensions over slavery between the North and the South, there was a market in Boston for prints of South Carolina and Virginia. Scenes like "View of the Natural Bridge and Jefferson's Rock" and "Washington's Tomb, at Mount Vernon" referenced places imbued with historical relevance that predated antebellum disputes, places that linked national territory with national heritage and located the beginning of a national history in the land (Miller 1993, 234). The city views upheld the rhetoric that American freedoms cultivated unprecedented progress, evidencing the tenacity of American character to transform wilderness previously untouched by Anglo-Europeans into hubs of commercial prosperity. Both subjects were usually rendered in compositions that implied the perspective of a visitor, situating the viewer in

space that was a natural extension of the pictured scene, just behind what was visible in the frame. Consumers expected geographic entry. Moreover, landscapes also offered views that expanded the limitations to human vision, elevating the invitation to enter into a confirmation of sovereignty.

However, as a Black fugitive from slavery, Brown was not the intended beholder of these American landscapes. In South Carolina and Virginia, where he was still legally considered the human property of a white slaveowner, Brown was not welcome to enter the depicted spaces. Unlike upwardly mobile or comfortable white consumers, Brown did not relate to scenes of the Natural Bridge or Mount Vernon as potential tourist destinations. To follow the formal proposition and visit these geographies south of the Mason-Dixon line would be to threaten the very liberty these landscapes purportedly upheld as an American virtue. Even on the "free" soil of Massachusetts, Brown's safety and ability to move about was tenuous at best. Since 1793, article IV, section 2, clause 3 of the United States Constitution—otherwise known as the fugitive slave clause—slaveowners were empowered to "seize and arrest" any fugitives who had escaped into another state while anybody "knowingly and willingly" obstructing this process risked punishment.<sup>5</sup> Shortly after Brown's panorama debut, he was abducted at a *Mirror of Slavery* performance by two law professionals who claimed to be exercising their "constitutional duties" (*Liberator* 1850b). His assailants were emboldened by the proposed Fugitive Slave Act, passed in September, that strengthened the constitutional clause with federal resources and harsher sentences. Simply by appropriating popular scenes for a show led by a Black performer, Brown exposed how American landscape images catered to those who did not experience geographic insecurity issued directly from the federal government.

In addition to maintaining slavery as a spatial regime, enforcing the disenfranchisement of American inhabitants through geography, the federal government reinforced the connection between citizenship and territory with policies that defined land through concepts of property. To justify the expansion of national territory as cultural patrimony, the government assigned civic value to landownership. The Preemption Act of 1841, for example, allowed citizens who were squatting on government-owned territory to purchase the land they inhabited, converting it to private property "for the purposes of internal improvement."<sup>6</sup> The market for landscape prints and collectibles rehearsed this practice for urban audiences, promoting tourism as an exercise of cultural ownership and encouraging the conceptual acquisition of American geographies as an expression of identity. Publishers benefitted from the budding tourism industry, advertising destinations and offering prints as proxies for travel. As seen in the Natural Bridge and Charleston lithographs, well-dressed white figures often inhabited these

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5 "An Act Respecting Fugitives from Justice," Chapter 7 § 2-3 (1793).

6 "An Act to Appropriate the Proceeds of the Sales of Public Lands, and to Grant Pre-Emption Rights," Chapter 16 § 10-15 (1841).

landscapes, reassuring white consumers of their right to physically occupy, and more specifically, enjoy space as a leisure good. In Boston and other New England cities, middle-class buyers embraced printed illustrations as an affordable alternative to paintings and means through which to display their taste and awareness of national history (Brodherson 331). The landscape figures similarly communicated spatial access of a classed activity, effectively linking the physical consumption of geographies to the possession of prints. Appreciation of printed illustrations, like landscapes, signaled cultural belonging. The acquisition and display of printed landscapes indicated a consumer who expected access to national territory as an American inheritance and who understood this right as brokered through systems of ownership.

Moving panoramas also reinforced this approach to land by simulating travel and presenting space as inherently navigable. The mechanized advancement through different images recalled travel at a time when industrialization was literally expanding the material universe for middle-class white Americans, who could access previously unavailable parts of the country by railroad or steamboat. The subsequent emergence of the domestic tourism industry transformed space into a commodity enjoyed by travelers. Tourism companies sold a patriotic public service, connecting their “passengers” to “wild” and historic destinations rich in cultural significance (Mackintosh 2020, 81–83). Moving panorama shows approximated this experience at a fraction of the cost. Panoramists, like Banvard, were “tour-guides” who led theatergoers along geotemporal journeys, trips facilitated by mechanized pulleys that advanced the canvas along tracks (Avery 2015, 33). In the *Panorama of the Mississippi River*, ticketholders were steamboat passengers, watching space progress in a linear logic that upheld the conflation of American history and progress with the physical occupation and annexation of land (Miller 1996, 46).

While *Mirror of Slavery*'s appropriation of printed images was consistent with typical moving panorama processes, Wolcott and Brown brought specific experiences to the production. Wolcott, who had exhibited three landscape paintings at the Athenaeum in 1837, lent his knowledge of painting convention to the project and probably connected Brown to some landscape images. He was also likely responsible for the penultimate scene, which the *Liberator* described as a plan of a township. Resembling a community “according to a plan of Charles Fourier,” this panel was probably painted after Brook Farm, a Boston utopian commune built in accordance with Charles Fourier's philosophy of living centered around the division of labor and the sharing of profits (*Liberator* 1850a; Osgood 1998, 20).

More significant, however, was Brown's intervention. As a Black fugitive from slavery, Brown was not the assumed consumer of moving panoramas or landscape images, both of which accommodated white, middle-class viewers. His position as a panoramist staged a contradiction with his personal biography, surfacing the racial and class expectations that were naturalized in antebellum landscapes. The physical movement implied in moving panorama journeys was unavailable to Brown: just to get to Massachusetts, Brown had to hide his Blackness and experience rail travel from the

cargo hold because the passenger seat would deliver him back to a regime of corporal bondage. The American territory, accessible to urban residents through transportation networks, was the purview of white Americans with disposable income. The attendant cultural values assigned to landscapes were therefore also foreclosed to Black Americans. The physical and conceptual possession of land so integral to national identity was linked to mobility in a country that policed the movement of its Black inhabitants and defined enslavement through geography.

## 4 The Landscape of American Slavery

Given Brown’s identity, he probably did not spend too much time gathering source material from vendors most frequented by the white public. However, his connection to antislavery activists granted him access to extensive image resources. Abolitionists were quick to exploit reproductive print technology: the American Anti-Slavery Society emphasized the affective power of graphic visualizations and relied on the speed and affordability of printing presses to circulate antislavery images. Local antislavery societies acted as “depositories,” sites of image-brokering where activists could buy illustrated publications and sheets of individual prints for use in their campaigns.<sup>7</sup> Many of these images patronized enslaved Black people, representing them as helpless victims who required the assistance of enlightened white people to save them from the degradations of slavery. But they were legible and familiar; effective ways to bypass the demands of dense texts (Stauffer 2011, 66). Brown probably encountered these graphics regularly on the antislavery circuit, but he also had direct access to these resources through his publisher, Bela Marsh, who worked closely with abolitionists and represented authors affiliated with MASS. His office was even located at the old MASS address, which was still used to print and sell official antislavery material.<sup>8</sup>

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7 The Massachusetts Anti-Slavery Society headquarters, for example, boasted a “depository” of printed images and publications that could be purchased in-person or by placing a mail-order. Abolitionists were encouraged to “put into circulation” any materials they bought so that the content might “convert” people to the antislavery cause. See *Catalogue of Publications for Sale at the Depository of the Massachusetts Anti-Slavery Society, No. 25 Cornhill, Boston* 1840.

8 Beginning in 1846, MASS was headquartered at 21 Cornhill, where the *Liberator* was printed daily. Prior to this location, MASS and the *Liberator* had an office at 25 Cornhill, which in 1850 was the listed address for Bela Marsh. MASS still associated with the 25 Cornhill address after it relocated, printing the address on frontispieces to publications including the 1849 *Narrative of the Life of Frederick Douglass, an American Slave* and working with Bela Marsh to sell and distribute MASS publications. The *Liberator* also regularly promoted Bela Marsh publications and reviewed books that were available for sale there. This evidence implies a close relationship between Bela Marsh and Boston abolitionists, giving Brown access to a rich archive of antislavery print material.

*Mirror of Slavery* clearly benefitted from this relationship, as it featured six scenes modelled after Charles C. Green's *The Nubian Slave*, an illustrated poem that was published by Bela Marsh in 1845. In the second scene, *Mirror of Slavery* viewers were introduced to "The Nubian Family in Freedom," a panel based on the second plate in *The Nubian Slave* (fig. 3). Over the course of the show, the panorama advances through "The Seizure of Slaves," "Brand and Scourge," "Nubians, escaping by Night," and "Nubian Slaves Retaken," all scenes that correspond to Green's illustrations in the order they appear in the poem (Ruggles 2003, 94). Although Green's images were sold "bound together in book form," they were advertised as "seven Designs" that applied "Pictorial Art to Moral Truth," which customers were encouraged to use in their activism (*Liberator* 1845). For *Mirror of Slavery*, Brown was simply following standard abolitionist pictorial practices, drawing from a shared visual vernacular in service of antislavery messaging.

In fact, thirty-three of the forty-five published scene titles reference to slavery or Africa, indicating that most of the *Mirror of Slavery* canvas was painted after abolitionist graphics. We can imagine "The African Slave Trade" opening the panorama with an image similar to George Morland's *Execrable Human Traffic*, an antislavery painting that circulated widely as a print. "Interior of a Slave Ship," used in the middle of Part I to illustrate the Middle Passage, was undoubtedly a reproduction of the Brookes ship, an iconic image of the inhumane conditions trafficked Africans experienced as cargo in British slave vessels. "Sunday Among the Slave Population," which opened Part II, was probably based on an engraving by Thomas Strong that also appeared in the *Narrative of the Life and Adventures of Henry Bibb*. Later in Part II, the Nubians are joined by characters based on Ellen Craft, Brown, and Henry Bibb, all real-life fugitives known in the antislavery community for their self-emancipation strategies. Like Brown, Craft and Bibb also published narratives, from which the images used for their scenes were probably taken. Brown's two scenes, "Henry Box Brown, Escaping" and "Henry Box Brown Released at Philadelphia," were almost certainly based on graphics of his box and release, respectively. They were already icons of Brown's celebrity, and it is unlikely that he would have passed up the opportunity to present them on panorama canvas that stood taller than he did.

*Mirror of Slavery* debuted in April 1850 to "a considerable number of ladies and gentlemen" who, "by special invitation," were gathered "to witness a Panorama of Slavery and the Slave Trade." Opening with a scene on "The African Slave Trade" and concluding on "Universal Emancipation," the show was celebrated as a "novel mode of advancing the anti-slavery cause, by faithful delineation to the eye of the principal features of the traffic in human flesh," presenting and educational and entertaining show that a reviewer from the *Liberator* predicted would become a widespread success (*Liberator* 1850a). But *Mirror of Slavery's* appeal was not limited to antislavery activists. A couple of weeks later, the *Boston Herald* published its own endorsement, elaborating on what audiences could expect:

In this exhibition, scenes of the African Slave Trade, and a variety of circumstances connected with it, are here described by the skill of the artist in such a manner, as not easily to be misunderstood. The scenes of Slavery at home—here in the United States—covering the most prominent facts relating to this 'particular institution' are here very pointedly expressed. This is no fancied sketch, but one which many stand ready to vouch for its reality.... Henry Box Brown, the proprietor, will be always in attendance, and will do all in his power to entertain the public (*Boston Herald* 1850).

The completion of *Mirror of Slavery* was no small accomplishment. As the *Liberator* critic wrote, "considering the difficulties to be overcome, the time spent upon and the sum paid for it," it was a testament to "the industry, zeal and talent of the artist (*Liberator* 1850a)."

Over forty-six scenes, Brown performed a simplified history of the trans-Atlantic slave trade. Part I is organized around the Nubian family as they are captured in Africa, forced across the Middle Passage, and ultimately enslaved in the United States. Viewers watched as panels of African topography plotted the protagonists' march to the coast, where the scene "Interior of a Slave Ship" signaled the start of a trans-Atlantic voyage through "Gorgeous Scenery of the West India Islands" that finally terminated with a "View of Charleston, South Carolina." After landing in the United States, the Nubians are shown at auction before undergoing the "Brand and Scourge" that marked them as human property, condemned to work in the conditions shown in "Interior View of Charleston Workhouse, with Treadmill in Full Operation," which concluded Part I. This sequence indicates that *Mirror of Slavery* took advantage of the linear motion of moving panoramas to link geographic progression with narrative advancement—as the Nubians moved across the different sites of slavery, so too did the story. As one critic reported, the result was an overview of the trans-Atlantic importation of enslaved Africans to the United States, "a history of this inhuman traffic" that had long since been outlawed and replaced by the domestic slave trade. Its educational appeal as "true account of all the horrors of American Slavery" was enhanced by Brown, who as the narrator brought "his own experience and sufferings" to descriptions of the scenes (*Leeds Mercury* 1851a).

However, closer inspection of the second half of the panorama reveals that *Mirror of Slavery* was more than a simple retelling of historical events. As the final scene, "Universal Emancipation," indicates, Brown's panorama also imagined a yet-unrealized future. This future began with the fifth panel in Part II, "View of the Lake of the Dismal Swamp," which visualized the Great Dismal Swamp, a marshland on the border of North Carolina and Virginia which was a known site of Black resistance. The swamp harbored *maroons*, formerly enslaved Black people who established autonomous communities beyond the reach of slaveowning society, and fugitives on their journeys to freedom. Confirming this reputation, the following scene in *Mirror of Slavery* shows the Nubians escaping before advancing to the next scene of Ellen Craft, who emancipated herself from Georgia in 1848. The panorama continued according to a legible geographic progression, bringing audiences north along the east coast of the United States with the panels depicting familiar landscapes in Virginia, Washington, D.C., and Pennsylvania.

As this geography unfurled, the story gained momentum with the inclusion of two more fugitive characters, Brown and Henry Bibb, who escaped to Michigan in 1842. Their addition emphasized fugitivity as the propelling force, moving the story forward until the nineteenth scene, “Nubian Slaves Retaken.” This moment of narrative regression is plotted with corresponding spatial regression in the next panel, “Tarring and Feathering in South Carolina.” To recover from this setback, the panorama advanced out of the South, through Wolcott’s depiction of Fourier township in the North, before finally arriving at “Universal Emancipation.” In Part II, the narrative shifted from the past to future, looking forward to a potential reality achieved through the determination of fugitive movement.

*Mirror of Slavery* thus enacted a reclamation of the amanuensis dynamic. Brown told a story of fugitivity using landscape media and abolitionist graphics, articulating a narrative with the language of white creators. Like his appropriation of “Old Uncle Ned,” Brown adapted material intended to confirm the superiority of white consumers and converted it, through performance, into an assertion of agency. *Mirror of Slavery* was sufficiently compatible with the tastes of white viewers and the politics of his abolitionist supporters to raise enough money for Brown’s relocation to England after the Fugitive Slave Act was passed in September. By November, Brown he started performing again, and by 1851, Brown was financially secure enough to finally cut ties with the American activists who had minimized his independence. He had even severed his relationship with Smith, securing complete control over his panorama, persona, and the profits that came with it (Ruggles 2003, 136). English reviews of *Mirror of Slavery* confirm that Brown’s financial autonomy was the product of a talented performer. Critics praised the panorama for offering “some of the most picturesque scenery of the New World” in a show that left viewers “highly gratified” with their purchase (*Liverpool Mercury* 1850; *Leeds Mercury* 1851a).

Yet Brown’s performance also issued a corrective to the representation of slavery in American landscapes, which usually minimized any reference to the “peculiar institution.” In popular images of the South, such as those referenced in “View of Charleston, South Carolina,” “View of the Natural Bridge and Jefferson’s Rock,” and “Washington’s Tomb, at Mount Vernon,” Black inhabitants were not pictured. Space was mostly empty except the polite white tourist or resident. When Brown presented these scenes, he stood before the painted landscapes and inserted himself into the space, reminding audiences of an America populated by enslaved Black people. The prosperity pictured in lithographs of Charleston was generated by a workforce of enslaved people, like Brown, who are conveniently absent from the print.

During performances, Brown insisted on the contemporaneous reality of experiences like his own existing in the landscape. His personal connection to Virginia, where he was born, raised, and where his wife still lived, made the presentation of “View of the Natural Bridge and Jefferson’s Rock” and “Washington’s Tomb, at Mount Vernon” especially poignant. He arrived at these sites not as a traveler like his audiences, but as human property. His position virtually inhabiting these scenes enacted a truth that was

not pictured. Throughout Virginia, white tourists would have been travelling with their enslaved servants. Furthermore, the introduction of himself as somebody who would be enslaved in Virginia recalled the histories of slaveowning histories of Jefferson and Washington. As an English critic reported, *Mirror of Slavery* was "strikingly illustrative" of the "inconsistencies" between American values and practices (*Leeds Mercury* 1851b). In fact, in the 1840s, Black people were still enslaved at Mount Vernon and would have been forced to serve genteel white tourists during their visits.

*Mirror of Slavery* restored American landscapes to a geography of bondage. In the sequencing, the progress exemplified by Charleston is immediately qualified in the following panel, "The Nubian Family at Auction," which foregrounds human subjugation at the source of commercial success. In Part II, the character of Brown is shown boxed in the tenth scene, right before the panorama advances to "View of the Natural Bridge and Jefferson's Rock." The journey continues through a cityscape of Washington, D.C., followed by a scene of "Slave Prisons at Washington" and then "Washington's Tomb, at Mount Vernon," before the scene "Fairmount Water Works," Pennsylvania's famed municipal waterworks center (and frequent subject of landscape prints and illustrated travelogues) announces the narrative's arrival in Philadelphia. Then, in scene sixteen, Brown's emergence into freedom is finally revealed. Far from being monuments to American virtue, the Natural Bridge and Mount Vernon are shown as obstacles to liberty. Rather than being tourist destinations enjoyed through travel, these are geographies that must be overcome. They represent potential impediments to the fugitive journey north, places that arrest movement and progress towards emancipation.

In Part II, visualizations of national territory are rewritten in a narrative of emancipation. This reframing replaces the assumed middle-class white consumer of popular landscape images with fugitive protagonists. The ensuing trajectory is an uncomfortable juxtaposition between idyllic scenes pulled from a culture of travel and territorial expansion and scenes of subjugation drawn from abolitionist media. After Craft is introduced, joining the Nubian family in fugitivity, the panorama advances to "Whipping Post and Gallows at Richmond, Va.," which casts an atmosphere of brutality over the following scenes of Virginia and Washington, D.C. After Brown triumphantly arrives in Philadelphia, the cohort of fugitives gains another member in "Henry Bibb, Escaping." Brown used the geotemporal logic of moving panoramas to recalibrate the expectations of white saviorism set by antislavery imagery, platforming instead fugitive action as the driving factor towards freedom. However, before "Universal Emancipation" is reached, the momentum is reversed. Scenes nineteen through twenty-two detail the recapture of the Nubian family and the unspeakable cruelty of punishments represented in "Tarring and Feathering in South Carolina," "The Slaveholder's Dream," and "Burning Alive." *Mirror of Slavery* rejects the teleology typical of moving panoramas, emphasizing the reality that emancipation is an ongoing struggle, and that liberation is not an inherently linear process. This disruption exposes the conflation of historical and physical progress as a fallacy, thus unravelling a logic of possession naturalized by geographic mobility.

## 5 Conclusion

After the Fugitive Slave Act of 1850 was passed in September, Brown relocated to England, where by November he had launched a performance career that he would enjoy for at least twenty-five years.<sup>9</sup> He reissued a new English edition of his narrative in 1851 that excised twenty-three pages of Stearns' rhetoric and was retitled *Narrative of the Life of Henry Brown, Written by Himself*. He sold copies of this book as part of his performances, commodifying his persona on his terms and to his profit. Slavery had been abolished across most of the British Empire in 1833, but racism was still common practice in the British Isles, and Brown was regarded as an "exotic spectacle" (Fisch 1993, 32). However, Brown embodied an important counterpoint to attitudes towards Black people. As Brooks and other performing arts historians have argued, Brown's delivery of exciting, spectacular narratives captured attention and subverted expectations. His performances "aligned more with elocutionary ideals" than the demeaning stereotypes perpetuated by minstrel shows (Howard 2021, 138; Brooks 2006, 93). Even though his panorama was largely based on images from campaigns that patronized and objectified the victimized Black body (including his own), his focus on fugitive protagonists reclaimed their agency and offered a rebuttal to the abolitionist tendencies to fix enslaved African and Black Americans in a position of pity (Brooks 2006, 93).

Brown's performance also activated the canvas, surfacing how landscapes structured a relationship between viewer and space around access. The scenes of American geographies that proliferated across media, being common enough in Boston to appear on *Mirror of Slavery*, naturalized a connection between geography and history (specifically the socioeconomic progression of the United States) that also empowered policies of territorial acquisition and industrial expansion. In the 1840s, the formal composition of these landscapes relied on the rhetoric of tourism, inviting viewers to understand travel as an expression of American development: to venture outside of your community, whether virtually or physically, was to realize the natural trajectory of national history. Movement, the process suturing time and space, was racialized to preserve the subordination of Black Americans to white Americans. This is why Brown was unable to occupy the landscapes as expected in *Mirror of Slavery*: his existence was legislated by policies that tied bondage to geography and citizenship to ownership. As an enslaved person, Brown faced barriers to ownership, including self-possession. As a fugitive from slavery, it was deliberately difficult and dangerous for Brown to move freely about the country.

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<sup>9</sup> The Fugitive Slave Act, part of the Missouri Compromise, empowered slaveowners who demanded the return of people who had escaped bondage. It provided commissioners in each state to enforce removal and penalize ordinary citizens with jail time and fines for any potential interference in this process.

However, not every American geography was an American landscape. Arts institutions and patrons, based in New York City, "implicitly held up northeastern scenery as the standard by which the aesthetic merit of other landscapes was to be measured" (Miller 1993, 234). Southern destinations like the Natural Bridge and Mount Vernon were represented for their Revolutionary-era significance and port cities like Charleston were represented in a cartographic language that stressed their position within a national infrastructure, but otherwise more rural regions in the South were not frequent landscape subjects. As *Mirror of Slavery* demonstrates through scenes such as "March of the Chain Gang" and "Monday Morning, with Sugar Plantation and Mill," which mark the passage of time between when the Nubians land in South Carolina and their escape, the South was a space defined by explicit references to slavery. For the most part, depictions of rural areas in South were created specifically for southern patrons and did not prioritize accurate representations of slavery (Sokolitz 2008, 31). Evidence of human bondage made Northern white consumers uncomfortable and complicated beliefs in the natural right to possess and consume land. Furthermore, to produce regions in the Deep South as national landscapes—as testaments to national character, complete with expansive vistas and overtures of human dominion—would be to suggest Black sovereignty over spaces and to raise inconvenient questions about the rights of Black people who cultivated the land and realized the agricultural wealth of the United States.

There is one scene in *Mirror of Slavery* that referenced a specific American geography but was not reproduced as a landscape in antebellum popular culture. White consumers recognized it from written descriptions and Southern Gothic literature as a wild space that was uniquely hostile to the arc of civilization, representing a kind of landscape antithesis. The fifth scene in Part II, "View of the Lake of the Dismal Swamp" referred to the Great Dismal Swamp, a forested wetland on the border of North Carolina and Virginia that once stretched over one million acres. As a dark, flat environment it did not lend itself well to the clarifying demands of landscape convention. There is only one known instance of an American artist representing the Great Dismal Swamp before 1850—a painting by John Gatsby Chapman that circulated as an engraving, printed across publications in the 1830s and 1840s as an illustration to written work (fig. 7). Sinewy trunks curve along the right and left-hand borders, drooping with Spanish moss and thick canopies that appear pushed aside to disclose a glimpse of the lake's far shore. Water fills the lower third of the frame, sinking the viewer to a low vantage point in the muddy soil. The shadowy trees press heavily onto the foreground, as if warning against any further advancement into the space.



**Fig. 7:** James Smillie (American, 1807–1885) after John Gatsby Chapman (American, 1808–1889). *The Lake of the Dismal Swamp*, c.1837. Image, University of South Carolina, Irvin. Department of Rare Books and Special Collections.

Since English colonists first settled the region, the Great Dismal Swamp was deemed a condemned geography, a “filthy quagmire” where humanity risked slipping backwards into the primordial morass (quoted in Berland 2013, 88).<sup>10</sup> White settlers could simply not understand it according to inherited knowledge. Despite generations of efforts, it remained a dangerous and foreboding mystery that could not be completely drained and converted into arable land. Attempts to build canals through the swamp to create thoroughfares for commerce and travel failed until the 1820s; even then the majority of the Dismal was uncharted territory. Maps of the space marked its perimeters with sketchy, uncertain strokes that rendered the swamp an amorphous shadow that obscured the blank land beneath it; cartographic confirmation of its aberration from “normal” land. Its resistance to conventional Anglo-European programs of cultivation

<sup>10</sup> The colonial accounts of the Great Dismal Swamp reproduced here are from William Byrd II, a legislative official, planter, and slaveowner born in the Virginia colony. In 1728 he led the first official survey of the Dismal, the experiences of which he recorded in his *History of the Dividing Line betwixt Virginia and North Carolina; A Journey to the Land of Eden, A.D. 1733*. The manuscript was never published in his lifetime.

supported suspicions of swamps as breeding grounds of sin and disease (Vilesis 1997, 34). Announced an "Inhospitable Place" that was "impassable" by colonists, the Dismal persisted into nineteenth-century white imagination as a space hostile to the progressive march of modernity (Berland 2013, 92, 87).

Somewhat paradoxically, the Great Dismal Swamp was also a known harbor of Black activity, a place where fugitives could settle or continue their journey northward. Since the seventeenth century, white authorities had reported enslaved Black people living in the swamp in maroon communities outside the enforcement of enslavement. But maroons also managed regular contact with both enslaved people and enslavers, moving within the environment and forming "permeable, dynamic groups" whose reach and position represented a unique danger to the slaveholding regime (Maris-Wolf 2013, 446). The physical swamp features that white settlers identified as unnavigable—the shifting tides, deep bogs, and dense shadows—offered protection for subaltern Black organizing. Most famously, in 1831, Nat Turner and his associates planned the deadliest revolt against slaveowning authority in United States history from the shade of the Dismal, where Turner retreated to escape immediate recapture (Morris 2022, 89). Although the rebellion was ultimately contained, white anxieties about the potential for more attacks were not unfounded. Archaeological evidence testifies to a sophisticated network of exchange and communication that supported fugitive relocation north and empowered local resistance efforts (Sayers 2014, 105).

However, nineteenth-century popular culture worked to sublimate this reality in representations that cast the swamp as a mysterious and primeval space. The potential for fugitive activity was reframed as a lurking threat, a natural feature of the Great Dismal Swamp and proof of its danger as a location that existed outside the realm of ordered, white society. In print media, consumers encountered the Dismal in Southern Gothic texts, where writers used the swamp in lieu of the medieval ruins that inspired the European origins of the genre to create a uniquely American foil to modern enlightenment.<sup>11</sup> Unsurprisingly, abolitionists also minimized Black fugitive agency in literature that reproduced the swamp as an unfortunate liminality where the animalistic tendencies of its Black inhabitants were exacerbated.<sup>12</sup>

Furthermore, the Dismal's incompatibility with the demands of academic landscape convention provided visual confirmation of its spatial-social deviancy. Its dark, shifting environment where the large swaths of ground alternated between being dry and submerged resisted efforts to organize space in a way that facilitated a legible impression of access. As Chapman's image attests, the swamp arrests movement and circumscribes vision. The view is over Lake Drummond, which was the only natural

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<sup>11</sup> For example, in "The Lake," a 1827 poem by Edgar Allan Poe, the "terror of the lone lake" in the Great Dismal Swamp is compared to ruminations "Springing from a darken'd mind."

<sup>12</sup> This tendency is epitomized in Henry Wadsworth Longfellow's famous poem "The Slave in the Dismal Swamp," which describes a fugitive man traversing "the rank and tangled grass, / like a wild beast in his lair." The poem was first published by *The Liberator* in 1842.

clearing in the swamp, and is limited to the far shore of the lake, denying the viewer recourse to any identifiable features necessary to orient the region cartographically. Unlike other regions, the Dismal could not be easily plotted within a larger geotemporal fabric of American space and history defined by movement and expansion. To admit the reality of Black movement in a space historically foreclosed to the advances of white progress was too destabilizing; it was far easier to regulate the space in popular media where it was censured as a regressive wasteland.

During *Mirror of Slavery* performances, standing before this panel, Brown would have confirmed associations between the swamp and fugitivity. It is arguably the only moment across the entire canvas where such an alignment is achieved between Brown, the fugitive performer, and his backdrop. The scenes illustrating his own escape enacted a kind of doubling, or perhaps splitting, between Brown-the-performer and Brown-the-fugitive-character that distanced Brown from the representational space. This singular compatibility, where Brown's authorial perspective is substantiated by his lived experience exposes access as a constituent feature of landscape images. In this position, Brown confronts the racial qualifications to mobility in an affirmation of his perceived mastery over space. Furthermore, Brown insists on the Great Dismal Swamp as the source of narrative progression. From this historically condemned geography, enslaved people are empowered to enact fugitive journeys that ultimately effect emancipation for all. Instead of being a dark vestige of the backwards past, the Great Dismal Swamp is recast in *Mirror of Slavery* as the beginning of an enlightened future.

This suggestion was almost too disturbing for audiences. As a fugitive, Brown was not supposed to exercise the power of mobility that landscapes and moving panoramas usually code as the exclusive privilege of white viewers. In 1852, Brown's career was almost destroyed by a damning review published by the *Wolverhampton & Staffordshire Herald*, which accused *Mirror of Slavery* of presenting a "jumbled mess of contradictions and absurdities" and "geography without boundary." The critic went on a racist tear, mocking Brown's dress and speech, but the only evidence he could cite to discredit Brown's expertise was his response to a question from the audience about the location of the Great Dismal Swamp. When Brown shared that the swamp was in Virginia, "an intelligent American gentleman," presumably white, reportedly corrected Brown in front of the theater by claiming that the swamp was actually "on the borders of North and South Carolina (*Wolverhampton and Staffordshire Herald* 1852)." This is false, but it supported the assumption of Black inferiority and repaired geography to its status-quo as an index of white dominion.

If access is the norm, as modelled in the position of the panoramist, then the territorial entitlement afforded to white Americans is normalized. To maintain a program of white supremacy, evidence of Black motion, especially the destabilizing threats of resistance and fugitive motion found in the Great Dismal Swamp, must be conceptually relocated to an otherworldly, mystical geography that exists outside the cartographic fabric of space. Brown's panorama offers a mirror of slavery that reflects the American landscape along a racial access, inverting conventional landscapes of history into obsta-

cles and primordial swamps into wellsprings of the future. His appropriation of geotemporal panoramic convention in service of a fugitive narrative necessarily refracts the expectations enforced by American landscape representations, which were not drawn to accommodate Black experiences of space. Thus, in *Mirror of Slavery*, patriotic landscapes are recast as barriers to freedom while the swamp is converted from a space of regression to progression. Defined by fugitive motion, *Mirror of Slavery* models a universe in which Blackness, normally an obstacle to entry and participation on the historical stage, is centered as the source of progressive movement.

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Conor Lauesen

# Slabs of White: Panoramic Whales and Photographic Guano in the Mid-Nineteenth Century

**Abstract:** This article explores both the content and meaning of Benjamin Russell and Caleb Purrington's *A Grand Panorama of a Whaling Voyage 'Round the World*. I argue that *Whaling Voyage* viscerally activated audiences, auguring a phantasmatic spectacle through three interrelated experiential modes: (1) placeness and the whaling industry, (2) visages of financial investment and accumulation of wealth, and (3) the mechanical bombast of its phenomenological performance. Like the panorama itself, my exegesis is positioned at the fulcrum of various intellectual fields—a new media archaeological perspective. I focus intently on the formidable year of 1848 and the dynamic New England port town of New Bedford—at the time, the leading whale port of the world.

Building from this vantage, I then juxtapose *Whaling Voyage* with pictures from the *Rays of Sunlight from South America* (a collaborative effort produced with the itinerant photographer Henry de Witt Moulton). Challenging the epistemology of the moving panorama, *Rays of Sunlight* presents text and photographs in tandem—a compelling counterfoil to Russell and Purrington's mobile whaling panorama. I argue the nearness and clarity of photography implicitly reshuffled the pathos of panorama culture. More significantly, however, I uncover the most visually captivating and politically evocative images from *Rays of Sunlight*: pictures of guano, the nitrogen-rich fertilizer discovered in the Chincha Islands of Peru. In parallel to the epic sojourn and pictures from *Whaling Voyage*, the guano pictures tell a kindred tale of fractured places, capital accumulation and industrial-scale extraction, and transformation in visual culture.

**Keywords:** Ecology, moving panorama, capital, whaling, phenomenology

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God's gift Guano spread; the poorest soil  
 With smiling crops Free-Traders' aim will spoil  
 Well fed, well clothed, well housed, we need not fear,  
 Should fail or cholera appear.

—George Burges, *Native Guano*, 1848

In 1848, Benjamin Russell and Caleb Purrington completed their monumental panorama *A Grand Panorama of a Whaling Voyage 'Round the World*. Advertised as three miles of canvas, the mobile work of art was a gargantuan depiction of a whaling sojourn across the globe: ocean landscapes, vaporous horizon lines, and indigenous peoples construct the narrative. Like so many other large-scale pictures of the epoch, *Whaling Voyage* blurred the lines of entertainment and art, industry and culture. At one time touted the largest painting ever constructed, measuring 1,275 feet long and eight feet high, the New Bedford panorama was a marvel to behold, and on December 7, 1848, the artwork debuted to critical public acclaim in Fairhaven, Massachusetts. Created precisely during the cultural apex of early imagined nationalist communities, for twenty-five cents, spectators could immerse themselves in the imperial grandeur of Russell's time as harpooner aboard *The Kutusoff* (Fig. 1). Empire and excavation, economics and art, image and motion dovetailed in the hunt for whale booty.

The origin of Benjamin Russell's story of deft harpooning and perilous travel at sea first began, however, in 1841. That year, the young artist and failed merchant set sail from the deepwater port of New Bedford at the mouth of the Acushnet River. Aboard *The Kutusoff*, he traversed Buzzard Bay to start a forty-two-month journey at sea as a boatsteerer. Some entrepreneurial germs of his soon-to-be grand panorama commenced in that vast emptiness of open sea and sky. Nonetheless, it was only upon the ship's safe return to New England that Russell's personal experience translated from seascape memory into aesthetic commodity. In *Whaling Voyage*, the spectral unknowability of the sea and its metonymical visage coalesced in a depiction of seafaring motion: a mobile and murky lexicon of signs, indexes, and signifiers. Form and content inexorably juxtaposed in meaning and appearance.

Meanwhile, within the same US mid-nineteenth-century scene of circulating global capital, large scale resource extraction, and media transformations, two disparate phenomena emerged. One of these was the heralded optical technology, photography. The daguerreotype was the first of many visual technologies able to directly create an image of absolute likeness. In 1839, the French government acquired the process rights and made them public. Inventor-artist Daguerre himself was, in fact, originally a painter of both dioramic and panoramic pavilions. With its uncanny ability to suspend images in compound substrates, inscribe surfaces, and depict accurate likeness with precision, the daguerreotype was one of many initial photosensitive technologies that developed along with other early iterative forms in the medium—experimental projects and processes from figures like Niépce and Talbot.

The imminent physical materialization (manifestation) of photographs—soon to be dubbed *the pencil of nature*—emerged within this mystery cauldron of chemicals

*April 2d* *1849*

**PURRINGTON & RUSSELL'S  
ORIGINAL PANORAMA**  
*April 2 — OF A — 1849*  
**WHALING VOYAGE  
ROUND THE WORLD.**  
**THREE MILES OF CANVASS.**

The Public is respectfully informed that the GRAND PANORAMA of a WHALING VOYAGE ROUND THE WORLD, painted by Messrs. PURRINGTON and RUSSELL, of New-Bedford, has been completed, after two years of studious labor, and will be exhibited at

**AMORY HALL, BOSTON,**  
**EVERY EVENING,**  
**And Wednesday & Saturday Afternoons, at 3 o'clock.**

THE FOLLOWING IS A BRIEF DESCRIPTION OF THE PANORAMA.

SECTION 1.—City of New Bedford; Shipping; Revenue Cutter; Sail Boats; Whale Ship in stream, getting ready for sailing; merchant brig, boats and coasters; Palmer's Island; fishing-boats; inward and outward bound coasters; New York and Boston packets; Salt Works, farm houses; groves of trees; coasters; whale-ship Janna, outward bound; whale-ship Niger from a voyage in tow of stouter Massachusetts; Clark's Point Lighthouse; pilot boat; whale-ship India.

**Fig. 1:** "Purrington & Russell's Original Panorama of a Whaling Voyage Round the World," 1849. Image, Wikimedia, crediting Kevin J. Avery, 1990, and New Bedford Whaling Museum. Public domain.

and liquids, salts and paper. Like the moving panorama, photography elicited anxieties about the ontology of perception and direct observation, the tactile nature of geographical distances, and the stakes of visual reproducibility and commodification (Crary 1992, 25–36; see also Pop 2019, 112–21).

The other mid-nineteenth-century phenomenon was the industrial-scale unearthing of the miracle fertilizer guano—desiccated seabird excrement. In the 1840s, Western imperial powers began to excavate and quarrel over the nitrogen-rich compost. With dried heaps located predominately along the coast of Peru in the Chincha Islands, the resource was a priori a global spectacle. Guano from the Pacific, like spermaceti and whale oil, was an elixir. A limited resource, at one time the precious fertilizer was priced at seventy-six dollars per pound, a quarter of the price of gold. Nevertheless, it

was not until two decades thereafter that photographs of guano would appear in wider cultural discourse.

With cameras and fertilizer in mind, and amidst the 1848 inflammatory new world of pictorial contingencies, I juxtapose *Whaling Voyage* with pictures from the American Civil War photographer, Alexander Gardner. His practice and eventual studio publications are at the center of this intellectual inquiry. However, it is not Gardner's heralded 1865 *Sketches of the Civil War* that concerns me, but rather his little-known contemporaneous photobook entitled *Rays of Sunlight from South America*, published with Henry de Witt Moulton.

*Rays of Sunlight*, like *Whaling Voyage*, was a collaborative aesthetic project, though Moulton and Gardner's was a different partnership than Russell and Purrington's. Strange as it may seem for readers today familiar with the magisterial Civil War photographer, the pictures from *Rays of Sunlight from South America* were, in fact, not made by Alexander Gardner but instead captured by the mysterious itinerant photographer Henry de Witt Moulton. Like *Whaling Voyage*, the 1865 publication was a principal act of cooperative synthesis: a visionary endeavor in scope, scale, and investment created by two artists. Gardner printed the positive; Moulton captured the negative.

Predominately composed of landscape images and architectural ruins from Lima, Peru, the photobook is by definition transnational in scope and, similar to *Whaling Voyage*, is consistently maritime minded. Most unusually, the 1865 publication is the first comprehensive visual account of guano. Published adjacent to the cataclysmic violence and death in Gardner's *Sketches of the Civil War*, *Rays of Sunlight* unveiled a stunningly stark archive of fertilizer images. Composed with a keen formal sense, at least twenty-six of Moulton's pictures show this illustrious bird manure. The pictures are regal and terrifying. Often photographed in detail and ceremoniously situated at the center of the frame, the cohort of like-minded photographs divulge the romanticized fertilizer as a monstrosity—an anthropomorphized crop enricher with an intimidating life force of its own.

## 1 Technological Innovation: Panoramas and Photography

Throughout the 1850s, the mechanized panorama would depict images on canvas beyond even the farthest-reaching mimetic impulses of a camera obscura—the classical phenomenon that according to media scholar Jonathan Crary, “was founded on laws of nature (optics) but extrapolated to a plane outside of nature, providing a vantage point onto the world analogous to the eye of God” (1992, 48). Whereas philosophical awareness of the camera obscura has deep historical roots, only during the sixteenth century did mimetic devices begin to codify dominant modes of visual procedures and optical cognition (Zielinski 2006, 86–89). By the middle of the nineteenth century—amidst shifting scientific and aesthetic discourse—the camera obscura's definitive positioning of

“an interiorized observer to an exterior world” was precarious technical terrain, conceptually unmoored (Crary 1992, 34). In *Whaling Voyage*, nautical landscapes collapsed the boundaries of three-dimensional pictorial space—observer and the observed in flux. Constructed in water-based paint on cotton sheeting, the pallid materiality itself—earthen pigment, dyes, fibrous plant matter, and aqueous liquidity—reinscribed the slippery, extractive ethos of Russell’s narrative. Unraveling along four separate spools of canvas, each panel 8 ½ by 12 feet, and accompanied by an auditory address from Captain McKenzie of *The Kutusoff*, the mobile technology activated fantastical cultural terrain.

Beginning in 1848 and intermittently throughout the next four years, audiences along the Eastern Seaboard and as far west as Saint Louis, Missouri, would come to see Russell and Purrington’s accomplishments in paint—ships, sea, and sand circulated across the politicized landscape (Huhtamo 2013, 181, 334). Made available in a theater or public hall for paid performance, *Whaling Voyage* “toured the East, transported by train, ship, and wagon to Boston, New York and as far West as St. Louis” (Mystic Seaport Museum, n.d.). For the audience, fables turned to history, itinerant stories to stable truth. *Whaling Voyage* was a scrolling object ripe for conspicuous consumption—one man’s memory transformed through paint into larger than life-size pictures.

On December 20, 1848, whaling agent Charles W. Morgan saw the chronicled *Whaling Voyage* production in Fairhaven. Describing the event, Morgan writes, “It takes wonderfully with the public and the exhibitor Capt. McKenzie carries us along through the various scenes, all of which he has visited interspersing his descriptions with anecdotes & narratives which enhance the entertainment very much” (quoted in Kauppi 2014, 18). For Russell and Purrington, the moving panorama was a deliberately chosen artistic representational medium; a manufactured coherent narrative depicting the scope of travel; an aesthetic product for domestic viewers.

Henry David Thoreau and others would equate the scrolling along of the moving panorama to something of a time machine: “It was like a dream of the Middle Ages,” writes Thoreau. “I floated down its historic stream [the Mississippi River] in something more than imagination” (quoted in Saltzman 2014, 247). Summarily, the revolving machine of images was an epistemologically unstable form of interaction. *Whaling Voyage* embedded myriad sites along a pictorial continuum, creating a story line of imaginative vistas. In the newfangled era of regimented visual information circuits and technological pageantry, the nearly 1,300 feet of canvas represented the apotheosis of materialized commodity and fantastical phenomenon. Nicholas Lowe outlines the rhetoric of expansionism and self-agency encoded in panoramic culture—“self-oriented” prosthetic tools, such as a handheld Mississippi travel map—that promulgated a logic of manifest destiny (Lowe 2021, 96–97). *Whaling Voyage* was structured within both the unstable logic of capital accumulation and democratically fraught milieu of the 1840s.

Russell and Purrington’s panorama professed to reorganize sight, altering subjectivity for the observer and complicating any stable perceptions of space. Sofia Quiroga Fernandez likewise explains the disorienting, ambulatory scope of the moving panorama as a precarious medium: “The painting was moved by mechanical systems, limiting the

audience's view to a frame or window. Similar to the cinema, the moving panorama immobilized the spectators, emphasizing virtual movement on the screen instead" (Fernandez 2021, 71). As Russell presented *Whaling Voyage* to viewers, a cynosure grid of commerce and sightlines, lectures and explanatory audio purported to anchor the performative space. Scale and immersion were paramount. In the age of scrolling screens, precarious subjecthood and disjunctive pictures were center stage. Selfhood was both physically and psychologically arrested, and some trembling "horror of the void" was made clear in the lacuna of nomadic image: painted scenes were quickly made ephemeral in the shadowy currents of mechanical rotation; fleeting images were seen only in a state of disappearance (Crary 1992, 122–126). Unbeknownst to itself or its makers, the moving panorama represented the fright of *apocalyptic horizons*.

Although at the time of Benjamin Russell's departure in 1841, photography was still in its nascent stages of development, throughout the remainder of the decade, this volatile new medium of exacting verisimilitude would gradually become a dominant force of aesthetic representation. At the decade's end, and by the time *Whaling Voyage* eventually arrived at its first traveling locale, both visual culture and the imaginary perceptual landscapes of the US had undergone a monumental shift. While the two mediums of reproduction operated with dissimilar politics and semblance—verisimilitude and entertainment, industry and capital—both were pictorial crucibles for ongoing cultural formation. The world again turned upside down.

The 1840s, more generally, was an era replete with relatedly quixotic inventions and scientific transformations. In 1844, for example, within that same numinous moment of stereoscopes, photographs, and railroads, Samuel Morse invented the telegraph—one of many reorganizing perceptual instruments. Media scholar Jonathan Sterne explains the momentous revolution in sound-reproducing technologies associated with this new mode of broadcasting as vibrational nets extended notions of space (2003, 20).<sup>1</sup>

As a contemporaneous tool for picturing the world, consider William Henry Fox Talbot's 1845 text *The Pencil of Nature*. Talbot's magnum opus was one of the first commercially published books full of illustrations: its circulation, reception, and dissemination throughout American culture was constitutive of transformations in mass media print culture. He writes of photography as "sun-pictures themselves," describing mimetic images and his effortless praxis of inscription as more substance than mere "engravings in imitation": "The plates of the present work are impressed by the agency of Light alone, without any aid whatever from the artist's pencil" (Talbot 1845). It was a new archaeology of residue materiality and mirror reflections. The prescience of photography's "sun-pictures" and its unknown lifeworld of shadows, light, and image would soon enough disrupt the wider landscape of aesthetic representation. It was

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1 "Recording was the product of a culture that had learned to can and to embalm, to preserve the bodies of the dead so that they could continue to perform a social function after life. The nineteenth century's momentous battle against decay offered a way to explain sound recording" (292).

Talbot, Anne Atkins, and other early experimenters with the alchemic medium who sought to harness solar power, project visages, and conceal traces of life.

Describing contemporaneous nineteenth-century literary devices and their novel discursive formations, Roland Barthes concept of “reality effects” helps elucidate the prolepsis of these kinds of pictures. More than narratological, their bombast is the “direct collusion of a referent and a signifier, whereby the signifier is expelled from the sign” (quoted in Crary 1992, 110). Jonathan Crary and Roland Barthes alike explain how concrete details—an inflation of the minutiae—often work to collapse fiction and the real. Notation, alas, usurps the role of “pure encounter.” In turn, the referential image (or narrative minutiae) and its indelible expression are at risk of becoming superfluous “narrative luxury,” a symbolic fragment transformed into mere vacuous mark (Barthes 1989, 141, 148). In the mid-nineteenth century, hyperbolic credence was fraught with recursion and unavowed illusion. This exaggerated directness of accurate depiction was a monstrosity that transfixed contemporary viewers. In short, an epistemic and psychological paranoia haunt the photograph and the panorama alike. And in this caesura of knowledge, purported efforts to inflate detail or engrave indexicality often only further shade the already foggy edges *of the real*.

Guano in *Rays of Sunlight* is often pictured as an image evacuated of its own indexicality; a symbol that anticipates its own future demise. Moulton’s guano photographs are ominous sirens, anti-signifying sites of erasure. Consider as illustrious introduction the picture titled “The Great Heap: 2,000,000 Tons of Guano” (Fig. 2). Alchemically commanding space, the striated nitrogen-rich mound appears like some kind of extraterrestrial domicile. Psychologically disruptive, the photograph is at once a protectively encased living organism and terrifying pile of fowl waste. It repels and welcomes simultaneously. Repeatedly across *Rays of Sunlight* guano is illumined as an intoxicating tonic, a great base that projects its own haunting visage.

In comparison to the more sanitized pictures of *Whaling Voyage*, the unfiltered and brutalizing process of guano reveals a uniquely destructive cosmos of depravity: mankind’s propensity for manipulation and greed, a more streamlined—less mitigated and solely human—form of accrual and plunder. Whereas Moulton’s pictures began stationed in Peru and disseminated to the continental mainland, Russell’s aesthetic making path was insistently migratory. Notwithstanding origin points or programmatic scope, unearthed guano and slaughtered whales alike left a resinous wake of destruction across the mid-nineteenth century: ecocide and visual culture encoded in novel technologies, landscapes and visions.

Maritime photographer and astute art historical critic Allan Sekula’s and Walter Benjamin’s essays on visual media portend a critical disassembling of imaginary maritime space. Although at first glance the pairing of the two Marxist theorists may appear unusual—spatially disparate and chronologically discreet—their shared insights are indispensable when imagining the optical revolution of the 1840s. Benjamin was one of few early twentieth-century Marxist to extensively theorize both picturing mediums. Writing about photography and the panorama, the great modernist critic examined the



**Fig. 2:** Alexander Gardner and Henry de Witt Moulton (American, 1821–1882; American, 1828–1893). “The Great Heap: 2,000,000 Tons of Guano,” in *Rays of Sunlight from South America*. 1865. Mounted photo. Image, New York Public Library.

aesthetic and political terrain of simulated motion and animated spectacle. Walter Benjamin writes, “Announcing an upheaval in the relation of art to technology, panoramas are at the same time an expression of a new attitude toward life. . . In the panoramas, the city opens out, becoming landscape” (quoted in Sekula 1995, 34). He concludes, “The panorama is always implicitly or explicitly militarized: the net can close in from the other side of the horizons” (Sekula 1995, 34). There was a mid-nineteenth century impetus to scrupulously observe a scene; methodically glance at the edges and prosthetically glimpse the abyss.

As importantly, Sekula directly posits the importance of the guano trade in understanding nineteenth-century capitalism, the role of merchant ships, and ocean trade route patterns. Akin to maritime space, the figuration of guano for Sekula is a key analog in primitive accumulation and trade. Acting as foil to read against the grain of both photography and Benjamin’s optimism, Sekula’s horizontal vision understood the complex anxieties of panoramic viewing. He writes, “Expansive panoramic space is always haunted by the threat of collapse or counter-expansion” (Sekula 1995, 48). The boundaries of representational vision bend inward, and thus some introjected forms of strident violence simultaneously dispel outwards.

## 2 Travelogue: Sites of Encounter and Primal Scenes

Between 1826 and 1833, Benjamin Russell invested handsomely in at least thirteen different whaling voyages. And yet by 1841, the young New Englander was bankrupt. Whaling vessels were built in the city and returned from their multiyear travels “with barrels of raw products that served as the prime mover of New Bedford’s local industries,” writes historian Kingston Heath (2014, 9). Russell was shrewd and understood the massive possible payoff of calculated risk. Whereas the global market for whaling was distant and abstract, the immediacy of land speculation on the shore was proximate.

The Russell family participated in the escalating mad craze of capital profiteering in property and land. In fact, according to the New Bedford Whaling Museum (n.d.) “the family’s main assets were in real estate.” However, after consecutively failed transactions the family’s wealth was “subsequently sold at auction,” leaving Russell “in debt and without a job” (Mystic Seaport Museum, n.d.). Whether investing in real estate speculation or the global whaling industry, it seems the volatility of market forces and gambit of high-stakes financial capital intrigued the young New Englander. Regardless of venture, Russell and the city of New Bedford alike were all too familiar with the predatorial landscape of antebellum capital: risk and obliteration, spectacle and extravaganza constitutive of the escalating entrepreneurial market ideology.

Throughout the early 1840s, and with an intimate awareness of both dollars and marine life, Russell began to consider a trip to sea. A successful whaling mission (typically at least three years) was lucrative; the potential accumulated wealth of whale oil, bone, sperm oil, ambergris, and spermaceti was astronomical. Likewise, the risk for catastrophic losses (on capital investments)—and more immediately, one’s life—were also grave. Regardless of potential peril, the emerging artist Russell took a chance. He couldn’t resist the slippery scene of oil, “the docks choked with casks of raw oil covered with seaweed to keep them from drying out as they awaited transport by drays to the oil factories for processing” (Heath 2014, 9–10). As it fortuitously would turn out, Russell’s gambit of forty-two months at sea on *The Kutusoff* rewarded him handsomely. In April 1845, the ship arrived back in New Bedford with a plush cargo of sperm and whale oil. William H. Cox was master, and McKenzie successfully captained the Joseph Dunbar and Co.-owned vessel. During the apogee of whale hunting, Russell’s multiyear story at sea evolved into a proxy story of US maritime power, industry, and capital: *Whaling Voyage* transmitted in anesthetized detail a perilous romance around the globe.

During the late 1840s, the New England port town of New Bedford was the leading whale port of the world (Heath 2014, 9). The city’s motto “*Lucem diffundo*” (I pour forth light) “referred to the industry that by then provided staple commodities: sperm oil, whale oil fuel, and spermaceti candles” (9). An alchemic mixture of whales, industry, and sea coalesced in New Bedford and lit the nineteenth century ablaze. “The town itself [is] perhaps the dearest place to live in, in all New England,” writes Herman Mel-

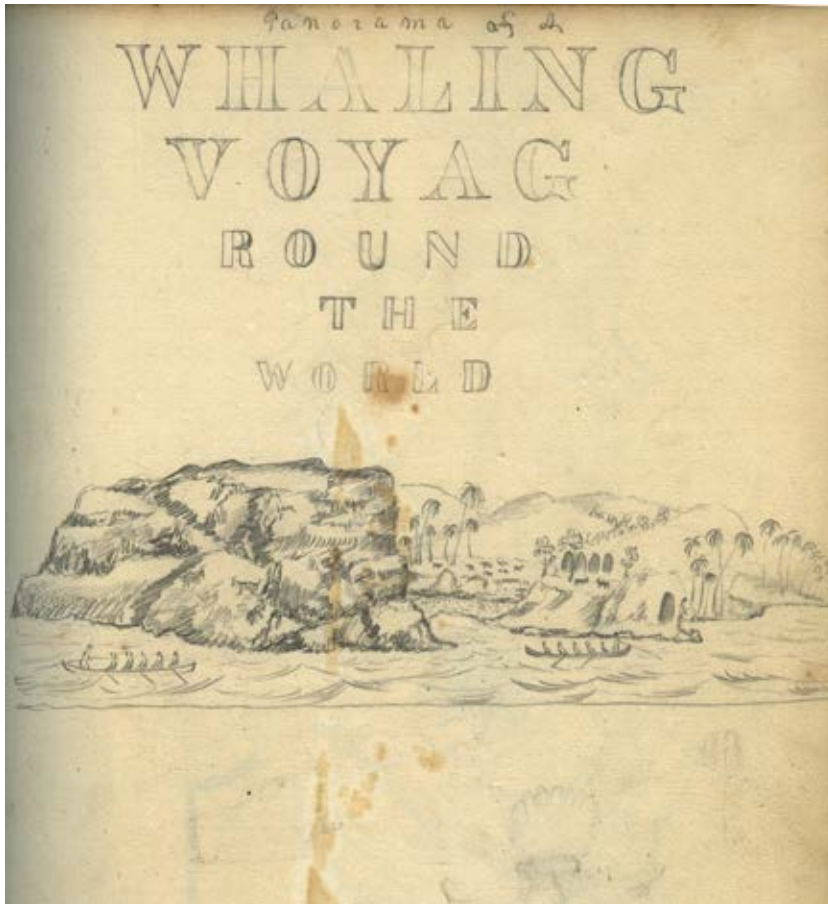
ville in his 1851 *Moby Dick*. “All these brave houses and flowery gardens came from the Atlantic, Pacific, and Indian oceans. One and all, they were harpooned and dragged up hither from the bottom of the sea” ([1851] 1994, 45). Melville, like Russell, spent laborious years at sea during the early 1840s and would harness his creative powers to script one of the greatest works of American literature.

While there is no extant sketchbook from Russell’s time aboard *The Kutusoff*, we know that in 1848 he published a first lithograph titled *A Ship on the North-West Coast Cutting in Her Last Right Whale* (Fig. 3). Working alongside Lemer cier—a specialist in maritime themes and one of the leading European printmakers—Russell’s picture was transformed into a sophisticated product. Colored by the experienced lithographer August E. F. Mayer, the pictorial site of whale dismemberment is harrowing. The experienced New Bedford whaling audience related to his vision. At the center of the picture, a terrifying gray blade hovers above the ship’s hull. Dwarfing the seamen, the steel fin cuts a limp right whale. A flock of birds swarm the bloodstained ocean surface. Russell’s aptitude as keen draftsman and watercolorist would eventually lead to his position as post-Civil War illustrator for the Whaling History and Methods volume of George Browne Goode’s *The Fish and Fishery Industries of the United States*—a project funded by the US Commission of Fish and Fisheries (1887).



**Fig. 3:** Benjamin Russell (American, 1804–1885). *A Ship on the North-West Coast Cutting in Her Last Right Whale*, 1848. Lithograph. Image, New Bedford Whaling Museum.

Whereas Russell could summon images from his knowledge of barges and boatsteerers and his trip aboard *The Kutusoff*, Caleb Purrington often referred to contemporary illustrations for guidance (Fig. 4). His approach to picture-making was more Americana folk, and at times, Purrington even copied directly maritime island scenes from both James Jackson Jarves's *History of the Hawaiian or Sandwich Islands* and Charles Wilkes's *Narrative of the United States Exploring Expedition*. This pencil-on-paper drawing from Purrington's sketchbook seems to show a fragment version of the Juan Fernandez Islands. Stenciled letters purport to announce the title page of the soon-to-be panorama. Tilted rocks sway as much as the two boats below, and arched cave dwellings rhyme with festooning palm trees. The sketch shows a fancifully askance version of some vague island landscape.



**Fig. 4:** Caleb Purrington (American, 1812–1876). Sketch of tropical island with whaleboats. Image, New Bedford Whaling Museum.

The *Whaling Voyage* panorama itself begins in New Bedford with a view looking west across the Acushnet River. Residents would recognize familiar architectural markers: the New Bedford Steam Mill Company, Wamsutta Mills cotton cloth factory, Taunton Railroads, the Acushnet Iron Foundry. Here in the panorama's second panel, one of many images we will look at closely, the picturesque town of New Bedford is intentionally obfuscated by the meticulously rendered crisscrossing network of ship lines, obscurity and vagary part and parcel with the imperious project (Fig. 5). To highlight this plain yet still picturesque scene, ribbony pale clouds and blue horizontal sheets of ocean brine regally frame the square-rigged ship.



**Fig. 5:** Benjamin Russell and Caleb Purrington (American, 1804–1885; American, 1812–1876). *A Grand Panorama of a Whaling Voyage 'Round the World*, 1848. Cotton sheeting. Image, New Bedford Whaling Museum.

As we continue with the pictorial template of *Whaling Voyage*, leaving Buzzard Bay, the moving panorama reaches the North Atlantic Ocean, just adjacent to the eastern seaboard. The whaling ship *India* approaches the entrance of the bay as *The Kutusoff* heads toward the Azores archipelago. One ship approaches dock as another departs. The panoramic dream commences. As the journey *Whaling Voyage* continues onward to open sea, the colors of salt water darken. A set of storms are traversed before the ship advances to Pico Island, the nearest atoll some 2,300 miles due east of New Bedford. The noticeable volcanic peak of Pico is bifurcated—a spewing set of charcoaled smoke merges with nearby clouds, the fiery fumes an analog for the spuming whales to come. Literary scholar Tanya Agathocleous writes, “The panorama attempted to represent the boundlessness of its chosen subject by simultaneously enacting the mind’s ability to encompass this ‘infinity’ through its use of horizon.” (2003, 303). More than any other canvas from the 1,300-foot series in *Whaling Voyage*, the Azorean islands are replete with familiar Western emblems: colonial style domiciles and ochre roofs, a pair of churches and windmill, a Portuguese balustrade fortification, and a carefully sculpted agricultural grid of land (Fig. 6). One can imagine the orator magician authoritatively denoting legible icons and cultural signifiers

as the narrative reels of canvas unwound for paying spectators. Beholden to these spoken descriptions and visual depictions was an immersive crucible of sublimity and awe.



**Fig. 6:** Benjamin Russell and Caleb Purrington (American, 1804–1885; American, 1812–1876). *A Grand Panorama of a Whaling Voyage 'Round the World*, 1848. Cotton sheeting. Image, New Bedford Whaling Museum.

Further south in *Whaling Voyage*, we observe a first panel of human predators on small boats in pursuit of whales: the stalking begins. The first roll of Russell and Purrington's panorama concludes here. It makes narrative sense that following these first anonymous chase scenes, *Whaling Voyage* subsequently depicts the recognizable Bird Island; the natural sanctuary for exotic birds was originally spotted by Captain James Cook 1775. At the entrance of Madeira harbor, just adjacent to the bird haven at far left, a distinctive isle is likewise marked by the recognizable headland of Lyon's Head. Media scholar Shelly Jarenski suggests "the panorama was an immersive spectacle that brought spatial forms—artifacts, bodies, and landscapes—under the control of a spectator's visual power while overwhelming that spectator, making her feel enslaved" (2013, 120n5). Both the mechanical wizardry and uneasy thematic content of *Whaling Voyage* performed a function of relatability, disjoint and displacement. Planar scrolling and amplification of two-dimensional surface eliminated any stable gaze.

With this familiar referent at hand, the following pictures dramatically build up to ashy rainwater sights at Cape Verde (Fig. 7). Thrillingly for spectators, Russell and Purrington visually document the 1847 volcanic eruption at Fogo. While the continuously burning “mountain of fire” was surely not witnessed firsthand by the men, the duo understood the commercial stakes of aesthetic entertainment for the public. Hulls of the ships catch the glaring neon orange reflection of the flaming blast. A tiny boat with two drawn sails seems to recline in fright. The volcanic spewing island panel is foreboding; a pictorial space intent to register the insistent state of trepidation and unrest aboard *The Kutusoff* (and any whaler) on these multiyear journeys.



**Fig. 7:** Benjamin Russell and Caleb Purrington (American, 1804–1885; American, 1812–1876). *A Grand Panorama of a Whaling Voyage 'Round the World*, 1848. Cotton sheeting. Image, New Bedford Whaling Museum.

*Whaling Voyage* continues south bound. In stark juxtaposition to the tropical cleft of fire at Cape Verde, *The Kutusoff* embarks upon the land of icebergs. At the start of roll 3, two ships pass each other. While visually unremarkable, the ship *Zephyr* of New Bedford (with Joseph Sherman as master), flies the conspicuous house flag of Alexander Gibbs. As we will see, the story of Gibbs and whaling is also inextricably bound to the global economic armature of guano. First, however, in Antarctica and around Cape Horn, the oceanic template of *Whaling Voyage* again darkens. Massive waves and matching jagged glacial rocks confound the setting—the intimidating scale of icy mountains and geological fury encompasses the horizon. The cold is palpable. Traveling from the Atlantic to the Pacific, the ship began its trek into 62 million square miles of open ocean. A pod of fighting sperm whales concludes the polar chapter. A world of Chilean bright sultry sunshine awaits.

Some 400 miles from the coast of Chile, we begin to further imagine the *durée* of the journey: the daydreamt allure of the Juan Fernandez Islands is the next station of *Whaling Voyage* (Fig. 8). Three signifiers delineate the landmass. The first is a cohort of four cave dwellings at center; the portico incisions are framed by a massive cross (not pictured). Second, a strange man at right stands with a staff in hand and goat beside him; the pair seem to represent some shared token of industry or agricultural labor. The third identifying mark of the picture is a textual sign: the fabled history of the island.



**Fig. 8:** Benjamin Russell and Caleb Purrington (American, 1804–1885; American, 1812–1876). *A Grand Panorama of a Whaling Voyage 'Round the World, 1848*. Cotton sheeting. Image, New Bedford Whaling Museum.

The Juan Fernandez archipelago had long-been mythologized in the literary imagination. This legend goes back to the end of the seventeenth century and the marooned Scottish privateer, Royal Navy officer Alexander Selkirk. It continues through a different uncanny castaway tale: in fact, Daniel Defoe's *Robinson Crusoe* imported Selkirk's misfortune and locale, altering the historical vignette into his early 1719 English novel of primitive accumulation. The kindred romance and terror of *Robinson Crusoe* was in Russell's mind as he decided what to paint.

It likewise then too makes some apocryphal sense that the story of Defoe's *Robinson Crusoe* emerged on a remote island landmass due south of the Chincha Islands off the coast of Lima, Peru. Although the noted Juan Fernandez Islands are further adrift at sea and adjacent to the Chilean coast, relative to the global narrative and trajectory of Russell's *Katusoff* ship, they are strangely proximate. The principal guano quarry at the Chincha Islands is a neighborhood creaturely referent for Defoe's fable, as we will see.

Allan Sekula and Walter Benjamin outline a tension inscribed in panoramic vision. Both thinkers navigate the panoramic tableaux as an aesthetic site of instability. "The panorama is paradoxical," writes Sekula. At once both "topographically 'complete,'" and "potentially unstable," the technology signals an interminable horizon space outside the limits of its canvas. Indexicality, narrative, and authorship slip between interstices. According to Benjamin, empiricist bravura sought to "make panoramas the scenes of a perfect imitation of nature," and in this furtive act of pictorial deception, panoramas "prepared the way for not only photography but for [silent] film and sound film" (quoted in Sekula 1995, 33). Panoramic devices optically exaggerated the ambulatory act of reading, text and images scrolling alike.

In *Whaling Voyage*, we scan space backward, moving in reverse along a horizontal continuum. Mobilized in space and cloaked in time, the techne implicitly announces an ontological awareness of its own finitude. It is duplicitous. In a beautifully rendered sentence, Sekula writes, “The psychology of the panorama is overtly sated and covertly greedy, and thus caught up in the fragile complacency of disavowal” (Sekula 1995, 43). In other words, theoretically tracking the panorama involves a dialectic of excess and lack. The psychoanalytic language of disavowal, pressure, and diffusion are similar machinations inscribed in both maritime space and commodity circulation—the ebb and flow of goods, capital, and surfaces.

### 3 Guano: Peruvian White Gold

Coincidentally or not, Russell’s 1840s journey was also temporally synchronous with the first commercial-scale shipments of guano. In the early 1840s, Myers and Gibbs—Liverpool and London agents with interests in South America—“vigorously promoted the use of guano in Britain through pamphlets. . . . Within a year, imports of South American guano rose by over 700 percent: 2,881 tons in 1841 and 20,398 in 1842” (Kinahan and Kinahan 2009, 43–44). In the 1840s and ’50s, the moving panorama and whales, along with photography and guano, sallied, buoyed, and capsized in a representational whirlwind of seafaring extraction.

The germane roots of guano and photography each separately sprouted their own discreet tendrils of reproducibility: proliferating likeness, fossilized traces, and conspicuous commodity value. While local history of guano is deep, for the Western imagination, the malodorous deposits were first discovered by the inimitable Prussian naturalist Alexander von Humboldt. In 1802, on a second return voyage to Peru, Humboldt seized a sample of the foul potion.<sup>2</sup> Throughout the ensuing four decades, the strange manure was chemically scrutinized and researched in capitals across Europe and locally in Lima, Peru (Liebig [1859] 2010, 27, 45–49). Only eventually, in 1840–41 and at the behest of merchant W. J. Myers, was the first large-scale transnational shipment of Peruvian guano finally exported to Liverpool, England. For the US, the first commercial quantity shipments arrived in 1845, and the sequential guano exploitation—rapid plundering of copious sea fowl and their dung—culminated in the 1856 US Guano Islands Act. Globally, “guano-mania” was rampant and undeniable.

Let us consider more closely the two sea-mining industries, whales and guano—their materiality as circulating commodities in dialogue across the sea. As base precursor, whales, like guano, enabled the continual accrual of enterprising industrial capital in the mid-nineteenth century. For guano, the result was immediate: the powdery dust

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<sup>2</sup> Edgar Allan Poe’s 1848 “Eureka” is dedicated to Alexander von Humboldt—famed Western “discoverer” of guano.

ballooned crop productivity. Similar to other cash plantation crops—cotton, sugar, coffee—both the value and usage of the fertilizer was extraordinary (Hutton 2019, 15). For landowners, yield of production and profit margins skyrocketed with a sprinkle of the matter: “Guano, high in nitrogen and phosphorus nutrients, was tried as a fertilizer, and declared successful, ten times richer than manure. Much less effort was required of the farmer to spread guano on the fields than to spread the equivalent amount of nutrient enrichment from cart-loads of manure. The beginning of the fertilizer industry had come” (Gaines 2007, 12–13).

At the height of its capital value, US president Millard Fillmore in his State of the Union Address on December 2, 1850, even pledged to bring down the soaring and inflated market price of guano. During the attenuated span of the 1840s decade and slow maturation of Russell’s *Whaling Voyage*, the panorama-crazed and sea-conquering nation-states of Britain, Spain, Portugal, the Netherlands, France, Germany, and the US, among others, radically transformed the limits of colonial territories—usurping land, fostering empire-building campaigns, and manipulating international markets of exchange (Cushman 2013, 251).<sup>3</sup> The bludgeoning in the guano trade was a central player amid these various forces of revolution.

Amid this storm, the story of guano in *Rays of Sunlight* anchors first in one place, the noted Chincha Islands: “Inquisitive explorers observed that islands along the west coast of South America had guano, hardened and dried bird dung, several hundred feet thick. It had accumulated over thousands of years from nesting colonies of sea-birds” (Gaines 2007, 12–13). In this unusual hyper arid microclimate, it almost never rained. In sum: Peruvian guano was packed with astronomical levels of nitrogen.

At the same time, photography narrated the plot: the verisimilitude of mechanical reproduction produced legible visual testimony. Moulton’s electrifyingly ghostlike images—the first ever made of this geologically archaic, white material—portray a comprehensive template, fragmentary and stark, of primitive accumulation (Cadava 2018). Visually descriptive, the photographs map their own transactional milieu and pillage. As example, “Panorama of North Island, Chincha Islands, with Part of Fleet Waiting for Guano, No. 2” shows a sinister fleet of eight fully rigged ships awaiting their smelly white treasure (Fig. 9). Encroaching on the Peruvian coastal waters, clandestine along the glistening ripples of the bay, the booty-searching convoy appears almost too slick. Like a school of stalking pariahs, the stationary caravan waits to raid, their vertical masts like the glare of raised muskets.

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<sup>3</sup> See Ian Baucom’s *Specters of the Atlantic* on race, violence and international trade, along with James Akerman’s *The Imperial Map*.



**Fig. 9:** Alexander Gardner and Henry de Witt Moulton (American, 1821–1882; American, 1828–1893). “Panorama of North Island, Chincha Islands, with Part of Fleet Waiting for Guano, No. 2,” in *Rays of Sunlight from South America*, 1865. Mounted photo. Image, New York Public Library.

As we will see, the remaining pictures not only frame in detail the catastrophic excising of raw material—along with the integrally related networks of indentured labor, capital investment, and base production value—but also meta consciously *announce* (much like a performative speech act) their own maritime function within the wider circuits of market ideology. Mentally sutured together, this small armada of photographs form a kind of phantasmatic topography exposing the life cycle of guano: from rare mineralogical resource, to artisanal-mined earthen material, and finally to trading product ready for distribution and sale. In this way, Moulton’s visual epic of guano shuttles between concealed narrative and splintered eco-gothic portraiture. Operating at a nefarious interstice, *Rays of Sunlight* is at once hypnotizing and rapacious, instructional and didactic, hegemonic and classist.

With the release of Gardner and Moulton’s 1865 *Rays of Sunlight*, ornithological dung was no longer a mental fabrication. The publication lifted the curtain back on commercial guano, its Peruvian source-world, and the potential concentric rings of global distribution. Their witness to the solid fertilizer core demystified the fetishistic abstraction of capital. Moulton’s photograph “Strata of Guano, Chincha Islands” unveils the deposit (Fig. 10). The picture is hauntingly stark—the event of photography atomized to a slab; an extreme close-up of the parched mass.



**Fig. 10:** Alexander Gardner and Henry de Witt Moulton (American, 1821–1882; American, 1828–1893). “Strata of Guano, Chincha Islands,” in *Rays of Sunlight from South America*. 1865. Mounted photo. Image, New York Public Library.

The hardened deposit encompasses nearly the entire frame: only a sliver of sky at top right breaks the walled facade. A cleft in shadow gouges the guano surface like a branding. This slanting incision rhymes with the tiny sky slit behind. To the left, wedged into a narrow crack, two men toil with pickaxes. Dodging the abrasive sun, they wear long-sleeved gear and protective caps. Their laboring is exhausting even to witness: the drudgery of guano made tangible. Moulton’s picture also shows the compact scorching of heat and light. The whitened sun rays of the photograph perversely metonymic with guano’s devastation.

Herman Melville further illustrates this sublime fright of whiteness in chapter 42 of *Moby Dick*. Describing the abysmal apparition of the white whale, he writes, “This elusive quality it is, which causes the thought of whiteness, when divorced from more kindly associations, and coupled with any object terrible in itself, to heighten the terror of the furthest bounds” ([1851] 1994, 177). Unfathomable size attached to white’s blistering absence of color presages a unique sense of fright. Albeit unlike the daunting confrontation of ocean emptiness for harpooners, wherein “the shrouded phantom of the whitened waters is horrible to him as a real ghost,” the lonely “headland shoals” of guano production were no less harrowing. Working in the Chincha Islands was terror—to face a

bleached stone rock of avarice and blustering swell of capital. Joseph Victor von Scheffel's enthusiastic poem "Guano Song" (1868) elides the urgent perils of guano on the horizon:

I know of a peaceful island  
 Afar in the silent sea,  
 Where around the rocky highland  
 Pure billows are foaming free.  
 In the harbor no ship is resting,  
 No sailor is on the strand;  
 And thousands of white birds nesting,  
 Are the guards of the lonely land.

To a mountain it rises, and whitened  
 By rays of a tropical sun.  
 In the rosiest light these sages  
 Look down at the future and say,  
 In the course of historical ages  
 We shall fill up the ocean someday.

In Scheffel's aristocratic humorist vision, the frenzied analog of organic phenomenon and mankind potentiality align in a utopic future age where oceans abound with guano. Nesting birds and pure ocean billows harmonize with antsy ships and toiling sailors. "Guano Song" is a capitalist anthem, a bad faith dream of tropical sun, rosy light, and eternal mountainous growth. The gloss of the sky and sea is its own mirage-imprint of magical money. For the poet and novelist Scheffel, base production and its constitutive labor forces were mere comic ruse, foundational souvenirs for prospective wealth.

Between 1845 and 1853, Peruvian guano exports rapidly soared from less than \$700,000 (24,701 metric tons) to more than \$6 million (316,116 tons) (Duffield 1877, 38). In this calculated foreign land of otherness, economic exploitation, hammered materiality, and geological ecocide congregated, Gardner concludes, "So great has become the demand for it that half the deposit of the largest island has been removed already; and the probabilities are, that in twenty years the supply will be exhausted." His words were prophecy.

"In after times," Gardner writes in his preface to *Rays of Sunlight*, "these sketches of the Chincha Islands will have a peculiar interest." Indeed, by the second half of the nineteenth century, guano had all but been fully sacked. The invasive language of the Anthropocene was in full force, and "the original estimate of the length of time—one thousand years—that this deposit of the Chincha Islands would suffice for the wants of the world, is destined to prove fallacious" (Gardner and Moulton 1865, Preface). Moulton's picture "Cave at East Point, North Island, Chincha Islands" expands the scope of guano scenery (Fig. 11). Perhaps at first glance mistaken for a Carleton Watkins photograph—something akin to his 1863 Mendocino coast pictures—the craggily site is in fact the epicenter of Peruvian white-gold sludge. The grotto extending offshore is a kind of ghoulish netherworld. Stalagmites appear to recede back into the cliff facade as a whirlpool of salt whisks beneath the cave inlet.



**Fig. 11:** Alexander Gardner and Henry de Witt Moulton (American, 1821–1882; American, 1828–1893). “Cave at East Point, North Island, Chincha Islands,” in *Rays of Sunlight from South America*. 1865. Mounted photo. Image, New York Public Library.

The solitary oblivion of guano on the Peruvian coast was spectral knowledge shared by Alexander Gardner and nomadic cameraman Henry de Witt Mouton. Consider this ambiguous description of the Chincha Islands site and mineral compound as example:

There are three Chincha Islands, lying in a line, N. and S., the passages between them being less than half a mile. The wind is always S. and E. and it is never known to rain. The North island is the largest. It is nearly circular, and about one third of a mile in diameter, and about one hundred feet high. Some parts of the coast are steep, high cliffs, and others sandy and rocky coves of gradual ascent from the shore. The heap of guano continues to deepen to the highest point of the island, where it is one hundred feet in depth. (Mathew 1977, 36)

Although its anonymity was conspicuous, during the tumultuous years of the American Civil War, specificity of place was paramount: Guano, Lima, and Peru needed prospective reach. Gardner and Moulton understood this—the psychic terrain of hegemony and imagination in mid-nineteenth century America: a compulsion to possess indiscernible horizons; the periscopic language of vistas; a competitive petit-bourgeoisie fancy to collect experiences, tokens, and souvenirs. As rejoinder, no less than fifteen of the sixty-five photographs contain the title “panoramas.” The suggestive appellation of the panorama was a calculated stratagem (Fig. 12).

“Panorama of the Town, North Island, Chincha Islands” is a wide-view landscape picture. The panoramic view symbolically usurps the seaside forest of guano photographs. Anything but scenic, however, the shanty town resembles a worn-down California mining camp more than a tropical isle from the southern hemisphere. Moulton’s blanket inclinations aimed to encompass this collective nowhere place, a dusty site of suffering. Epitomized by this kind of landscape purview, the Lima pictures widened guano’s myopic screen. Like Russell and Purrington a decade earlier, with their exaggerated “three-mile” moving panorama, manufactured aesthetics was shrewd marketing.



**Fig. 12:** Alexander Gardner and Henry de Witt Moulton (American, 1821–1882; American, 1828–1893). “Panorama of the Town, North Island, Chincha Islands,” in *Rays of Sunlight from South America*. 1865. Mounted photo. Image, New York Public Library.

The unknowable chicanery of the sea was capitalized on by not only whalers and photographers (James 2012, 123).<sup>4</sup> Presciently, the ocean frontier also became contested political terrain for both the British imperial project and aspiring United States colonial empire. Soon enough, the sea would provide the ideal opportunity for Western powers

<sup>4</sup> She writes, “Marx had warned about the ownership of land potentiality to become ‘a slave master,’ it seems oceans also possessed the leveling capabilities embedded of capital” (123).

to continue their hegemonic aims and seizing of foreign territory: “In 1878, Britain, Russia, China, and the United States, and seven other colonial countries held claim over two thirds of the world” (Benard 2017, 49), and guano and whaling accounted for much of this territorial accumulation.

First, in 1842 the unstable Peruvian government decided to nationalize guano reserves, forming a tight-knit monopoly of the lucrative commodity. Uniquely, however, the English firm Anthony Gibbs and Son—the same flag-flying Gibbs lineage pictured in *Whaling Voyage*—was included in the state-run decree. Throughout the following two decades, Gibbs and Son would dominate British and North American markets. For US commercial enterprising, guano similarly became a central preoccupation: national legislation, property rights, and sovereignty claims were at stake.

An inherently volatile commodity, the fertilizer at once began to entice rampant overspeculation, subsequently fostering the growth of international exchange. Contractual agreements—often mendacious and bigoted—proliferated. Extravagant guano earnings, income, and revenue were embedded in obscure circuits of profit and yields, debts and dispossession. During the 1840s and 1850s, accumulative circulation of the fertilizer twisted a repugnant web of spectral capital. Eventually, US political legislation would intervene. In 1854, US President Franklin Pierce declared,

Peruvian guano has become so desirable an article to the agricultural interest of the United States that it is the duty of the Government to employ all the means properly in its power for the purpose of causing that article to be imported into the country at a reasonable price. Nothing will be omitted on my part to accomplishing this desirable end. (Chamberlain 1856, 163)

As this shows, by the middle of the 1850s, the rapacious language of US empire-building was in full force. Writes environmental historian John Wine, “Farmers became accustomed to purchasing fertilizers,” critically shifting agrarian practices of cultivation, and in turn, the agricultural industry crossed the “psychological boundary between self-sufficient and capitalistic farming” (quoted in Hutton 2019, 67). On the heels of the 1848 Treaty of Guadalupe landgrab and California gold rush, the western limits of United States imperialism began to swell. In 1855, manifest destiny entered the English lexicon, and the following spring of 1856, perhaps in the most significant—and today oft-forgotten—jurisdictional act of US sovereignty, Senator William Henry Edward introduced the bill that would become the Guano Islands Act. The expansionist policy established precedent for future acquisitions of land across the Pacific (Burnett 2005, 784–85).

Whenever any citizen of the United States discovers a deposit of guano on any island, rock, or key, not within the lawful jurisdiction of any other Government, and not occupied by the citizens of any other Government, and takes peaceable possession thereof, and occupies the same, such island, rock, or key may, at the discretion of the President be considered as appertaining to the United States. (Guano Islands Act 1856)

In 1857, Jarvis Island was claimed by the United States. It remains one of few US-affiliated islands located in the Southern Hemisphere. Adjacent to both the Baker and Howland

Islands—and roughly 1,600 miles from Hawaii—Jarvis was named in 1821 after a British captain's discovery. Howland Island, appropriately however, was renamed in 1842 after a whaling ship's lookout—the family name and fortune built from the massive New Bedford whaling fleet of George Howland, and that island was likewise claimed as US territory in 1857. The foreign enigma of guano and its corresponding success as miracle fertilizer was a transnational haunting; a molten substance from some distant place. Colonial machinations flourished. Instability was rampant, and bird dung was the force to be reckoned with in the middle of the nineteenth century.

The geographic dislocation of both the moving panorama and photobook furthered the psychic mystification of capitalism. Abstract speculation and the bombast of market ideology were concealed alike in the graphic allure of the two artworks *Whaling Voyage* and *Rays of Sunlight*. Circulatory economic journeys of guano and whaling continue the narrative.

## 4 Capital and Spectacle

After 2,900 miles of open sea, *The Kutusoff* would sight the long-awaited Pitcairn Island. Corresponding to the vast horizontal plateau of ocean surface, the long-awaited Pitcairn Islands in Russell and Purrington's *Whaling Voyage* (Fig. 13) is nearly nondescript—a mere nomadic rift in the maritime matrix, a tableaux picturesque stage. Visually, the picture appears uniform. At center, a mound of green earthen fecundity rises like a cocoon. Two ships, one larger at left, frame the rocky island shore. In front, a large gray guano-like sediment rises; two tiny boats paddle nearby. Pastel pinks, blues, and white construct the sky and sea in unison. Lacking depth of space or a traditional vanishing point, it is as if western perspectival space dissipates equally along the panoramic panel. In its place, a stringy attenuation of washed-out aqueous colors organizes the pictorial space.

If the painting is nearly rogue and placeless, similar to that of Juan Fernandez, seen earlier in Purrington's sketch, three icons distinguish the site. The so-called Nose was perhaps the most prominently noticeable sight (of any during the long trip) for ships lost at sea. Delineated by Russell and Purrington as some kind of queerly tottering rock, in fact the emblem seen at top right had long been a geological marvel. The Nose is one of very few distinct demarcating sites that can be seen from afar. As plain are the other two indicators. The second pictogram is the massive banyan tree: hanging limbs dangle to the ground and a bushy arboreal crown of green enlivens the space around it. The tree, like the Nose, was myth of old. Finally, notice a deep incision at the right corner of the clay island. While some kind of superficial plantation grid scours the topography, the reddened chute near the island's tip is a measured wound. Displacement of the shoal reaches into sea. Calculation and capital, barbarism and plenty dovetail in this lesion with the scraping logic of profit. The land of Pitcairn Island put to good industrialist use.



**Fig. 13:** Benjamin Russell and Caleb Purrington (American, 1804–1885; American, 1812–1876). *A Grand Panorama of a Whaling Voyage 'Round the World, 1848*. Cotton sheeting. Image, New Bedford Whaling Museum.

Further westward at sea *The Kutusoff* arrived in Hawaii. Between July and December 1843, at least 139 American whaling vessels made port in Lahaina, Hawaii. As a frequented port of call, Lahaina was a principal site of economic transaction. During the entirety of *The Kutusoff's* forty-two-month voyage, Russell sent home a staggering ten thousand pounds of whale bone to the New Bedford harbor. While the majority of the fourth and fifth rolls of *Whaling Voyage* have been lost, it appears regardless that the most dramatic sections of whaling hunt occurred in the Northwest Coast of North America.

Recall too, before 1835 nearly all published images of whales and whaling voyages were derived from European sources. Russell was a businessman and intent on showing a comprehensive scene of whaling hunt (Fig. 14). In one such scene, set at night, whales nearly outnumber the fleet of ships. In the smoky twilight of the foreground, smaller boats and their boatsteerers proximately approach the chaotic primal spot of action. In one particularly gruesome panel a harpooner flails into the sky—his oar broken, and boat cracked in half by the tail thrashing whale. Rapacious for the baleen of right whales, the site of gore continues with a cutting-in process for both whalebone and blubber.

Over the first half of the nineteenth-century, right whales (often called “seven-foot bone”) had been completely decimated: the industry had become, in effect, unviable for commercial industry. In response to this loss, Russell and Purrington’s initial brief hunting sequences in the Atlantic depict sperm whaling. Notoriously more dangerous and difficult to trap, the sperm whale was a different kind of oceanic colossal for har-



**Fig. 14:** Benjamin Russell and Caleb Purrington (American 1804–1885; American 1812–1876). *A Grand Panorama of a Whaling Voyage 'Round the World, 1848*. Cotton sheeting. Image, New Bedford Whaling Museum.

pooners. Regardless, “seven-foot bone” right whales were still the most hunted North Atlantic species and genus familiar to New Bedford. Russell understood the meaningful business strategies involved in picturing the right whale trade and made pictures recognizable to the masses. The species had long been a staple good in the old New Bedford economy. Not by chance then, Russell and Purrington would soon enough paint right whales. Here on the North Pacific side of his *Whaling Voyage* journey, hunting fervor for these endangered animals transcended any base maritime compass coordinates. The whales’ spectrality and near extinction haunt the panoramic project:

The animals targeted in this fishery were North Pacific right whales (*Eubalaena japonica*). . . Russell himself spent months on the Northwest Coast hunting these large, dangerous and valuable whales. The Northwest Coast was a special target for New Bedford owners and agents as the whales, while wild and unpredictable, were abundant and large, some individuals making 300 barrels of oil. (Davis, Hutchins, and Gallman 1987)

In that formative year of 1848, Lewis Temple invented an improved harpooning instrument. An esteemed blacksmith and abolitionist, Temple was a Black man born in Richmond, Virginia. He moved to New Bedford in 1829 and was soon thereafter elected vice president of the New Bedford Union Society—the city’s first antislavery assembly. Forging iron with fire, Temple fabricated the new killer tool in spring 1848. Coined the Temple toggle iron, the weapon had a pivoting head with barbs able to further embed inside the whale’s flesh. That same year, on July 23, 1848, Thomas Welcome Roys—an avid whaler from the eastern seaboard—departed from Sag Harbor, New York, aboard the bark *Superior* headed to the Arctic. Therein he discovered the Western Arctic Bowhead—colloquially deemed new-fangled monster—and soon after patented his own tool of savagery. Roys developed whale rockets, and his novelty streamlined the obliteration of all different kinds of whale species moving forward. Over the next decades, these two draconian inventions dramatically transformed whaling in the

Northwest Coast—their violent campaign incessantly altering ocean ecosystems in tandem with the lust for profit and flesh, resources made cheap.

This kind of masochistic vision of the natural world finds a vile equivalent in the specters of slavery haunting panoramic practices. John Greenleaf Whittier's long abolitionist period poem "The Panorama" (1856) not only paints a visceral picture of slavery but also orients the hierarchical narrativizing of panoramic culture. For Whittier, the gargantuan visual tool was a missionary of capitalism and classist segregation, a technology inexorably linked to racist system of exploitation (Whittier 1856, 336). Challenging the episteme of the panorama, Whittier's poem activates the language of time travel. Aesthetics and bodies together materialize in a schism of reality, kin to *Whaling Voyage*—a world of otherness engendering at once both a sense of joy and terror. Relatedly, Shelly Jarenski outlines ways the panorama indelibly "combined the joy of domination and the joy of illusion together in a powerfully disciplinary space" (2015, 120). Whereas the hegemonic operations of the circular panorama are often allied with tropes of panoptic surveillance and power, the moving panorama likewise shuttled in experiential fright. Mobile picture performances conflated the ideas of perception and race, epic and scale, media technologies and exploitative labor—human and nonhuman similarly. Jarenski explains the bodily encroachment of the panorama; a phenomenological logic with "visual-spatial linkages of the artifact, body, and the land" (2015, 68–85). Subjectivity and self-autonomy oscillate within the darkened hallucinatory space of the panorama, its all-encompassing motion pictures.

Comparative literature scholar Guido Mazzoni's *Theory of the Novel* describes the logic of narrative and its persuasive sway in the nineteenth century: "Choosing to tell a story. . . means to accept an ontology: it means to assume that reality is composed of particular beings who are subject to time, agitated by an imbalance, and located in the world" (2017, 350). *Whaling Voyage* and *Rays of Sunlight* both capitalized on the aesthetic predilections and political agitations of the era. Their formal conventions and narrative thrust projected a cosmos of pictures at sea: an authorial point of view, an imaginary plot in sequential geographic order, oceanic arenas evacuated of singular personhood, the detailed magnification of objects.

In *Metahistory*, historian Hayden White similarly notes this crucial nineteenth-century approach to narrative. Through a vantage of fractured labor and capital, White suggests Marx apprehended the historical field in a "Metonymical mode." Importing a transhistorical sensibility, "[Marx's] categories of prefiguration were the categories of schism, division, and alienation" (White, 1975, 281). The atomization and recursion of *Whaling Voyage* unconsciously project this kind of anxiety and estrangement. *Rays of Sunlight* similarly tracks the accumulation of capital—guano precisely—and the deleteriously dehumanizing process of extractive labor. In the first volume of *Capital*, Marx reflects acutely upon the failures of scientific soil advancements with the fertilizer. He ultimately laments that "forced" and injudicious "manuring of English fields with guano" for large-scale capitalist agriculture only worsened matters (quoted in James 2012, 115). For Marx, the process of historical transformation manifested as a "pano-

rama of sin and suffering” (quoted in White 1975, 108).<sup>5</sup> The vapor of guano erased any potential hope for environmental or societal change.

The town of New Bedford, meanwhile, continued to dominate the global whaling industry. From 1825 to 1890, “the port’s vessels, on average, represented more than fifty percent of the nation’s whaling tonnage” (Davis, Hutchins, and Gallman 1987).<sup>6</sup> Financial capital, fractured seafaring bodies, and a motley of whale products pervaded the coastal environ. New Bedford “refin[ed] greasy barrels of liquified whale blubber into valuable oil and clean-burning candles” (Ayers 2023). Describing the local New Bedford harbor through metaphor and poetical ekphrasis, Heath likens the panoramic scene of bristling mastheads to a densely wooded landscape of trees: “The large number of whaling vessels in New Bedford’s port formed forests of mastheads that stood out against the skyline” (Heath 2014, 10). Ships composed of wood—metonymic with their own erect forest mastheads—lurk threateningly across the panoramic New Bedford sky. As if totemically charged, the heraldic band of spindly poles doubly perform their own purported dominance. In the darkened nests of collective nightmare, a cosmos of extinction and eschatology looms like some unknowable lunar sublime—an apparitional and haptic white whale, just below the surface edge and always too near at hand. The ongoing perils of labor’s alienation and a future quotidian world of conspicuous consumption align in Russell’s pictures and Moulton’s fragmented photographic tale.

All the while, the inventive epoch of photographs and steam engines, railroads and telegraphs, continued to generate new “input-intensive agricultural practices” (Cushman 2013, 251). Industrial scale changes and ideological shifts only further appended the dislocation of oceanic mining and local agrarian farming. Relatedly, political subterfuge and salacious economic maneuvers propagated “colonial corporate mentalities” (Gootenberg 1993, 21). And all across the US, guano speculation was thriving: the alchemy of finance predicated on this invisible, unusually rare commodity. Statutes and geography alike were intentionally ambiguous. Throughout the end of the 1850s, a cartographic blankness continued to accelerate profiteer fantasies in the Chincha Island.

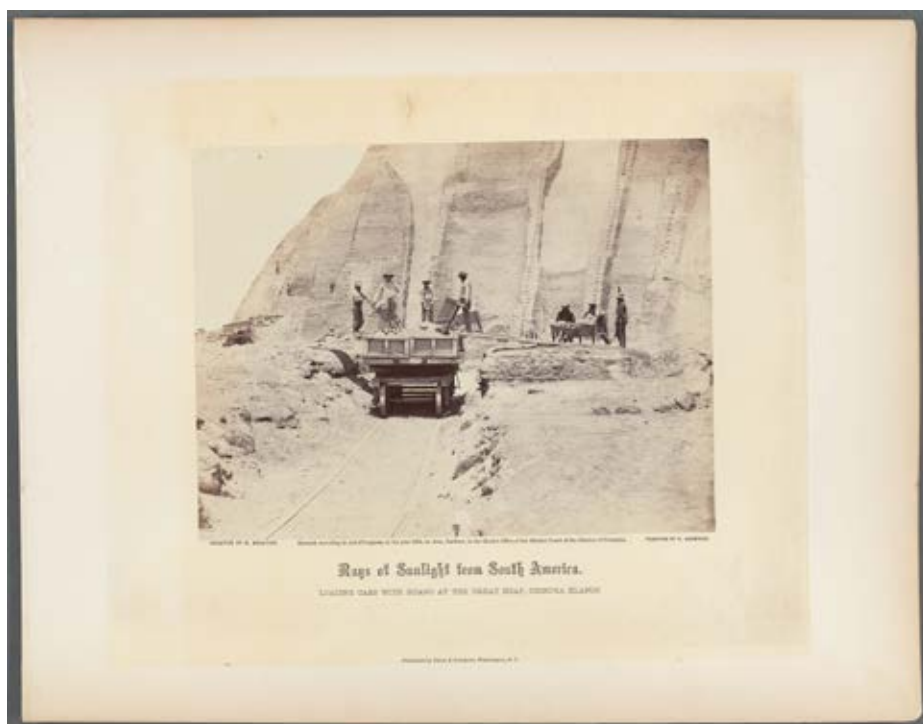
For the population of indentured workers, the extractive process and costs of mining the solidified excrement were far from an uncertainty. Life was daily horror and death was always close at hand. Another blazing white photograph, “Loading Cars with Guano at the Great Heap,” visually articulates this sense of desperation (Fig. 15). Pictured more like a penal colony of oppression than an agricultural site of labor, “Loading Cars” reveals bodies abused. Bereft hands gravel in sweat and detritus. Ostensibly asked to pose still for the camera, four men at center stand atop a rickshaw trailer. It is hard to differentiate the wheeled set of grooves below and behind. Entrenched in a titanic white sea of guano, the direction of death doesn’t matter—whether they are going toward it or fleeing away, the

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5 Writing on Michelet, White notes, “For him, a poetic sensibility, critically self-conscious, provided the access to a specifically ‘realistic’ apprehension of the world” (149).

6 Davis, Hutchins, and Gallman’s 1987 paper offers a detailed account of ship typology, whale specimens, and the whaling industry position in the circulation of nineteenth-century global capital.

packed nitrate is a poison. At right, two men toil. The pushing torque of their struggle is explicitly palpable—zealous work juxtaposed to the imperial guard who stands threateningly nearby, stoic with his colonialist helmet and upright musket. The accelerated socioeconomic revolution of worldwide capital was built atop this grinding industry: abstraction of labor, covert transmission of commodities, and pictorial archives ensconced the globe. A lair of pillage and profit, Moulton's documentary impulse charted the putrefied muck.



**Fig. 15:** Alexander Gardner and Henry de Witt Moulton (American, 1821–1882; American, 1828–1893). “Loading Cars With Guano at the Great Heap, Chincha Islands,” in *Rays of Sunlight from South America*. 1865. Mounted photo. Image, New York Public Library.

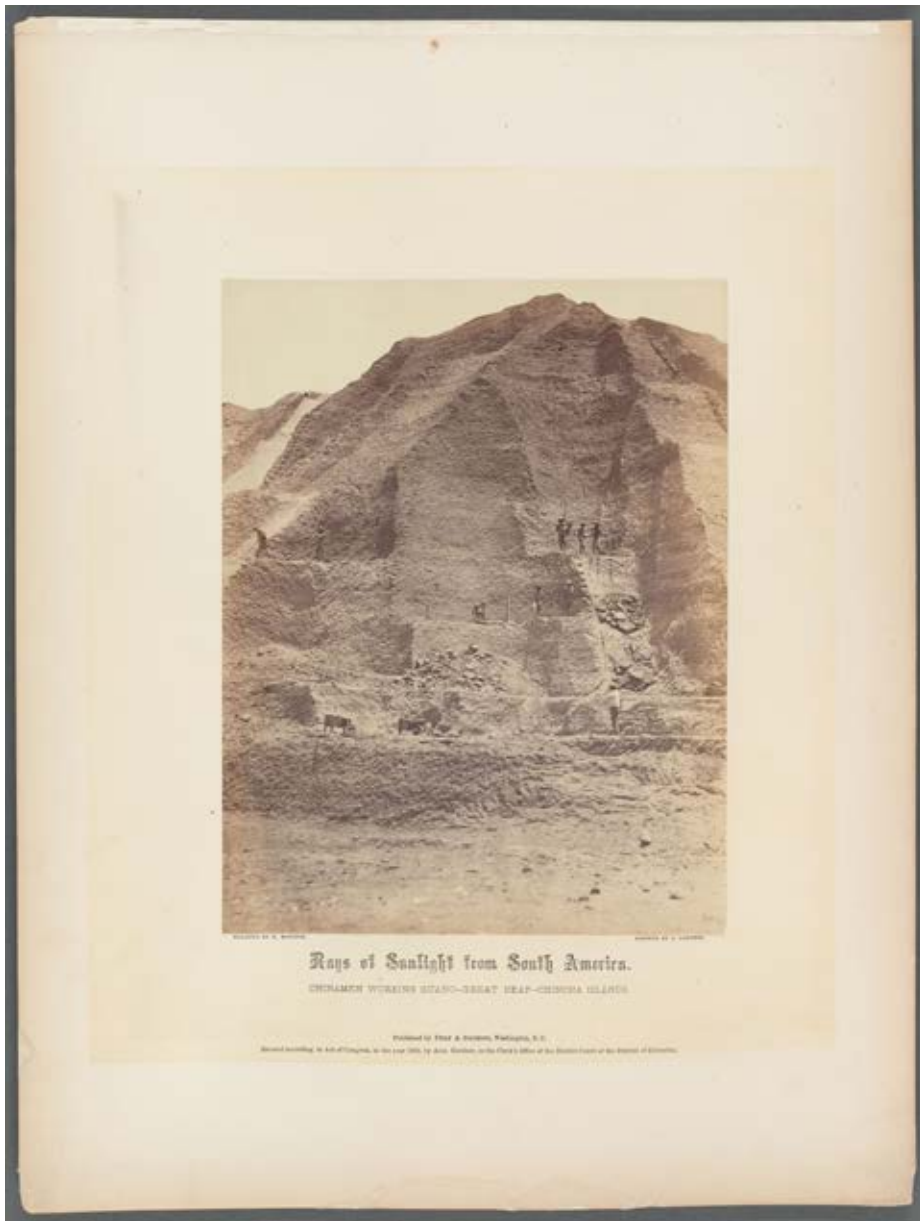
As to be expected, recruitment to mine the guano mound posed a challenge. In fact, subjugated laborers and servitude comprised nearly the entire workforce. Local indigenous men, army deserters, convicts, and imported slaves from the US mainland were all imprisoned workers, isolated to the mine. There was “little voluntary movement of workers to the guano islands,” writes historian W. M. Mathew (1977, 40). Indeed, the backbreaking labor and extreme isolation of the Chincha Islands was a critical impasse for the plantation-owning gentry (hacendado) class of mine owners, local Peruvian and foreign investors alike. However, a major turning point in recruitment came in 1849 with the introduction of indentured workers from China.

Beginning in 1849, the production of guano was dominated almost exclusively by Chinese slave labor pacts (known by the pejorative term “Coolies”). The transfer of laborers and contracts was arranged through ports in Macao, and by 1857, the number of Chinese persons indebted to the fertilizer island was exorbitant. In total, more than ninety thousand Chinese men were transported to Peru over a two-decade period (Gonzalez 1989, 390). “I observed Coolies shoveling and wheeling as if for dear life and yet their backs were covered with great welts,” writes one American observer, George Washington Peck (1854, 200). We see this unmitigated racialized violence in “Chinamen Working Guano—Great Heap—Chincha Island” (Fig. 16).

The magnitude of the picture feels biblical. Seen only in a glance, the pulverized pyramid might well be construed as some sandy Egyptian desert—perhaps the mammoth sphinx pictured from an askance vantage. Moulton’s extreme close-up view and straight-ahead perspective only further augment the archaic bareness. However, crammed in between cavities of stone and shards of light, we begin to witness an inconspicuous constellation of figures: a cohort of Chinese men stand atop the undulate ridges. Dark silhouette visages of three workers hover along the topmost tier of this stuffy excrement. Scalding in the Peruvian heat, the thunderous mountain picture is a trap. Two wheelbarrows anchor the quarry. And just above these wood-wheeled tools—drenched in a light leak caused by the camera—a man bent over creeps off stage. “Chinamen Working Guano” is less a golden scene of tomb raiding and more a necromantic Pompei prophesy: ruins and magma effigies reborn inside deprived bodies laid to waste. The photograph is an apparition.

While in theory Chinese miners entered freely into contractual agreements, most of the promised assurances were specious. Kidnappings were common. In fact, many Chinese indentured workers were duped into thinking their final destination was California—a trade-off for a potential *el dorado* future in gold, notwithstanding the eight-year contracts and brutal conditions of gold-digging. The cunning avarice of guano traders piloted one’s displacement. “It is easy to distinguish Coolies who have been at the islands a short time from the newcomers,” writes Peck. “They soon become emaciated, and their faces have a wild despairing expression. That they are worked to death is as apparent as that the hack horses in our cities are used up in the same manner.” (1854, 209–210). In the slosh of guano, human life was bludgeoned to the lowest common denominator: brutality and death were the only certainties for workers in Chincha.

“Shoots for Loading the Lighters with Guano” is a finishing picture (Fig. 17). The cycle of extraction complete, loosened guano was shoveled into special enclosures—canvas shoots called mangueras. This final task was a hazard. To avoid poisoning and asphyxiation, shifts for offloading the lighters into the ship holds were limited to twenty minutes: “Loaders could emerge from the ship holds bleeding from every orifice in their heads” (Mathew 1977, 51). The danger of falling into the shoots was also a liability. Death was common and, “accordingly, reserved for free laborers: a dead contract worker represented lost money” (Mathew 1977, 48). Moulton’s photograph shows us three cascading pipes of product. Above, two workers receive a makeshift pushcart and



**Fig. 16:** Alexander Gardner and Henry de Witt Moulton (American, 1821–1882; American, 1828–1893). “Chinamen Working Guano—Great Heap—Chincha Island,” in *Rays of Sunlight from South America*. 1865. Mounted photo. Image, New York Public Library.



**Fig. 17:** Alexander Gardner and Henry de Witt Moulton (American, 1821–1882; American, 1828–1893). “Shoots for Loading the Lighters with Guano” in *Rays of Sunlight from South America*. 1865. Mounted photo. Image, New York Public Library.

rest atop a “special enclosure.” Below, two (maybe three) blurry lighters receive the rifled manure. The grated guano here is a messianic smear. The plundering abomination was complete, even the camera’s shutter speed couldn’t fully envision the scene.

To be deceptively made placeless and worked to death—it was a cruel world, one that whalers of the time would have known in their own way:

In the months of November (1853)—wrote an American mariner—I have heard fifty of the boldest of them joined hands and jumped from the precipice into the sea. In December there were twenty-three suicides; this is from one authority; in January quite a number, but I have not learned how many. I was a few days since on the South Island, and there saw two of the most miserable starved creatures. They had swam across on their wheelbarrows, and fully determined to die. (Mathew 1977, 49)

Whereas the panorama sought to idealize landscape and history—amplifying cartographic thresholds and individualizing subjectivity—photography ambiguously archived time through a kind of mechanical logic. In doing so, photography at once auratically enlarged the world and disclosed a fragmentated notion of *the real*, the objecthood of *things* made temporally still. Photographs operated in a doubly ambiguous cauldron of authenticity and mechanical reproducibility. While a pathos of limitless imagination and horizons informed both these dueling technological systems, it was the reproducibility of the camera that officiously reified sea space, an agenda able to “domesticate the maritime sublime by converting its perceptual properties into the raw material of still life” (Sekula 1995, 48). Situating Henry de Witt Moulton’s photographs as keenly central in this base process makes dire sense: geological levels of guano accumulation staining the ocean floor—both pictured and reproduced.

## 5 Conclusion

In the cultural arena, whaling and guano manifested in divergent valances. Whereas Russell’s painted moving panorama *Whaling Voyage* represented the culmination of his singular industrialist trek at sea, unearthing guano—a massive heap of solidified muck—required a different method of pictorial documentation. The auratic allure of this archaeological material summoned photography, the newly minted tincture of mechanical reproduction and verisimilitude. Bird poop, like maritime whaling rights, had become at once a bureaucratic and legal, environmental, and aesthetic phenomenon.

The scope of oceanic plunder through these parallel industries of excavation was remarkable, an environmental reckoning and catastrophe to behold—“neo-ecological imperialism,” as it is explained by historian Gregory Cushman: “The guano trade finally took off in the 1840s as an extension of the vast hunting industry that was emptying the world’s oceans of whales and fur-bearing mammal” (2013, 27). In other words, the extermination of ocean creatures and marine lifeforms was part and parcel with the rapid mobilization of rare nutrients and earthen commodities. New extractive industries desiring to multiply nitrogen, phosphate, and potassium supplies soon “fundamen-

tally altered the chemistry and ecology of soils, aquatic ecosystem and the atmosphere all over the world” (252). Guano was king of the trade. Along the way, sophisticated methods of capitalist mining accelerated biological destruction, and networks of industrial greed further exposed the dire ethos of the Anthropocene.

At the conclusion of 1860—that formative mid-century decade—the American writer and abolitionist Ralph Waldo Emerson would publish a persuasive essay titled “Fate.” As keen witness to both the tribulations and glories of the US experiment in democracy, Emerson recognized the despair and anguish of guano. He spoke explicitly and metaphorically of the wake and wreckage in the trade. Emerson writes,

The German and Irish millions, like the Negro, have a great deal of guano in their destiny. They are ferried over the Atlantic, and carted over America, to ditch and to drudge, to make corn cheap, and then to lie down prematurely to make a spot of green grass on the prairie. (Emerson 1860)

In a magnificent sentence, Emerson evokes the pit and plunder of the mineral resource. His vision is capacious and reads as synecdoche for the wider political-economic landscape inscribed in guano. Having a “great deal of guano in their destiny,” he elicits a cataclysmic demise for all agrarian mine workers. Trekked over the Pacific and ferried across different transatlantic passageways, the Irish like Germans, Negroes like Chinese, are together made to toil at the behest of profit and yields, their lives made void. And as Emerson’s line concludes—the drudgery of ditches dug, and corn cheap lugged across the prairie—forced laborers have accepted their own desperate fate: a premature, siteless and forgotten patch of guano-stained green grass to die in.

The circulatory logic of capital accrual cannot be adjudicated from this racialized labor and commodity fetishism. Emerson’s vision teaches us low-priced goods and blood labor alike are phantom figures carted over the US landscape in oblivion: the rapacious decimation of peoples and land indelibly bound together in the guano trade. At the time of Emerson’s prose, skyrocketing global demand and booming trade value for guano had swayed all kinds of American investment. Likewise, during the early 1850s, as Russell and Purrington toured their momentous canvas marvel, speculators from New York, Boston, New Bedford, Fair Haven, and other coastal cities continued to opportunistically scheme about future potential profits at sea. Dovetailing dollars and habitual violence acting in tandem nefariously transformed the globe.

Some of the most formidable trading players in the region were the Shiverick brothers—a notorious New England family with entrepreneurial ties back to 1815 and East Dennis, Massachusetts.<sup>7</sup> During the late 1850s, the US government too became more integrally involved in the guano business. The twenty-two-gun warship *U.S.S. St. Mary*, for example, in August 1857, visited New Nantucket and the Jarvis Islands in the remote Pacific. Therein, commander Charles Davis was ordered to collect specimens

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<sup>7</sup> East Dennis has its own unique historical archive of whaling and early nineteenth-century capital accumulation on the Eastern Seaboard.

of guano. After a brief and successful mining campaign, the team sent back samples to the recently constructed Smithsonian Institution in DC for analysis. Government and resource excavation, sovereignty and military missions crossed reprehensible paths across the Atlantic and Pacific equally.

In this tumultuous zeitgeist, the business savvy Shiverick brothers decided to change their commercial allegiances. Originally incorporated not far from New Bedford, the Shiverick Shipyards company had long “built sailing vessels that sailed all around the world” (Gaines 2007, 11). Up-to-date technologies of clippers and schooners had been key factors for sustained growth in seafaring business throughout the century, making the family a consistently dominant force. However, by the 1840s, prognostications of economic collapse in the whaling industry were flagrantly obvious for investors. The ocean mining Shiverick crew was ahead of the curve.

Hedging their bets, the brothers closed the Shiverick Shipyard and moved onto different maritime-related careers (Fig. 18). In 1859, while brother David was still captaining ships, Asa Jr. and Paul helped to incorporate the Pacific Guano Company in Woods Hole. Located directly across Buzzard Bay from New Bedford, Woods Hole was a sleepy ocean town. Soon enough however—and as expected—the fertilizer trade would accelerate, and guano, the company’s main ingredient, would continue to scourge the globe. The desolate stereoscope—boarding house, three-masted bark, gravely shoal, and smokestack plant—tell the story. Whale offal and some foul mixture of bird-fish gurry wafted over the coastal region. Replacing whales and harpooners, the same Shiverick clippers began to now transport cheap labor and dung from the Pacific to the Eastern Seaboard. A world of ships and routes again entangled fertilizer and whales—some alchemic confluence of capital made manifest in the light of pictures.



**Fig. 18:** S. F. Adams (American, 1844–1890). Stereo view of the Pacific Guano Company on Penzance. Circa 1890. Photograph. Image, James W. Mavor Jr. Collection.

## 6 Coda

Russell's 1866 watercolor *Whaler among Icebergs* is a snowy white scene of fright (Fig. 19). At center, some ghost version of a stationary ship merges with ice and sky, sea and haze. Engulfed inside three chiseled glacier mounds—two on the horizon, one below—the three whaling masts seem more marble cenotaphs than canvas sails. In this eerie post-Civil War site of apocalypse, silvery smudges, gray shades, and a few pitch-black marks only add to Russell's gothic allure: the Arctic uncanny.



**Fig. 19:** Benjamin Russell (American, 1804–1885). *Whale Ship among Icebergs*, 1866. Image, MIT Museum.

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**Conor Lauesen** completed his PhD (2019) in the Art & Art History Department at Stanford University. He writes about the melancholy of the past through the lens of photography, painting, and literature. Lauesen teaches at The School of the Art Institute of Chicago (SAIC) and is currently a Visiting Assistant Professor at Colorado College. His courses consider topics of modernism and media, abstract expressionism, and the complex relations between art and life. Lauesen's book manuscript *Dissolving Monuments Photography, Immolation, and Vietnam 1963* is currently under review at the University of Wisconsin Press. His most recent essay, "Đình Q. Lê's *The Pure Land* and Ecological Phantoms" was included in the edited volume *Environment and Narrative in Vietnam* (Palgrave Macmillan, 2024).



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## 2 Forum



Molly C. Briggs, Thorsten Logge, Nicholas C. Lowe

## Introduction: Context and Conversation in Panoramic and Immersive Media Studies

The *PIMS Yearbook* Forum invites opinion pieces and interviews with thought leaders to offer broad insight on current debates and public conversations about historic and contemporary immersive media. Contributions to this section make an argument, are delivered in the author's own voice, are based in fact, and are drawn from the author's research, expertise or experience. They take the form of short personal essays that engage current topics around panoramas and immersive media. For example, they may explore the historical and contemporary uses of immersive technologies in preservation and heritage interpretation, as tools for exploring contested heritage, in museum interpretation and display, in educational settings, as entertainment and leisure enhancements, or in the service of promoting nationalist and imperialist discourses.

Because the Forum is intended to foster collegial exchange, it welcomes contributions that engage critically with ideas presented in past volumes and other relevant publications. Such interventions may address earlier arguments, develop alternative or complementary perspectives, introduce additional evidence, or extend the dialogue in ways that open new avenues for inquiry within the field of panoramic and immersive media studies.

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Adela-Iuliana Negustor

# Beyond the Global Gaze: Celebrating Planetarium Diversity and Shaping a Spherical Worldview on Their Centennial

As we approach several key anniversaries—namely, the 500th anniversary of the first global circumnavigation (1519–1522); the 100th anniversary of the founding of the International Astronomical Union (IAU) in 1919; the IAU’s formal division of the sky into 88 constellations in 1922; and the centenary of the planetarium (1923–1925)—it becomes an opportune moment to pause and reflect. These celebrated events serve not only as reminders of significant moments in exploration and science but also as invitations to rethink the cultural, social, and political implications of these occurrences. In an era increasingly defined by the Anthropocene, this reflection feels both timely and essential.

The celebration of global circumnavigation—most notably the voyages of explorers like Ferdinand Magellan (1480–1521) and Juan Sebastián Elcano (1476–1526)—has long been framed as a triumph of human ingenuity and discovery. The impact of these expeditions goes far beyond the technical achievement of mapping the Earth. Scholars like Denis Cosgrove (2001), Tim Ingold (2002) and Peter Sloterdijk (2014) argue that the Western colonial perspective profoundly shaped how we understand global space and the Earth as a navigable, controllable, and exploitable globe. By framing the Earth as a resource to be charted, controlled, and exploited, European colonizers laid the groundwork for centuries of environmental degradation and cultural domination. Thus, the concept of “global” has, for centuries, shaped our understanding of the world. The globe, as both object and symbol, carries immense weight as an icon of interconnectedness, progress, and power. It dominates our imagination, serving as a vessel for the narrative of globalization—a narrative that often emphasizes economic expansion, political dominance, and unchecked consumerism (Cosgrove 2001, 45, 206; Ingold 2002, 214–16; Sloterdijk 2014, 785, 827). As we commemorate this journey, it is critical to acknowledge both the triumphs and the darker legacies of this milestone.

Similarly, the IAU’s centennial division of the sky into 88 constellations—a scientific endeavor to standardize our understanding of the heavens—carries with it an embedded history of cultural domination. As we mark the centenary of the International Astronomical Union (IAU) and reflect on the institution’s role in shaping our understanding of the celestial space, we are faced with an uncomfortable truth: Western perspectives have historically dominated our vision of the sky. This dominance has marginalized

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Indigenous astronomical knowledge and perpetuated a narrow, Eurocentric narrative about humanity's relationship with the universe. The IAU's century of influence parallels the colonization of earthly spaces, extending the same systems of power and control into the heavens. The IAU's delineation of 88 constellations in the early twentieth century is emblematic of this colonial mindset. The selection and naming of these constellations reflects the dominance of Western scientific authority, which dismissed or ignored non-European star systems. Much like European colonizers claimed new territories on Earth, they also laid claim to the skies, dismissing pre-existing knowledge systems. As we honor the IAU's work in shaping modern astronomy, we must also reckon with the erasure and exclusion of alternative ways of understanding the night sky.

Finally, as we celebrate the Centenary of the Planetarium from 2023 to 2025—marking 100 years since Walter Bauersfeld's (1879–1959) groundbreaking work in 1923–1925 that laid the foundation for the modern immersive planetarium experience—it is an opportune moment to reflect on the role planetariums serve. Bauersfeld's pioneering design of the geodesic dome and advanced projection systems at the Zeiss factory in Jena, Germany, fundamentally transformed the way we engage with celestial space. This model became the blueprint for modern planetariums and has been replicated worldwide, establishing the standardized version still in use today. Initially conceived as venues for scientific education, planetariums have evolved into immersive platforms that blend art, storytelling, and cutting-edge technology. Beyond their educational function, they now foster cultural innovation and serve as powerful forums for dialogue on urgent contemporary issues such as climate change and human rights. With its ability to envelop and engage, the Planetarium stands as a symbol of the boundless possibilities that await us when we dare to explore, question, and imagine. These spaces offer more than just scientific insights—they inspire critical reflection and foster broader societal conversations.

One of my motivations for engaging with this topic is rooted in my personal connection to planetariums and spherical projections in portable domes. Despite the existence of 13 planetariums across Romania, there was a glaring absence of a fulldome industry or cultural projects designed specifically for these venues.<sup>1</sup> While international counter-

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<sup>1</sup> Fulldome is a generic noun for an immersive media format that refers to a unique, medium-specific audio-visual environment utilizing digital technology to create shared immersive experiences. Designed for specialized hemispherical display settings—such as planetariums and mobile domes (rigid or inflatable)—fulldome environments offer a seamless visual experience. The orientation of the hemispherical screen can be concentric, unidirectional, or tilted, with seating arrangements that correspond accordingly: either unidirectional, similar to cinema seating, or omnidirectional, as traditionally found in planetariums, where seats surround a central projection system. The standard image format used for fulldome projection is called “dome master,” ensuring high-quality, distortion-free visuals across the curved surface. Traditionally, fulldome relies on specialized projection systems, either using a single projector with a fisheye lens, multiple projectors arranged for multi-channel displays, or spherical mirror projection techniques. However, recent advancements in display technology have introduced LED-based fulldome systems, where the image is no longer projected but instead displayed directly on a hemispherical LED

parts showcased diverse programming on climate change, astronomy, and more, Romania's planetariums had yet to explore these exciting avenues. Thus, my mission became clear: to transform the Romanian cinematic landscape by integrating fulldome technology and immersive storytelling. The 2016 Astra Film Festival in Sibiu marked a significant milestone in this endeavor, with the launch of *The Future is Now* program (website online). This initiative aimed to introduce immersive media projects—including interactive 360° webdocs, 360° videos, and virtual reality films—into the festival's offerings. The centerpiece was a geodesic dome where films were projected in fulldome format, allowing audiences to experience cinema in an entirely new way. Over the years, I have implemented several artistic and cultural projects that bring the concept of digital projection to the forefront of the Romanian cultural landscape. Through my initiatives from 2016 to 2024, I have sought to expand the possibilities of planetarium experiences, demonstrating that these immersive environments can serve as platforms for more than just scientific exploration. As immersive media continues to evolve globally, I believe Romania is at the brink of an exciting shift. The lack of cultural projects specifically designed for planetariums and the absence of a fulldome industry offers an incredible opportunity for development. Growing increasingly attached to the dome space, I decided to complement the practical implementation of this industry with theoretical research. In 2017, I was accepted into the Doctoral School at the Theatre and Film Department of Babeş-Bolyai University in Cluj-Napoca. In 2024, I defended my thesis, “The Sky between Sphere and Globe: Spherical Intermedial Encounters of the Anthropocene and Non-Western Cultures in the Planetarium.” My goal was to explore the potential of planetarium immersive media to create meaningful, transformative experiences in contemporary society.

## 1 Spherical Encounters of Non-Western Cultures in the Planetarium During the Anthropocene

Today, the Anthropocene complicates our celebrations of these anniversaries. It forces us to confront how centuries of exploration and scientific advancement have come at a cost: the degradation of natural environments, the marginalization of indigenous knowledge, and the acceleration of global climate change. I wrote about the way the Anthropocene is represented in planetariums in the article “Spherical Encounters of

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screen. This innovation eliminates projector alignment issues, increases brightness, and enhances image clarity, expanding the possibilities for immersive storytelling. Fulldome content may include pre-rendered or real-time computer-generated visuals, real video footage, or a combination of both. Additionally, fulldome systems are integrated with multi-channel surround sound, fully enveloping audiences in an immersive audio-visual experience. As a versatile medium, fulldome has applications spanning science, education, entertainment, art, wellness, interactive experiences, and gaming. Its ability to create fully immersive, shared experiences makes it a powerful tool for storytelling, research, and artistic expression.

the Anthropocene: From Telescope to Kaleidoscope” (Muntean 2020), which appeared in the *Ekphrasis* journal, a publication of the Faculty of Theater and Film in Cluj. This article explores the Anthropocene through the metaphor of nested spheres, focusing on the interactions between human-created Anthro-Noo-spheres and Earth’s natural systems, including the lithosphere, hydrosphere, biosphere, and atmosphere.

Advances in computer graphics, satellite imaging, and fulldome projections have enabled more sophisticated representations of Earth’s transformation, which artists are repurposing to create intermedial projects that merge scientific data with artistic interpretation. The introduction of Earth System Science (ESS) in digital planetariums helps audiences comprehend the complexity of planetary transformations and human impact on these systems. This integration of science and art allows planetariums to offer a distinct lens for understanding the Anthropocene and its implications for humanity’s future. The transition from telescopic (rational, scientific) views of the world to kaleidoscopic (creative, multi-perspective) visions represents a shift from alienation to environmental re-enchantment. Artists utilize immersive spherical environments to reconnect audiences with nature and provoke critical reflection on sustainability and global change. By presenting multiple perspectives, these environments encourage a more holistic understanding of our relationship with the Earth, inviting audiences to reconsider their environmental responsibilities. My interest lies in exploring how the planetarium can present alternative visions of celestial space, specifically focusing on how different cultures perceive the sky, in addition to Anthropocene representation.

In this context, the above-mentioned anniversaries afford not just moments of celebration but also moments of reckoning. We must ask ourselves, what do these events mean in a world where the consequences of human actions are becoming increasingly irreversible? As we stand in the shadow of global glorification, the question must be asked, is there an alternative to the global view of the world? And perhaps more importantly, do we have the tools to shift our thinking away from this hegemonic model? One answer lies in reimagining our worldview not as a top-down global system but as a sphere, one that acknowledges multiplicity, interconnectedness, and cultural diversity.

The concept of the sphere and the spherical perspective was first theorized by ancient Greek scholars as part of their attempt to explain the structure and movement of the cosmos. Greek philosophers, from Anaximander to Ptolemy, based their understanding of the universe on direct observation of the night sky. The stars appeared fixed in position, seemingly attached to a hollow transparent sphere, which led to the belief that the stars were embedded in a crystalline sphere surrounding Earth, with Earth at its center. The spherical perspective, therefore, is a terrestrial-centric view, positioning the observer within the celestial orb. In this context, the sphere refers not only to a conceptual object but also to a metaphorical and mathematical model for describing the universe. Thus, the spherical view provided a framework for understanding the cosmos not just as a system of rotating bodies but as a symbolic model of order and balance (Muntean 2021, 510).

Yet, despite the cosmological framework of the crystalline spheres, there was an incessant curiosity about what lay beyond their confines. Using both intellect and imag-

ination, the Greeks ventured into symbolic flights, transcending the limits of these celestial spheres. From this elevated vantage point, they looked back upon an Earth now perceived as diminutive and inconsequential. This shift to an out-of-body perspective marked the birth of the “eccentric” Apollonian view (also known as the Archimedean view, God-eye view, or global view), in which the celestial sphere was reconceived as a globe. Named after Apollo, the Greek god of the sun and knowledge, this new perspective allowed the observer to view the cosmos from an elevated or “outside” vantage point, akin to the vision of a god or a detached observer. This external viewpoint transcended the terrestrial sphere, offering a comprehensive and detached observation of the world.

By constructing physical models of the cosmos, the Greeks made a decisive shift from a theoretical understanding to an interactive one. Greek globes and mechanical devices consistently depicted the heavens as seen from the outside, positioning the observer beyond the celestial sphere, looking inward. This external vantage point introduced a radical shift in how humanity perceived its relationship with the cosmos and, later, with Earth itself. Celestial globes were adorned with constellation images as if Earth were at their center, viewed from outside the sphere of fixed stars. As a result, constellations appeared reversed compared to their actual night sky arrangements. Globe-makers solved this representational challenge by mirroring constellation images east to west, effectively reversing left and right for human and animal figures. Ancient star globes and later medieval star atlases continued this mirrored depiction, often displaying constellations in both sky-view (as seen from within) and rear-view (as seen from outside). As Elly Dekker’s research highlights, ancient texts also reflect these dual perspectives, underscoring the complexity of celestial representation in antiquity (Muntean 2021, 511–515).

This representational challenge drove scientists and instrument makers to seek solutions. Their goal was to create a device that placed viewers inside the spherical perspective, looking outward toward the sky, rather than adopting the Apollonian, god-like vantage point. To address the challenge of mirrored constellation depictions, they devised hollow, walk-in globes large enough to accommodate small audiences, thus restoring the spherical-centric perspective. The earliest hollow, walk-in celestial globe was the *Gottorf Globe*, created in the mid-seventeenth century by Adam Olearius (1599–1671). Further advancements followed in the eighteenth and nineteenth centuries, including Erhard Weigel’s (1625–1699) *Pancosmos* (1661, 1670, 1696), Roger Long’s (1680–1770) *Great Glass Sphere* (1758), and Étienne-Louis Boullée’s (1728–1799) unrealized plan for the *Cenotaph for Newton* (1780). The twentieth century saw projects like Paul Louis Albert Galeron’s (1846–1930) *Galeron Sphere* (1900) beside the Eiffel Tower, Wallace W. Atwood’s (1872–1949) *Atwood Celestial Sphere* (1913) at the Chicago Academy of Sciences, and Wallace Harrison (1895–1981) and J. André Fouilhoux’s (1879–1945) *Perisphere* (1939) in Queens, the symbol of the New York World’s Fair.

Founded on December 15, 1821, in Paris, the Société de Géographie aimed to disseminate geographical knowledge, reflecting the vast discoveries of European expansion. A similar representational strategy used in the creation of the hollow, walk-in celestial globe was adopted in the depiction of the Earth through the Parisian and English *Géo-*

ramas (1825–1862). Immersive spherical exhibits, such as Delanglard's *Géorama* (1825) and Guérin's *Géorama* (1844), were part of this trend. At the Exposition Universelle in Paris, Théodore Villard (1844–1913) and Charles Cotard (dates unknown) presented the *Villard-Cotard Globe* (1889), while Élisée Reclus (1830–1905) and Louis Bonnier (1856–1946) designed the *Globe Terrestre* (1900). Integrated into panorama culture, these exhibits, praised for their educational value, contributed to the history of immersive media, alongside Wyld's *Great Globe* (1851) in England. This evolution culminated in the modern planetarium, pioneered by Walther Bauersfeld in 1924 (Muntean 2021, 521–24).

The shift from the spherical to the global perspective reflects a fundamental transformation in how humans relate to the world. Peter Sloterdijk and Tim Ingold explore this transition, tracing it from ancient Greek cosmology to modern globalization. Sloterdijk argues that globalization began with the Greek conception of the celestial sphere, a symbolic totality that structured human thought. He refers to this phase as *Metaphysical Globalization* (Sloterdijk 2014, 45–70). This was replaced during the Age of Exploration by the terrestrial globe, marking a shift from an immersive worldview to one of control, conquest, and detachment. This stage he called *Terrestrial Globalization* (Sloterdijk 2014, 765–934). The third stage, *Electronic Globalization*, extends this detachment through digital networks (Sloterdijk 2014, 935–67). Ingold describes the sphere as relational and lived-in, while the globe represents an externalized world, dominated and commodified. The dominance of the global view has facilitated environmental destruction, colonial expansion, and the marginalization of alternative ways of knowing (Ingold 2002, 214–216). Yet, the spherical perspective persists, offering a vision of reciprocity, interconnection, and care (154). The tension between detachment and engagement defines the Anthropocene, making a shift toward a spherical worldview essential for ecological and epistemic justice. I have written in more detail about these transitions in my article “Spherical Encounters of Human Rights” (Muntean 2021). The paradoxical coexistence of the global and spherical views, creating a tension between detachment and engagement, lies at the heart of many contemporary challenges. This struggle is particularly evident in the Anthropocene, where human activity is fundamentally reshaping the planet, forcing us to reconsider how we relate to the world and each other.

My doctoral research and current professional practice raise several critical questions about the future of planetariums and immersive technology: How can the planetarium serve as a medium for promoting a spherical worldview as an alternative to the dominant global perspective? How do planetariums challenge the globalized perspective of the world and promote a spherical view that emphasizes human rights and cultural diversity? How can the integration of non-European perspectives and diverse cultural sky tales in fulldome cinematic case studies enrich dominant historical narratives of the sky?

The answers to these questions lie in the transformative potential of immersive environments. With their ability to envelop and engage, planetariums stand as a symbol of the boundless possibilities that await us when we dare to explore, question, and imagine. Initially conceived as venues for scientific education, planetariums have

evolved into immersive platforms that blend art, storytelling, and cutting-edge technology. Beyond their educational function, they now foster cultural innovation and serve as powerful forums for dialogue on urgent contemporary issues such as climate change and human rights. These spaces now serve as powerful forums for dialogue on urgent contemporary issues, offering more than just scientific insights—they inspire critical reflection and foster broader societal conversations. Challenging the dominance of the global perspective requires a shift in discourse. Melissa K. Nelson calls for decolonizing “conquest consciousness,” a mindset rooted in fragmentation, domination, and binary thinking. Similarly, Paul Virilio argues that divergence—critical resistance and innovation—is essential for ethical engagement with technology, seeing art as a means to critique and reshape technoscientific paradigms (Virilio 1999, 8). In this spirit, planetariums offer a path toward reimagining the world beyond the global gaze. Historically, this was achieved through walk-in hollow globes, which re-centered the viewer within a spherical perspective (Muntean 2021). Today, planetariums continue this tradition, fostering alternative ways of seeing and understanding our place in the universe. Western frameworks have long marginalized Indigenous knowledge, with institutions like the IAU reinforcing colonial authority over the sky through the standardization of constellations. In the process of globalization, some cultures were excluded, and their territories were redefined through a Western lens. The *Different Cultures, Same Sky* website highlights that Magellan’s so-called “discovery” of the southern skies overlooked the pre-existing astronomical knowledge of Indigenous cultures. This ethnocentric view reflects a broader trend of dismissing non-European interpretations of the sky (“One Sky” 2022). Roslyn M. Frank notes that the Western constellations were designed by an elite group and disseminated through top-down methods, overshadowing other cultural visions of the universe (Frank, 2014, 10).

If the sphere and the globe mutually function as paradoxical concurrent perspectives (Ingold 2002, 216), could embracing what has been excluded through globalization symbolize the spherical perspective? Contemporary planetariums challenge this historical hegemony by showcasing fulldome films that revive Indigenous cosmologies and storytelling. By embracing perspectives historically excluded from dominant astronomical narratives, planetariums function as cultural interfaces for the spherical worldview.

Fulldome cinema projects are emerging as powerful tools for reviving Indigenous cosmologies and storytelling, challenging the notion that the night sky belongs solely to scientific inquiry. Projects such as *How it Was Told to me: Māori Legends from New Zealand*—a collection of three theatrical short animations designed for immersive screening—along with *Legends of the Northern Sky*, *Star Dreaming*, *One Sky Project* (a series of seven short films), and *Songlines: Tracking the Seven Sisters* exhibition (which consists of two short fulldome films alongside the physical artworks) bring to life ancestral knowledge and cultural narratives through digital storytelling. By showcasing these perspectives in immersive environments, planetariums help reframe the celestial sphere as more than just a scientific domain, instead positioning it as a living

repository of diverse cultural traditions. In this context, Indigenous cultures, with their millennia-old traditions of stargazing, are finding new resonance through immersive experiences that bridge ancestral wisdom with cutting-edge technology.

For instance, *How It Was Told to Me* is a collection of three Māori stories that illuminate the creation of the Earth, the Moon, and the Milky Way. Each short animation in the collection—from *The Creation Story* to *Rona and the Moon* and *The Great Waka*—draws on ancient Māori mythology and features stunning soundscapes, narrated by Māori voices and accompanied by traditional instruments. The storytelling, combined with powerful visual and sound design, serves as a modern revitalization of these ancient traditions, connecting audiences to the rich spiritual and cosmological beliefs of the Māori people. What's particularly compelling about *How It Was Told to Me* is that it does more than just retell old myths; it contributes to the ongoing recognition and celebration of Matariki, the Māori New Year, now a public holiday in New Zealand. The animations not only celebrate the rising of the Pleiades star cluster but also emphasize the role these stories play in reaffirming identity, especially in the face of colonization and cultural erosion. By immortalizing these narratives in fulldome productions, the creators ensure that Māori cosmology continues to be shared with younger generations, preserving the integrity of oral traditions while adapting them to modern, accessible formats.

Another broader initiative, the *One Sky Project*, highlights the global appetite for cultural exchange in astronomy. This highly collaborative effort, involving an international team of astronomers, planetarium professionals, educators, and cultural experts, consists of a series of seven short films that showcase Indigenous and localized cosmologies from around the world. By presenting sky stories from the Innu, Hawaiians, Navajo, and others, the project underscores the universality of humanity's connection to the sky while challenging the Western monopoly on astronomical storytelling. Instead of portraying the stars merely as distant objects of study, *One Sky Project* encourages viewers to see them as living components of cultural identity. Since 23 March 2023, any planetarium worldwide can screen these films for free, making it a key initiative in celebrating the planetarium centennial.

If other films were primarily projected in planetariums, *The Travelling Kungkarangkalpa Art Experience* and *The Travelling Kungkarangkalpa Walinynga (Cave Hill) Experience* were created and presented within DomeLab, a platform that exemplifies how digital innovation can revitalize research in diverse areas such as medical visualization, interactive media, future museology, and experimental humanities, while also breathing new life into ancient traditions. As the first of its kind in Australia, DomeLab bridges Indigenous and Western narratives through immersive storytelling, connecting the past with the present. These short films are integral to understanding how Indigenous stories map both the heavens and the earth, blending cultural heritage with celestial exploration. Part of the broader *Songlines: Tracking the Seven Sisters* exhibition, which showcases the profound Dreaming tracks of the Seven Sisters, the films reimagine the journey of the Seven Sisters as they flee from the malevolent spirit Wati

Nyiru, ultimately transforming into the Pleiades star cluster. By combining traditional art forms—such as Tjanpi sculptures crafted from spinifex grass—with state-of-the-art animation (Fig. 1), DomeLab creates a visual and emotional journey reminiscent of the interplay between 2D images and 3D elements often found in panoramic compositions. This fusion transports viewers into the heart of these ancient stories, bridging the past with the present, and navigating the spaces between the Western and Indigenous realms, the ancient and the contemporary, while bridging the divide between the colonizer and the colonized (Fig. 1).



**Fig. 1:** Still from *The Travelling Kungkarangkalpa Art Experience* (2017), featuring Tjanpi sculptures made of spinifex grass and fabric, photogrammetrically reconstructed by Paul Bourke and 3D animated by Zero One Animation. Produced by Sarah Kenderdine and Peter Morse for the National Museum of Australia. Image, the artists, and kindly provided by Peter Morse.

The next case study, *Star Dreaming*, also takes place in Australia and delves into the intersection of ancient Indigenous knowledge and modern scientific exploration. *Star Dreaming* follows the adventures of two young children, Max and Lucia, as they uncover the mysteries of the Universe with the assistance of the Square Kilometre Array (SKA), the world's largest radio telescope. Located in the Australian Outback on Yamaji land,

the SKA represents a monumental achievement in understanding the cosmos. However, *Star Dreaming* highlights that Indigenous Australians have long held a profound understanding of the night sky, showcasing a fascinating convergence of ancient wisdom and contemporary science. Through the experiences of Max and Lucia, viewers are invited to explore not only the scientific marvel of galaxies billions of years old but also the richness of Yamaji star stories. The documentary integrates artwork and narratives from acclaimed Yamaji artists, who share celestial legends such as the Seven Sisters, the Emu in the Sky, and the Jewelry Box. These constellations are brought to life through animated sequences and captivating visual depictions, offering a unique lens through which to experience both Indigenous cultural heritage and the cutting-edge advancements of modern astronomy. The documentary features artwork and narratives from renowned Yamaji artists, who share celestial legends like the Seven Sisters, the Emu in the Sky, and the Jewelry Box, bringing these constellations to life with animated sequences and evocative depictions.

The final case study presented here is *Legends of the Northern Sky*, an exemplary showcase of how planetariums can present a spherical worldview. Produced in collaboration with Indigenous storytellers and astronomers, the film connects the peoples of Canada's Western plains to their celestial heritage, offering a profound exploration of the Indigenous peoples of North America's night sky, as observed from the Northern Hemisphere. The film introduces the stories of Ocek, the fisherman, and Mista Maskwa, the giant bear, two characters who reflect seasonal cycles and embody the deep connection Indigenous peoples have with the cosmos. What makes *Legends of the Northern Sky* particularly powerful is the input of Wilfred Buck, a renowned expert in Indigenous astronomy. Buck ensures the stories are presented authentically, emphasizing the cultural and ceremonial importance of these celestial narratives, rather than reducing them to folklore. Premiering in April 2019 at the Zeidler Dome (Telus World of Science planetarium), this film marked Telus World of Science's production debut. It was later presented in a mobile dome at the 2024 Astra Film Festival in Romania, offering an immersive experience that bridges ancient cultural stories with modern planetarium and mobile dome technology.

## 2 Conclusions

In *Spheres III: Foams* (2004), Sloterdijk conceptualizes the third stage of globalization—the “Electronic” one—not as a unified, smooth sphere but as a fragile, pluralistic network of interconnected bubbles. Similarly, planetariums can function as such bubbles—immersive environments where audiences are enveloped in fulldome projections that create temporary, self-contained worlds. These spherical image spaces transport viewers into places from the past, present, or future, suspending them in another space and time. In this sense, the planetarium bubble can be seen as a contemporary

echo of the protective celestial sphere of antiquity, a model that once structured human thought but has since dissolved. With the dissolution of the celestial sphere, the world lost its singular, overarching totality, leaving behind a multiplicity of interconnected yet self-contained spaces, as Sloterdijk suggests. The planetarium, in its immersive, enveloping nature, can be understood as one of these last orbs, a sheltering bubble that temporarily restores an enclosed cosmic order. However, as Sloterdijk argues, this shift “discourages the idea of a super-monosphere or a power-holding center of all centers” (Sloterdijk 2014, 950). Instead, like Sloterdijk’s bubbles, the planetarium resists a singular perspective, fostering a plurality of viewpoints where cosmology and its world-building capacity emerge not from a single grand narrative, but from a network of intersecting worldviews.

Productions like *How It Was Told to Me*, *Legends of the Northern Sky*, *Star Dreaming*, the *One Sky Project*, and *Songlines: Tracking the Seven Sisters* demonstrate that planetariums can—and should—be recognized as more than just educational tools. They are powerful platforms for storytelling, cultural preservation, and reimagining how we relate to the universe. By embracing Indigenous perspectives, these films do more than simply add diversity to planetarium programming—they fundamentally shift how we view the cosmos. In doing so, they challenge us to see the sky not just as a scientific frontier but as a cultural one, too, filled with stories that shape who we are and how we understand our place in the universe. This blending of modern technology with ancient storytelling techniques achieves something profound: it brings the intangible—cultural memory, spirituality, and ancestral knowledge—into spaces traditionally reserved for empirical science. The productions invite audiences not just to observe the stars, but to experience them through the eyes of those who have lived in close relationship with the night sky for generations. By weaving together modern storytelling techniques with ancient oral traditions, these films not only preserve Indigenous knowledge but also update it for future generations. They serve as a reminder that science and culture are not mutually exclusive. In this way, these films embody the difference between a global and a spherical worldview. A global worldview, focused on terrestrial maps and political borders, tends to emphasize a linear, compartmentalized view of the world—a view dominated by national boundaries, scientific progress, and the dominance of a singular perspective. In contrast, a spherical worldview, as seen in the Indigenous stories presented through these films, invites us to see the universe as interconnected and cyclical, where boundaries are fluid and where the stars, land, and people exist in relationship with one another. As planetariums increasingly become forums for cross-cultural exchange, the role of these institutions expands beyond education into the realms of cultural diplomacy and heritage preservation. These spaces allow for the integration of Indigenous perspectives on the celestial space, offering a more expansive, holistic vision of the universe that challenges the traditional, Western view of the heavens. Planetariums, then, do not impose a dominant worldview but instead offer a plurality of cosmic experiences. The sky, after all, belongs to everyone.

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## Author Biography

**Dr. Adela-Iuliana Muntean** (married Negustor, 1988) specializes in film/TV directing and media design. Her research focuses on artistic and media practices in planetariums and domes, both historically and in the digital age. As a curator, she introduced dome cinema to Romania (2016–2018) through *The Future is Now* (Astra Film Festival) and *The Dome of The New World* (Electric Castle), pioneering curved-screen projections of experimental films, documentaries, and children's stories.

Richard A. Pegg

## “Panoramas” in East Asia

This essay explores the tension between the concepts of “panoramas” and “maps” within East Asian cartography and visual culture, focusing on the intersection of art and cartography. Svetlana Alpers’ historical analysis of these fields reveals ongoing divides between knowledge and decoration, art and map. This essay investigates this divide within the context of East Asian practices, specifically through three paradigms: terminology, format, and content. The term “panorama” and its association with immersive experiences is contrasted with East Asian handscroll formats, which provide unique, interactive viewing methods. The essay also addresses the complex transition between landscape paintings and maps, questioning when one genre becomes the other. Using 19th-century panoramic maps, particularly those from the MacLean Collection, this analysis highlights the blurred boundaries of art and cartography, proposing that perhaps an intentional ambiguity was built into nineteenth century visual traditions.

Panoramas—are they art or are they maps? Svetlana Alpers has suggested in the past that although linkage exists, historically cartographers and art historians have maintained boundaries separating maps and art (landscapes in particular) or perhaps between knowledge and decoration (Alpers 1983, 126). Although written more than four decades ago, this bias often continues today. I am trained in the literary and visual traditions of East Asian cultures and tend to conflate, not polarize, these differences. Over the course of the last decade my research, lectures and publishing have shifted to focus on the cartography of East Asia. For my museum and art history colleagues I am now the “map guy.” In said role I recently received an inquiry from my colleague Dr. Xiaojin Wu, Luther W. Brady Curator of Japanese Art at the Philadelphia Museum of Art. She asked questions in regard to mapping Japanese cities:

... another more specific question about panoramic maps; the introduction to the panoramic maps collection at the Library of Congress seems to suggest that panoramic maps are the same as bird’s-eye views, aero views of cities and towns. . . “panoramic maps are non-photographic representations of cities portrayed as if viewed from above at an oblique angle” (*Panoramic Maps*, n.d.). Is that also the case in Japan? If so, what’s the earliest known example of a panoramic map of a Japanese city (created by a Japanese artist)?

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This query led to questions about the inherent tensions and linkages created between visual art and cartography in the process of looking at, experiencing and categorizing panoramas and panoramic views. Consulting the Library of Congress introduction immediately problematized a number of these issues related to defining the term “panorama” historically and in modern lingo within a specifically East Asian context. This brief analysis is a bit of a meander and is not meant to be comprehensive, exhaustive or conclusive in any way. Rather it problematizes, unpacks and considers three related paradigms within an East Asian framework: terminology and meaning, objects and presentation formats, and content. The term “panorama” and its association with immersive experiences is contrasted with East Asian handscroll formats, which provide unique, interactive viewing methods. Also questioned is the complex linkages between landscape paintings and maps, considering when one genre becomes the other, in both East Asia and Europe. These three paradigms are then juxtaposed with a selection of mid-nineteenth-century city maps found in the MacLean Collection Map Library.

## 1 Meaning: What is a Panorama?

One might define a panorama as an experience through an immersive viewing process of a human-made artifact intended to be socially interactive and participatory. In English (our starting point), the term “panorama” was coined in 1791 to describe a popular new type of hybrid exhibition that combined architecture, painting, sculpture, lighting, and controlled movement to produce a transporting and immersive social experience of standing in an actual landscape space (conversation with PIMS Yearbook executive editors). The Oxford English Dictionary 1.a. definition is “A picture of a landscape or other scene, either arranged on the inside of a cylindrical surface, to be viewed from a central position (also called a cyclorama) or unrolled or unfolded and made to pass before the spectator, so as to show the various parts in succession. Hence, more generally: any pictorial representation of a panoramic view” (*using the term to define itself seems inherently problematic*, my italics). The term has evolved to describe all manner of immersive media and all manner of expansive views that are dynamic and experiential. For city maps, in particular, that are named “panoramic,” these views are typically elevated using a perspective that is either fixed or not which creates a visual warp and curvature on the two-dimensional plane of the map. These panoramas are meant to capture a view of an entire city and to be all encompassing.

Alpers suggests that the linkage between maps and pictures begins with Claudius Ptolemy (85–165) and his *Geography* (Alpers 1983, 133). She lists a number of terms that seem to blur the separations between maps and pictures like: topographical city view, mapped landscape view, mapped view, profile city view, positions view, plurality of views, and city scape. She equates the panorama with the mapped landscape view, the cityscape or topographical city view (Alpers 1983, 139). She seems to conflate the

terms "panorama" and "panoramic view" and considering the differences is key to this discussion.

There does not appear to be equivalent terminology in East Asia but a certain ambiguity carries over where the concept tends toward the process of viewing and the notion of panoramic view. A check in a Chinese dictionary of the English word "panorama" gives the following binomial terms: *guangjiao* 廣角 meaning "wide angle;" *quanjing* 全景 meaning "full view" or "whole scene;" *lueying* 掠影 meaning "bird's eye view;" *quanbao* 全豹 meaning "whole picture" or "overall situation;" and *yandi* 眼底 meaning "in one's eyes" or "in sight" or "fundus oculi." All these options define the term in relation to the process of viewing. They appear to be a kind of reverse engineering of the term "panorama" and do not take into consideration a physical object or the immersive experience.

Considerations of immersive objects, however, can be found in East Asian lexicons. There is an historical term in Chinese that can be translated as "panoramic screen" *tongjing ping* 通景屏, literally for each character "whole or connected," "view or scene" and "screen or set of vertically hung scrolls." This term refers to traditional mounting and display practices where a set of multiple hanging scrolls (6, 8, 10 or more) are mounted with no borders or gaps in between the scrolls, and a one-color border using a minimal strip of paper or brocade below and at the top of each scroll, that were then hung together on a screen or wall. These sets of multiple scrolls were used for large presentations that were intended to be immersive like a panorama and provide us with an historical linkage to a physical object. And both the Oxford English Dictionary and Webster's dictionary list the first meaning of panorama to be "cyclorama." A Chinese translation of that term is 圓天幕 *yuantianmu* which means literally for each character "round or circular," "heaven or sky" and "curtain or screen."

What terms are actually found on maps in East Asia? The universal binomial term used at the end of map titles is 全圖 (C. *quantu* J. *zenzu* K. *jeondo*). Unpacking the two terms is important. The final character is 圖 (C. *tu* J. *zu* K. *do*). This concept can be translated as "picture," "drawing," "map," "chart," "sketch," and so forth. In other words, any kind of two-dimensional depiction of the three-dimensional world. The terms intentional ambiguity and flexibility means it can encompass multiple meanings all at the same time. The other character in our compound is 全 (C. *quan* J. *zen* K. *jeon*), which can be translated as "complete," "whole," "entire," "full," or "total." The binomial term is typically translated as "complete map" or "complete chart" and so forth.

A binomial term found on a Japanese map in the MacLean Collection entitled *Revised Panoramic View of Yokohama* (*Sakai yokohama fukei*), which uses the term *fukei* 風景 (literally "method of scenery") sometimes translated as "landscape" that I translate as "panorama." Meanwhile a Chinese bilingual map in the MacLean Collection from ca. 1940 has two titles; the English title is *A Panoramic Map of Peking in China* while the Chinese title is *Beijing zhanwang* 北京展望 where *zhanwang* means "look into the distance" or "gaze out" but is translated on the map itself as "panorama." There is a tension and ambiguity of meaning created in translation by the makers in Beijing

that seems to negotiate the inherent nature of the use of the term panorama. The term “panorama” as understood in English does not seem to have an equivalent terminology in East Asia even into the twentieth century. Perhaps examining the formats and their inherent presentation styles and relationships between object and viewer for panoramas can provide common ground.

## 2 Format: How are Panoramas and Handscrolls Related?

The Oxford English Dictionary also includes this 1.b definition for “panorama” from 1813: “a continuously passing scene; a mental image in which a series of images passes before the mind’s eye.” Webster’s dictionary includes the following 1.b definition: “a picture exhibited a part at a time by being unrolled before the spectator.” These two definitions immediately bring to my mind the handscroll presentation format found in traditional East Asia. (There are additional presentation formats for manuscript and printed materials such as the album leaf, book, fan, folding screen, sliding door, and so forth). For the handscroll format, the image is mounted on paper backing that is attached and wrapped around a round rod on the far left and a half moon shaped rod on the far right, for flush closure when the scroll is rolled and tied shut for storage. The half-moon rod always attaches to a frontispiece that often has a title and maker’s signature. Viewing a handscroll is experientially quite unique in that it is an interactive and haptic performance that provides an intimate exchange between viewer and object. The viewer is positioned (standing or sitting) in front of a flat-surfaced piece of furniture. The scroll is opened (right to left) to the comfortable span of the viewer’s reach. One pauses to engage the presented narrative. Then the viewed section is rolled up (right to left) and opened to another span. This process is repeated until the entire scroll has been viewed. The viewer then reverses the process. Typically, the re-roll process moves more quickly, but taking a moment to revisit a particular section of the scroll can happen at any point. Often others also view the process and the image presented is thus a shared experience. The narrative or story telling nature of this presentation means the maker can control the narrative by providing details at the pace they desire. There is tempo not only from the maker but also for the viewer. The continuous haptic and thus experiential nature of the horizontal handscroll presentation format prioritizes a specific method of viewing.

The Webster’s definition of panorama, as “a picture exhibited a part at a time by being unrolled before the spectator,” serves to precisely describe the East Asian handscroll format experience. Considering this paradigm then begs the question: are all East Asian handscrolls panoramas? The handscroll format defines both the viewing process and the physical object, two important features of our panorama definitions. A third consideration is the content itself.

### 3 Content: When Does a Landscape Painting Become a Map (and Vice Versa)?

If one considers pictorial content presentations in an East Asian context, there are three traditional painting genres: landscape, bird and flower, or figure. The latter two, bird and flower or figure, unless placed into the backdrop of the former (landscape), are rather static and do not work within the dynamics of the panorama paradigm being discussed here. (That is not to say that some bird and flower or figure paintings, if mounted as handscrolls, cannot fall into the panorama paradigm being considered). The characters for “landscape” in East Asia form a binomial term 山水 (*C. shanshui*, *J. sansui*, *K. sansu*, literally “mountains and water”). The landscape painting mounted as handscroll seems to closely align with the dynamic, experiential, and immersive characteristics of the panorama already discussed.

Recent scholarship in Japan has examined the tension and slippage between landscape paintings and maps (Usami 2023 and Osawa 2023). That same tension that Alpers separated between maps and art forty years ago is a current subject of deliberation in Japan. At what moment is there a transition from one to the other? Given that there can be “painterly” maps and “map-like” landscapes, does the “naming” of places, buildings, and streets indicate a cartographic intentionality by the maker? As a landscape maker adds toponyms, shifts perspectives or adds manmade infrastructure (architecture, roads, etc.) space for slippage occurs. And as the map maker adds color and other typically non-cartographic details (trees and rock formations) something shifts as well. As stated in the opening, linkages between landscapes and maps often create an intentional tension and ambiguity. Usami Bunri states there are three criteria to determine the difference between a landscape image and a map: Is the subject matter real or imagined? Is the perspective real or imagined? And is the drawing style realistic or imagined (Usami 182, chart)? These apparently simple questions intended to clarify can reveal complexities that in turn leave much room for ambiguity.

Another general rule Usami uses is that landscape paintings have figures (people) and maps do not. Even this singular criterion seems inadequate and fraught with potential flaws. For Usami, landscapes depict multiple ground planes including vertical (Usami also uses the term panoramic for this view) and horizontal while a map must have a single plane that captures the fixed nature of the Earth’s surface. The focus here shifts to perspective and viewing. In Usami’s argument the term vertical is the same as panoramic, which I take to mean that any perspective that is not horizontal (elevated in any way up to 90 degrees above the picture plane) is vertical and represents a panoramic view. The perspective then is the point of difference; vertical means the viewer is elevated at any angle looking out and down, while horizontal means the viewer is on the ground plane looking forward.

It is agreed that the East Asian landscape painting is often dynamic with multiple perspectives; the viewer can enter, engage and maneuver between fore, middle and distant ground planes within the landscape space. This is better understood in an East Asian landscape painting in the vertical hanging scroll format, where the three ground planes are stacked. The horizontal handscroll-format tends to compress and blur the separation of the three planes. According to Usami, the map then is more static and without separate ground planes; the viewer can observe and imagine real place and real toponyms from a fixed vantage point. But as shall be seen, many Japanese maps of the nineteenth century do not meet these criteria. The rules seem comprehensive but the application by makers do not seem to play by the rules. If format, viewing process and content of the East Asian landscape painting handscroll seems to satisfy the paradigms presented here of a panorama, then why is there no equivalent term in use? I do not have the answer, so let's return to the original query which is much more narrowly focused on city maps.

## 4 How Does the Original Query Activate the Presented Paradigms?

Returning to the initial motivating query, “what’s the earliest known panoramic view of a Japanese city (created by a Japanese artist)?” we can begin using broad strokes to illustrate some possibilities. Perhaps using the term cityscape as a map genre, with its implications and ambiguities, of map and landscape, will help to narrow the focus of this discussion. If a map of a city attempts to encompass its entirety, then the view is likely panoramic as it requires a movable or multiple viewing point(s). In the case of Japan, many city maps have multiple perspectives interwoven seamlessly—worm’s eye-view, plan view, bird’s eye-view—without apparent issue (Pegg 2021). The earliest Japanese city plans are all simple plan view line drawings of the geo-physical characteristics (rivers, mountains and trees) and infrastructure (streets, architecture and bridges) of a densely populated place. Comparing a few cityscape examples, one English and two Japanese, found in the MacLean Collection Map Library may help pursue this query.

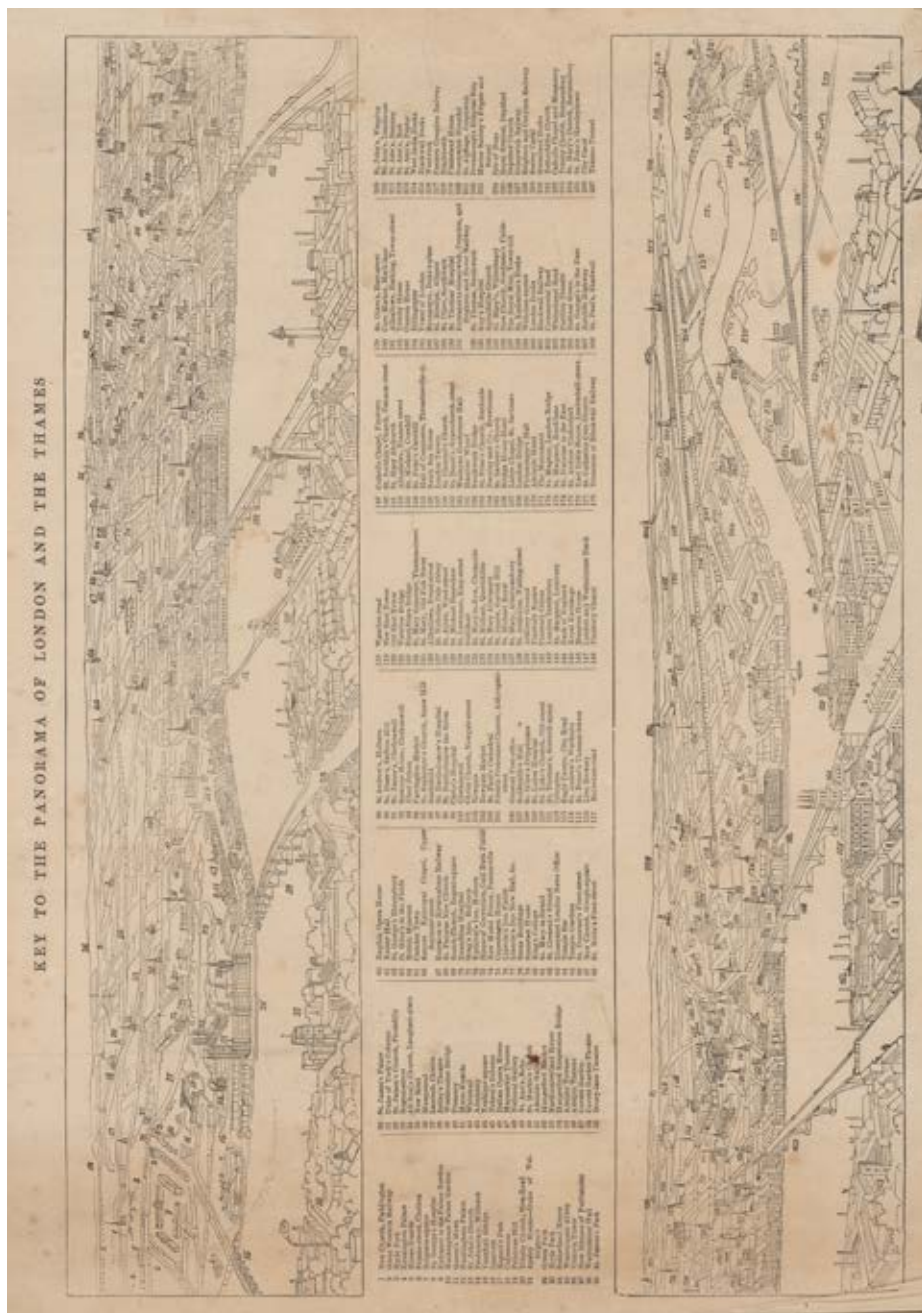
A search of the MacLean Collection database reveals 218 entries with the word “panorama” or “panoramic” in the title. One is “A Panoramic View of London and the River Thames” from circa 1855 engraved by Frederick James Smyth (active 1841–67) and published by *The London Illustrated News*. It is a cityscape mounted in the manner of an East Asian handscroll; around a wooden rod with two finished wooden endcaps on the far left along with a leather frontispiece with title, with the leather serving the same purpose of secure closure as does the half-moon rod of the handscroll format (Fig. 1).



**Fig. 1:** Frederick James Smyth (British, active 1841–67). *Panoramic View of London and the River Thames*, circa 1855, cover detail. Ink on paper, handscroll, 31 × 250 cm. Image, MacLean Collection MC12378.

This object is then both panorama (as a physical object to be viewed from a central position or that is unrolled and made to pass before the spectator, so as to show the various parts in succession) and panoramic view. It meets the former as an object of a “passing scene” “unrolled before the spectator.” It is 31 cm in height and 250 cm in length, prioritizing width over height, and is to be read from right to left. This object was meant to be read like an East Asian handscroll, a section at a time, viewing only the width presented by spreading one’s two hands on a table. The position (and point of view) of the viewer does not have a relational change as the viewer moves through the space from right to left presenting its panoramic view.

At the end, a key to noted and named buildings is attached, that perhaps shifts the cityscape picture to a map (Fig. 2). But this attached key is a map in its own right and because it is physically separated from the cityscape, it blurs rather than clarifies our definitions.



**Fig. 2:** Frederick James Smyth (British, active 1841–67). *Panoramic View of London and the River Thames*, circa 1855, key detail. Ink on paper, handscroll, 31 × 250 cm. Image, MacLean Collection MC12378.

The opening and closing sections of the cityscape have curvature while the center section appears to move evenly and straight across the ground plane like an East Asian landscape painting or picture (Fig. 3).



**Fig. 3:** Frederick James Smyth (British, active 1841–67). *Panoramic View of London and the River Thames*, circa 1855. Ink on paper, handscroll, 31 × 250 cm. Image, MacLean Collection MC12378.

Does curvature of the ground planes make it panoramic? In regard to content, the image is a type of landscape (cityscape) with no toponyms. The key at the end provides the naming. Without the key would it be a “map?” That is, do toponyms make a difference? In other words, does a transition from cityscape to map take place here? This object seems to both create linkage and obfuscate many of the panorama paradigms discussed thus far.

A comparison to a Japanese map of the same decade presents some similar and some different criteria. Utagawa Sadahide (1807–1873) might be considered the first prolific Japanese master of the cityscape or portscape panoramic view maps in Japan, creating quite unique presentations, and Sadahide is my answer to the original query from my colleague. His more than forty maps printed in the first year the port city of Yokohama was opened to the world, attest to his mastery of the genre from large sheet maps to *oban* multi-sheet views of the harbor and its surroundings. (The portscape typology in general became a minor genre for Europeans living, as well as local artists trained in European oil painting techniques, throughout East Asia during the nineteenth century.) Sadahide’s large single-sheet maps of Yokohama have the elongated proportions of presented space associated with panoramas and panoramic views. At roughly three to one (70 × 200 cm), its proportions are not quite those of the handscroll *Panoramic View of London* (eight to one) but it is still very much a horizontal presentation. The last two characters of the title are the binomial term *zenzu* as already discussed for many possible meanings including my translation as “complete picture.” At twice the height of the London panorama, here there is a different combined juxtaposition of curved and linear perspectives (Fig. 4). Some of the vertical stacking of ground planes seen on hanging scrolls can be seen here.



**Fig. 4:** Utagawa Sadahide (1807–73), *Complete Picture of the Newly Opened Port of Yokohama Harbor* (*Gaikaiko yokohama no zenzu*), dated 1859 (1864 reprint), woodblock print, folded sheet map, ink and color on paper, 70 × 200 cm. Image, MacLean Collection MC29881.

The distant city appears as a round dome-like landmass; while the ships and a sliver of the Tokaido Road, which connects Edo (in the top right corner with a clear view of Mount Fuji) and Kyoto, run straight along the fore and middle grounds. That is, here the juxtaposition of linearity and curvature are stacked, whereas the London panorama presented curved spaces that open and close (bookend) the remaining straight long horizontal scene of London. Perhaps mixed combinations of linear and curved space are required of a panoramic view. The tension created in overall compositional considerations of linear and curved is very different, yet equally present, between the two. This view also includes a color-coded key (bottom left). Named places use red tags, and the national origins of the international ships in the harbor are also tagged. This view seems then to have characteristics of both landscape and map. According to Usami, is this landscape or map? For my translation of the title, I use “Complete picture” (*zenzu*) intentionally to acknowledge the inherent ambiguity of the original Japanese characters.

Sadahide’s later multi-sheet view of Yokohama was completed three sheets at a time over more than a decade. The last two characters in the Japanese title are *fukei*, literally “scenery” or “landscape,” that I have chosen to translate as “panoramic view” for its perspective and format (Fig. 5).



**Fig. 5:** Utagawa Sadahide (1807–73), *Revised Panoramic View of Yokohama* (*Sakai yokohama fukei*), dated 1861 and 1873, woodblock print, (*oban* six sheets), ink and color on paper, 37 × 153 cm. Image, MacLean Collection MC29653.

Here, Sadahide has zoomed in and exaggerated the visual curvature of the city of Yokohama, creating a kind of cropped or truncated view of the region as if through a fish-eye lens. Because there are no straight lines in this view, that tension found in the other two views examined already, is not present. The pivot point is the city's pleasure quarters, as the landscape appears to pivot around the small rectangular yellow box and the many red rectangular labels naming the most famous houses therein on sheet four. One might argue the same for the previous image of Yokohama, although that same area is much less prominent in the former's overall presentation.

Consider the orientations between the two views of Yokohama as positioned from the two piers in the two Sadahide images, center/middle in the former, shifting to the center of the far-right side in the latter. There are named places and an abundance of figures creating narratives in the manner of landscapes. And although this presentation appears to be neither handscroll nor panorama, one could consider it as six scenes presented horizontally, with its narrative controlled by the maker, thus creating conceptually both a handscroll-esque presentation as well as a multi-paneled panoramic screen presentation. Sadahide provides additional possible twists to the paradigms of panoramic objects and panoramic views discussed.

## 5 Conclusion

This essay is meant to provoke a dialogue. The modern empirical need to categorize and define meaning can be inherently problematic as one chooses parameters of the presented paradigms of "panorama," "panoramic view," "cityscape," or "landscape vs. map." As has been demonstrated, there are tensions and linkages created between visual art and cartography in the process of looking, experiencing and categorizing panoramas and panoramic views. The Library of Congress infers that these terms refer to cities exclusively. But is that true? So what does their definition mean by panoramic maps? For me, the panorama is an object that is an immersive experience whereas the panoramic view is an elevated spatially curved picture. So, should the terms be inclusive or exclusive? It seems each case has to be considered individually; but even after being weighed and measured, it is still subjective. And perhaps this ambiguous spatial and linguistic matrix is the intention of the makers, to play with the tensions and linkages between maps and art.

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Mgr Beata Stragierowicz

## The History of Chinese Panoramas Began with a Visit to the Panorama of the Battle of Raławice

A personality who has already found his place in history and saw the *Panorama of the Battle of Raławice* in 1987 was the Chinese leader Zhao Ziyang (1919–2005). This politician, at one point in his life, chose conscience over power which is extremely rare. But before that, let us first recall his visit to Wrocław.

Between 5 and 7 June 1987, the governor of Wrocław, Janusz Owczarek, hosted a party-state delegation from the People's Republic of China, represented by Zhao Ziyang, the Head of the State Council and the acting General Secretary of the Communist Party of China (Fig. 1). A visit to the *Raławice Panorama* (painted 1893/1894), then for two years the biggest tourist attraction of the city, was an important point on the agenda of the Chinese guests in the Lower Silesian capital. The gigantic painting made a huge impression on the Chinese leader—he marvelled at the illusionary effects and admired the panache in depicting the masses of troops and horses (Fig. 2). At the same time, thanks to the explanations of the persons in charge of the delegation, he understood the great propaganda power of the battle representation. It was a revelation to him that by evoking memories of the victorious battle of the Kościuszko Uprising, *the Panorama*, to a large extent, could appeal to collective emotions. This is what particularly fascinated Zhao Ziyang. In the memorial book, he wrote:

Visit of the acting Secretary General  
of the Central Committee of the Communist Party of China  
Prime Minister of State Council of China  
Comrade Zhao Ziyang

(translation from Polish)

The patriotism is profound. The artistic creation is exquisite,  
the famous battle is reproduced and it can be regarded as a teaching material for later generations.  
Secretary General of the Central Committee of the Communist Party of China  
Prime Minister of State Council of China  
June 7, 1987

(automated translation from Chinese, confirmed by Dr. Richard Pegg) (Fig. 3)

The Chinese leader's visit to the *Raławice Panorama* had a surprising sequel. The power of the impact of Jan Styka's (1858–1925) and Wojciech Kossak's (1856–1942) canvas proved so great that from 1987 onwards panoramas began to be created in China, previously absent from the cultural space of the Middle Kingdom.

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As early as July 1988, the first half-panorama (16 × 51 m) was made available, depicting the so-called Marco Polo Bridge Incident of 7 July 1937, the battle that started the Sino-Japanese War. In a short period of time, by 2000, six panoramas and four half-panoramas had been created. The paintings mostly present episodes from the Sino-Japanese War. What is more, artists began to be trained in China to specialize precisely in panorama painting. Thus, it was the *Raclawice Panorama* that made the Chinese familiar with paintings belonging to the world of spectacle, particularly popular in Europe and America in the second half of the nineteenth century.

Zhao Ziyang himself, on the other hand, played an important role in China's recent history. First of all, he was one of the initiators of China's economic reform. In the 1980s, free market principles were introduced there, which contributed to the modernization of the country. Zhao Ziyang was also the politician who, in December 1984, signed an agreement with Margaret Thatcher's government to return Hong Kong to China. The most important events in his life, however, were to come in the spring of 1989.

On April 17, when the student demonstration began in Tiananmen Square in Beijing, no one could have predicted that we would soon witness one of the most tragic crackdowns of the twentieth century, especially since the protesting students did not want to overthrow the communist system, but only demanded its reform. Chai Ling, the only woman among the protest leaders and now a dissident, emphasized years later that they were only asking for a better China. Better, meaning free and just.

Zhao Ziyang was the only politician who sought an agreement with the protesters. He was last seen publicly in Tiananmen Square on May 19, when he appealed to a million demonstrators to disperse. It was then that the politician made a choice and acted according to his conscience. After this appearance, he was immediately arrested, deprived of all positions and placed under house arrest in the government complex.

On June 4, 1989, tanks and armored personnel carriers entered Tiananmen Square. The Chinese army brutally suppressed the protest, committing a real massacre. According to official government sources, only 241 people died, including soldiers, and seven thousand were injured. However, human rights organizations estimate that the death toll could have reached several thousand. More than two and a half thousand people were arrested, and several death sentences were issued in political trials.

Continuing to the present, the memory of the massacre victims is being erased in China. Any public discussion of this event is forbidden. However, the relatives of the victims, who have not been allowed to commemorate the murdered in any form, continue to demand truth and remembrance. They founded the "Tiananmen Mothers" association, through which the younger generation of Chinese people learns about recent history and tries to preserve the memory of the victims. From Polish experiences, we know that memory cannot be killed, and surely the time will come when the



**Fig. 1:** Zhao Ziyang visits the *Panorama of the Battle of Racławice*. Image, National Museum Wrocław.



**Fig. 2:** The *Panorama of the Battle of Racławice*, section of the painting. Image, National Museum Wrocław.

heroes of Tiananmen Square can be spoken of openly. In history, nothing is ever closed definitively.

Zhao Ziyang remained under house arrest until his death in 2005. Among Chinese human rights defenders, Ziyang is a charismatic figure. After his death, the family was not allowed to organize a funeral. It was not until October 2019 that Zhao Ziyang's ashes were buried in a cemetery on the outskirts of Beijing. In an interview with Agence France Presse his son-in-law said that after years, the family eventually found solace.



**Fig. 3:** Zhao Ziyang's entry in the memorial book of the *Panorama of the Battle of Racławice*. Image, National Museum Wrocław.

Finally, it is worth adding that after the Beijing massacre, the victims were spontaneously commemorated in Wrocław. In Dominikański Square, a concrete slab with a broken bicycle embedded in it was laid, expressing the support of the Wrocław academic community for the Chinese students and at the same time reminding of the tragedy. Very quickly, in 1989, the slab was removed by the Security Service. A new monument was erected in the original place on the tenth anniversary of the events.

This text has been adapted and translated from a previous publication, Beata Stragierowicz, *Panoramowe spotkania* (Wrocław: Muzeum Narodowe we Wrocławiu, 2021).

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### 3 Reprints



Molly C. Briggs, Thorsten Logge, Nicholas C. Lowe

# Introduction: How a Great Battle Panorama is Made

Theodore Russel Davis (1840–1894) first published “How a Great Battle Panorama is Made” in the December 1886 issue of *St. Nicholas: An Illustrated Magazine for Young Folks*. The article reappeared in the semi-annual volume XIV, part I, November 1886–April 1887, 99–112, and it is the 1887 impression that is reprinted here. Davis offered a richly illustrated narrative account of all the key aspects of panorama production. The essay provides sufficient detail that the reader could feasibly undertake to create a panorama, yet not so much information as to overwhelm the predominantly younger readers.

*St. Nicholas* was founded by Mary Mapes Dodge (1831–1905), whose aims for her intended readership—children—are sketched in her 1905 obituary:

The child's magazine must not be a milk-and-water variety of the periodical for adults. In fact, it needs to be stronger, truer, bolder, more uncompromising than the other; its cheer must [sic] be the cheer of the bird-song; it must mean freshness and heartiness, life and joy. Therefore took to it that it be strong, warm, beautiful, and true. Most children of the present attend school. Their heads are strained and taxed with the day's lessons. They do not want to be bothered nor amused or taught nor petted. They just want to have their own way over their own magazine. They want to enter the one place where they may come and go as they please, where they are not obliged to mind, or say “yes, ma'am” and “yes, sir,”—where, in short, they can live a brand-new, free life of their own for a little while, accepting acquaintances as they choose and turning their backs without ceremony upon what does not concern them. Of course they expect to pick up odd bits and treasures, and now and then to “drop in” familiarly at an air-castle, or step over to fairyland. A child's magazine is its playground (Clarke 1905, 1063–1064).

Publication at this time, and to this audience, demonstrates the international cultural significance of panoramas in the latter half of the nineteenth century. The panorama's 1886 presentation confirms the medium's currency as a vehicle for both entertainment and history, as well as its legibility for readers. Panoramas and panoramic media were a significant part of cultural storytelling and popular museological engagement. Indeed, panoramas and their construction appear to have been as important to the curious young reader in 1886 as game functionality and version histories are to contemporary audiences in 2025.

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The article opens with a description of the importance of firsthand experience to the authentication of its subject matter. It argues that important battlefield experiences are transmitted, through the panorama, from the “veteran” to the “spectator.” In its opening lines, the article claims that through the medium of the panorama, the subjectivity of the experience of events, grounded in their real-world location, is not lost: “The aim of the battle panorama is to re-produce not only the field of the conflict, as it was at the time, but also the most striking events of the battle as they would have appeared to a spectator from the same standpoint” (Davis 1887). Reprinting this piece invites research on the effects of panoramas as enduring and immersive evocations of place, space and experiences for viewers. One avenue for consideration is whether authenticity is a quantity or strategy that can be relayed by emotions, (immersive) experience, memory, or performativity (Gunderman et al., 2025; Logge 2018, 62–68).

This negotiation of authenticity persists in contemporary immersive media—for example, in battle- and racing-game representations. When, over a century later, Treyarch and Raven launched *Call of Duty: Black Ops 6* in 2024, hyperbolic advertising language distinguished it from previous versions, and from competitors’ offerings, by emphasizing its authenticity as a first-person form of experience. Echoing its battle panorama progenitors, the *Call of Duty* website declared the introduction of “Omnimovement,” a “gameplay mechanic” feature that produced a “seamless” immersive movement experience. Online product descriptions declared it to be “the most fluid boots-on-the-ground *Call of Duty* movement to date. . .utiliz[ing] the ability to seamlessly chain combat maneuvers in any direction” (Call n.d.). It is clear that the notion of positioning the spectator at the heart of the action remains key to constructing an “authentic” immersive experience.

Davis’s 1886 article is expansive, ranging from discourse about the meaning of first-person experience (and its transferability) to details about rendering large-scale landscape paintings, installing the canvas, and creating a *faux terrain*. The article is punctuated by illustrations that describe the professional context of the panorama business. For example, page 110 features an illustration of the two rotundas that then stood on opposite corners of the intersection of Hubbard Court and South Wabash Avenue in Chicago. The intersection was then known as “Panorama Place,” and the illustration is correct in showing that *The Battle of Missionary Ridge* and *The Battle of Gettysburg* were on view at that time. Text and an illustration on page 108 name a third battle panorama, *The Panorama of the Battle of Atlanta*. These three are the only direct references to specific panoramas, but the article delivers much additional factual detail, including names of panorama companies whose in-progress work is depicted in engravings from photographs.

These facts can be easily corroborated, but the article is also important for demonstrating the assumed familiarity of the reader with many of these details. There is no doubt that panorama spectacles had a strong presence in the cultural terrain of North American cities. Page 103 presents an image captioned “The Artists and Their Models at Work in the Out Door Studio,” showing in rich detail the scope of the observational and

painterly work. Artists arrange models in dynamic battle poses and the scene incorporates easels, palettes, brushes, costumes, firearms, backdrops and, in the foreground, a figure who appears to be a lead artist handling a scale cartoon of the overall image. These elements coalesce a vivid sense of the levels of craftsmanship these academy trained painters brought to their work. Alongside this, an image captioned “Hanging the Canvas” illustrates the enormity of the task of mounting the painting and describes the working conditions inside the rotunda.

While the article does not go into specific detail about which panoramas are being made, and neither does it name the production companies that are depicted, the clues are all there. For example, the illustration of the artists at work in all likelihood depicts the Milwaukee-based American Panorama Company. The “outdoor Studio” appears to show a location in Milwaukee, looking east from Cedar Street towards West Town, where in the background the illustrator has included two panorama rotundas and an outline of the distinctive Mansard dome, flanked by its square towers, of the Milwaukee Exposition Building. Very close to the present day location of the Milwaukee Public Museum, the Exposition Building stood at 500 W. Kilbourn Ave from 1881.

Theodore R. Davis was born in Boston. He graduated from Rittenhouse Academy in Washington D. C. and later moved to Brooklyn/New York, where he became a student of the wood engraver and painter Henry W. Herrick (1824–1906) and James Walker (1819–1889), a Mexican War veteran and painter of (at times monumental) Civil War scenes and battles, such as *The Battle of Gettysburg: Repulse of Longstreet’s Assault, July 3, 1863*. Appointed by *Harper’s Weekly* in 1861 as a sketch artist to capture war events, Davis was an able consultant to the production of the battle panoramas depicted here. He had been involved in the production of the *Missionary Ridge* and the *Battle of Atlanta* cycloramas. Friedrich Wilhelm Heine (1845–1921) and August Lohr (1842–1920) had consulted and (at times) wrestled with him as both a contemporary Civil War battle scene witness and an artist with strong ideas on scenery and composition of the presentation (Kutzer 2020, 98–103; Kelly 1985, 33–34; Holsinger 1999).

Above all it is through the remarkable work of Mary Mapes Dodge, the self described “Conductor” of the *St. Nicholas Magazine*, that this important content remains available today. In framing her readers as engaged participants, Mary Mapes Dodge has delivered to this volume information that is enduringly important to the study of heritage panoramas and the ongoing record of cultural memory.

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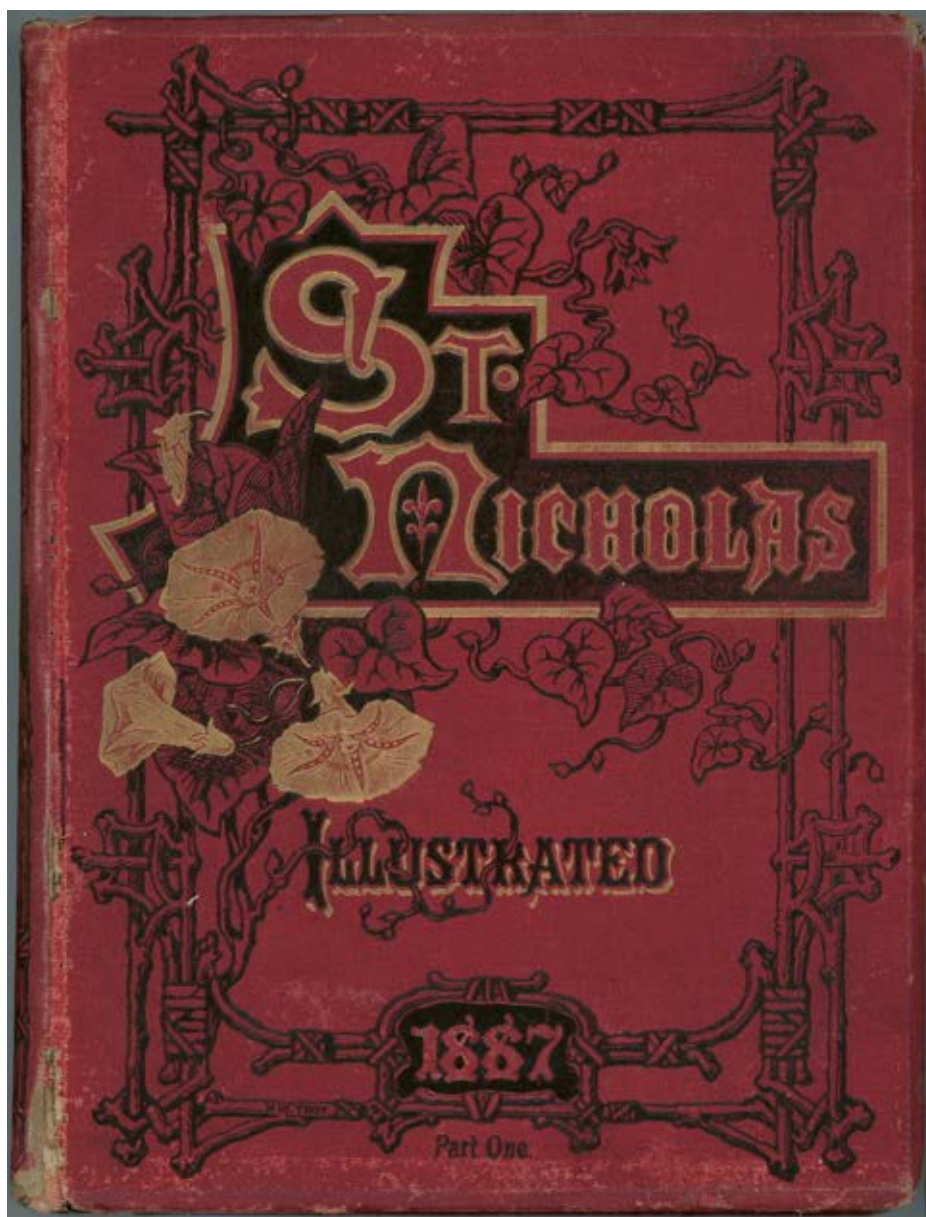
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Theodore R. Davis

## How a Great Battle Panorama is Made

This article was originally published in *St. Nicholas: An Illustrated Magazine for Young Folks*, v. XIV, Part 1, November 1886 to April 1887. The images that appear on the following pages present Davis's work in its entirety, excerpted from the source. The pages were photographed from a physical period copy by Nicholas C. Lowe.



ST. NICHOLAS:  
AN  
ILLUSTRATED MAGAZINE  
FOR YOUNG FOLKS.

CONDUCTED BY  
MARY MAPES DODGE.

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VOLUME XIV.  
PART I, NOVEMBER, 1886, TO APRIL, 1887.

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T. FISHER UNWIN, LONDON.





## HOW A GREAT BATTLE PANORAMA IS MADE.

BY THEODORE R. DAVIS.

A CERTAIN brave and prominent general in the late war always insisted that the best and safest place from which to view a battle was just behind the central line of one of the engaging armies—if the spectator did not mind the shells and minie-balls.

The general died without seeing one of the battle panoramas—or "cyloramas," as they are sometimes called—now so frequently exhibited in our larger cities. In one of these, he could have stood in the best possible place, without considering the question of safety or of minding shells and minie-balls, however hotly the battle might be raging all around him. For so skillfully is the foreground blended into the painted scene upon the canvas, that, but for the silence, the spectator seems actually to stand in the midst of the real battle.

It is always interesting to visit an old battle-ground. The veteran who, years before, was engaged in the actual conflict, and the tourist who has read and re-read the story of the desperate fight, alike find much pleasure in standing upon the actual field and endeavoring to locate the

contending forces or trying to trace out the lines of advance, attack, or retreat.

The visitor to those old battle-fields, however, finds to-day only slight signs of conflict. Few of the old roads can be traced; towns have grown into cities; pleasant farms have overgrown the earth-works; and forests stand in the fields which, years ago, were marked with the smoke and strife of battle. The aim of the battle panorama is to reproduce not only the field of the conflict, as it was at the time, but also the most striking events of the battle as they would have appeared to a spectator from the same standpoint.

### MATERIAL.

THE first step, after selecting the subject of a battle panorama, is to collect all obtainable sketches, records, and photographs relating to it. These are studied with great care by the leading artists engaged for the work, who then go to the real field of battle, where, for a month at least, they make

sketches of the ground from some commanding point. The spot thus chosen for studying the field may have been overgrown with trees since the days of battle, but the lookout is usually so well selected that it is possible to construct a plan of the landscape as it formerly appeared, and so to make a sketch of the battle-ground precisely as it was at the time of the fight. I have found, too, in my own experience, that in reproducing the scene of a battle in which I had been engaged, my note-books and memory enabled me to correctly locate all the old roads, houses, earthworks, camps, fields, forests, and troops, as they were on the day of the battle.

The sketches made by the artists on the battle-ground, and all the material previously obtained, are next taken to the panorama-studio where the great picture is to be painted.

#### THE ARTISTS.

BEFORE describing the studio and its work, it will be interesting to look at the corps of artists employed upon the great picture. Every man has some special talent. One artist excels in painting skies and distance, another in foreground and near-by trees. A third loves to paint animals, and is noted for his pictures of horses. To still another is given the study of uniforms and military equipments; while even the artists who paint the human figures have peculiar ability in special lines, and so are assigned to different portions of the figure-work. And in the same way, the landscape part of the picture is parceled out among the landscape artists.

#### THE COMPOSITION, OR FIRST PLAN.

THE preparation of the "composition" or first plan of the panorama is the next important feature of the work.

A strip of prepared canvas forty feet long by five feet high is first stretched upon a circular framework of wood. This framework is exactly one-tenth the size, in its various dimensions, of the building in which the panorama is to be exhibited. Over the canvas, sheets of heavy white drawing-paper are tacked. An outline of the landscape is roughly sketched in charcoal on this paper. Important masses and groups of figures are next located, and the work thus progresses until the interior wall of the circular room is covered with an interesting sketch of what a spectator would have seen during the battle, if he had stood at the exact point of view selected by the artists as the center of the landscape.

The leading figure-painter always controls this

part of the work. He carefully plans the design so as to secure graceful and effective lines in the landscape and interesting grouping for the figures. This is no small task, as it is necessary carefully to arrange the proportions of these figures so that they will appear life-sized in the finished painting. Changes, alterations, and improvements are made with charcoal, and at last the sketch becomes a drawing. The artists who are to paint special features or parts of the panorama are now made acquainted with the outlines of the composition, and, working under the direction of the chief painter, they aid him in making a clear pen-and-ink drawing over the charcoal outline. When this pen-and-ink outline has been completed, the charcoal marks are dusted off, and, later, are entirely removed by rubbing bread-crumbs over the paper.

In the preparation of this first drawing, the artists become familiar with the general plan of the big painting, and can work more intelligently when called to execute it upon the panorama-canvas.

In the composition, every command is located and the prominent officers are noted, while portraits of soldiers known to have been in the foreground are also indicated.

The landscape, roads, and other natural objects are drawn so as to present the scene of battle as it actually appeared at the time of the conflict. In doing this, the sketches and note-books are constantly referred to. When finished, the composition is a pen-and-ink drawing on a scale one-tenth that of the proposed panorama. This drawing, embraced on a strip of paper forty feet long and five feet wide, is divided into ten sections, every section being indicated by a letter of the alphabet. Every one of these sections is then covered with an equal number of squares, every square being designated by the letter of the section as well as a number: thus, Square A 1, Square A 2, and so on. This is to aid the artists in enlarging the pen-and-ink drawing, and transferring it to the panorama-canvas, which is likewise covered with an equal number of squares, each square being ten times the width and height of the corresponding one on the pen-and-ink drawing.

A tracing of the pen-and-ink drawing is next made, and by means of it the outlines of the drawing are transferred to the small canvas, which is of exactly the same size as the paper that contains the drawing. On this canvas, the chief artist rapidly paints and indicates the different degrees of color, light, and shade that he wishes to have given to the panorama. This canvas when thus treated, is known as "the dummy." It is very useful as a color guide to the artists when they are at work upon the panorama itself.

[188.]

## HOW A GREAT BATTLE PANORAMA IS MADE.

101

## THE OUT-DOOR STUDIO.

ALTHOUGH the greater part of the work is done in the panorama-studio, much of the preliminary sketching is often done out-of-doors. The artists who painted one well-known American panorama occupied for a time the terraced garden attached to the residence of the principal artist, where they set up a real garden-studio. The garden was a

would be aiming his directly at the big easel of one of the chief figure-painters. Still another model, posturing for the time as a dead soldier, would be lying prone on the grass, where he would have to keep quite still,—perfectly still,—no matter how constantly the busy flies might annoy him.

The models who "pose" for the figures in the panorama are carefully selected. They must be men strong enough to endure the strain of stand-



A SECTION (GREATLY REDUCED) OF THE PEN-AND-INK DRAWING, OR FIRST PLAN, OF A PANORAMA.

corner-lot separated from the street by a picket-fence, above and through which the passer-by had a full view of what was going on within. Scattered about the garden were guns and uniforms, harness, haversacks, and military equipments,—relics of the war-days,—so scorched and camp-stained that a tramp would have condemned them. But they were highly prized by the artists, as the best clothes for the models who, in various attitudes, representing either Union or Confederate soldiers, were disposed about the garden-studio. Some would be reclining on the ground as wounded men; one would be leaning on an Enfield rifle, while another

ling or lying in the same position for some time, and without any change or rest. They must also be intelligent enough to understand the action of such figures in the composition as they are required to personate. The models assume positions, and wear uniforms, arms, and accoutrements, precisely similar to those of the figures in the original sketch—whether of private soldiers or general officers—which they for the moment represent.

The collection of uniforms and equipments—such as that in the garden-studio—is one of the curiosities of a panorama-studio. Every branch

of the military service is represented in the clothing of the "blue and the gray," here brought together. The various styles of saddle and bridle, of guns, sabers, pistols, carbines, blankets, rough army shoes, heavy woolen socks, haversacks, canteens, shelter-tents, and harness for artillery horses and mules, may here be seen.

#### THE STUDIO.

THE work can now be transferred to the studio proper. This is a large circular building, strongly built of wood, but completely covered with corrugated iron, which serves the double purpose of

An iron track, built within a few feet of the walls and twice as broad as an ordinary railroad, runs around the interior of the building. The cars for this track vary in height from ten to fifty feet. They are in reality wooden towers on wheels—every tower composed of a number of platforms reached by flights of stairs, and so arranged as to leave the sides of the platforms nearest to the canvas unobstructed. Six of these cars are provided for the painting of a single panorama.

Fifty feet above the railroad track, a massive ring or circle of timber is held in place by brackets fastened to the wall of the studio. This ring must be of exactly the same size as the corresponding ring



SPECIMENS OF SKETCHES MADE BY THE ARTISTS IN THE OUT-DOOR STUDIO.

protection from fire and cold. One-third of the circular roof is made of glass, thus admirably lighting the interior of the studio. The wall of the building is nearly sixty feet high, and is braced and strengthened with heavy timbers, necessary to support the weight and strain of the canvas. In the center of the studio is a circular platform, the height of which is determined by the horizon, or eye line, of the panorama to be painted. Above the platform, a canvas canopy, called the "umbrella," is suspended. This prevents the artist or spectator from seeing the upper edge of the canvas, and causes the scene to appear as if viewed from under a piazza-roof which shuts out the sky directly overhead.

from which the immense painted canvas is to hang, in the building in which the cyclorama is to be exhibited when completed. And it is measured and leveled by a surveyor who places his transit, or measuring instrument, on the central platform.

#### THE CANVAS.

THE linen or canvas for the panorama is of the best quality, and heavier than that used for smaller paintings. It is specially woven at Brussels, Belgium, in great breadths, thirty feet wide by fifty feet long. These are neatly stitched to-

1886.]

## HOW A GREAT BATTLE PANORAMA IS MADE.

103

gether, and compactly folded in a strong wooden box in which the canvas is sent to this country. water, and the face of the canvas is given a coat of weak glue, known as "size."



THE ARTISTS AND  
THEIR MODELS  
AT WORK IN THE OUT-  
DOOR STUDIO.

On arrival at the studio, it is hung and nailed fast to the ring by "riggers," who sing as they haul up and shake out the great folds, which drape down in grand masses that delight the artists' eyes. The canvas is a little longer than the circumference of the big wooden ring from which it is hung; but a sailor, suspended from a boatswain's chair, stitches the lap together so tidily that the seam is not visible from the platform. A wide hem is next stitched around the lower edge of the canvas, spaces being left open for the introduction of sections of a hollow iron ring, of the same circumference as the wooden ring above. The sections of the ring, after all have been slipped inside the hem, are fastened together by couplings, and the lower part of the canvas is thus stretched into circular form to match the top. Still more weight, however, is required to stretch the canvas perpendicularly; and so a thousand or more bricks, weighing in all from two to three tons, are fastened at intervals around the iron ring in groups—three or four bricks to each group.

The canvas is now ready to be "primed"; that is, to have its first coat of color laid on. In preparation for this, the back is thoroughly sponged with

## THE PAINTING.

HOUSE-PAINTERS now spread over the canvas a ton or more of "whiting" (white lead and oil), which when dry forms the surface upon which the artists paint the panorama. The original drawing has meanwhile been photographed by sections on glass plates. By an arrangement of lenses and a strong light, like a magic lantern, an enlarged image of every section



HANGING THE CANVAS.

is thrown upon the great canvas, which has been similarly lined off into sections and squares, every section of the original drawing being magnified to the exact size of the corresponding section on the canvas.

For this work, night is the most favorable time, as the lines are then more sharply outlined, and, being distinctly visible, can be rapidly traced

on the canvas with umber. The illustration showing this scene fully explains the work. But as the great canvas is so much larger than the paper on which the first drawing was made, the enlarged copy of that drawing always seems to contain too few figures. When all of the lines, therefore, are traced upon the canvas, many more figures have to be introduced into the scene, otherwise old soldiers and their friends would ask: "Where are your troops?" In the pen-and-ink

The landscape outline is correspondingly worked up, and the artists are busy putting in broad masses of color to give a tone to the canvas and remove the glare of light reflected from its too white surface.

#### THE GROUND-WORK.

THE "dummy," already referred to, is now frequently consulted, and affords the key and



TRACING THE OUTLINE OF THE SMALL DRAWING, AS ENLARGED UPON THE CANVAS.

drawing, this lack of numbers is not evident; it is the result of the enlargement, which also shows other defects, such as would naturally be expected when one foot on a drawing is increased to ten feet on a panorama-canvas. All this has to be anticipated, and is provided for. Additional groups of figures are rapidly sketched in, and lines of battle are reinforced by the addition of other soldierly figures. The scene represented on page 107, for example, when first enlarged on the great canvas, contained far too few figures, and the number had to be greatly increased before it appeared as in the engraving.

suggestion of the colors to be used. Presently, from the topmost platform of the highest car, certain of the artists are busily painting away at the sky and putting in the clouds, which will be perfected when the sky has its second painting. These artists, up aloft, take their colors from a table, the top of which is arranged as a palette. The other artists are busy upon some special work to which they have been assigned, and for which they have already painted the studies that are now distributed about the platforms, every one of which is a veritable studio.

All this is rapid work, and is, indeed, but the



ONE OF THE MOVABLE PLATFORMS USED IN PAINTING A PANORAMA.

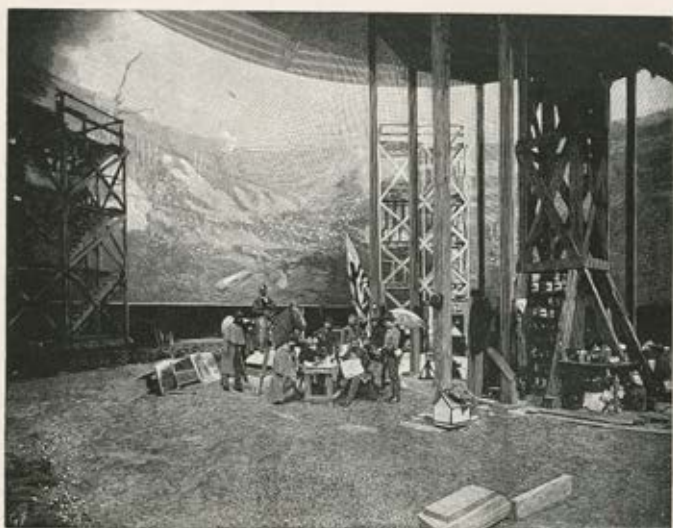
groundwork of the panorama, into which the "details" or special features of the picture will be worked later on. These details require time and patience, and can be painted to better advantage when the broad masses of color are dry.

#### PAINTS.

THE question is frequently asked, "What paints do the artists use?" In the better class of battle panoramas, only colors of the best quality are used,

such as are used by an artist in his work upon a fine oil-painting. This color is, of course, purchased in very large quantities; as an instance, for the panorama in which I was interested, the

was left thus blank and bare, and was most disturbing to the German professor who was the chief artist. His eye was so distracted and troubled by it that he one day directed some of the loitering



THE INTERIOR OF THE PANORAMA-STUDIO.

rich yellowish paint, known as cadmium, cost two hundred dollars, and was contained in four tin cans, each the size of an ordinary peach-can. This is an expensive color, and while artists have no desire to scrimp in its use, they do object to a reckless waste of it. An amusing incident occurred in this connection during the painting of the panorama to which I have referred.

When the composition is drawn, the general plan for that part of the cyclorama known as the foreground, which is composed of natural objects, is also thought out. It is then settled what portions of the great canvas will be hidden by the foreground of natural objects, such as real earthworks, mounds of sod-covered earth, and log breast-works. Usually that part of the canvas is left without color, except such fanciful sketches as the artists may paint for studio view only. A portion of our picture, "The Battle of Missionary Ridge,"

models to take some color, "any color," he said, "and scumble over the surface to tone it down."

The models, dressed as Union and Confederate soldiers and officers, worked industriously for twenty minutes, when it was suddenly discovered that they had emptied three fifty-dollar cans of cadmium and were opening the fourth! A half-dollar's worth of cheap house-paint would have been better, for no preparation had been used to make the cadmium dry, and it was still soft when the panorama was sent for exhibition to Chicago. What the artists said when they discovered the models' mistake was not plain to me, as it was spoken in German; but I know that they all talked at the same time and very vigorously.

#### THE CENTRAL PLATFORM.

The central platform is, of course, the standpoint from which visitors will view the panorama,

—and therefore the artists are obliged to go to it frequently, as the painting nears completion, in order to observe the effect and progress of their work.

This, too, is the place of conference, and despite the signs of "No Admittance," within and without, visitors are frequent and usually welcome. These visitors are often veteran soldiers who took part in the action represented, and who often make helpful suggestions where the artists' notes are imperfect. These visitors study every detail and discuss the panorama point by point. They are acquainted with the scene and delight to study out the meaning of every line and dash of color.

The army stories that are told on the central platform, when old soldiers meet and discuss the old days, would, if collected, make a prodigious volume. The floor of the platform is chalked and rechalked with diagrams, some referring to

which are memoranda of incidents and a variety of data, as well as names and addresses, are pinned to the convenient timber with thumb-tacks. Upon tables will be found sections of the composition, spread out opposite to their location upon the great canvas; field-glasses keep the drawings in place; and the inevitable piece of chalk is there also, ready for instant use.

The artists paint steadily, every individual being mainly occupied in perfecting his own work, though never hesitating to ask or extend aid in some special direction. One artist, for instance, has an excellent figure of a mounted officer, all complete excepting the portrait, a photograph for which is pinned to the canvas. While this artist goes to strengthen a line of battle, another one will rapidly paint in an admirable portrait for the incomplete figure. Soon, another brush is busy with the horse, while still another artist calls for



SCENE FROM A BATTLE PANORAMA.

the panorama itself, but more to illustrate occurrences upon other fields. The strong pine rail surrounding the platform is penciled all over with kindred decorations, while scraps of paper, upon

some special saddle and bridle to be brought to the platform that he may paint the trappings.

Now, look at the back of the photograph which is pinned to the canvas—a faded *carte de visite*

of a young officer; upon a slip of paper we read the following: "Col. K., now on General Sheridan's staff; then captain, General Thomas's staff, H 47" (meaning the section H, square 47 of the panorama); "French cap, blouse, captain's straps—staff—dark-blue trousers, gold cord, cavalry

pital scene; around him is scattered a complete field outfit for an army surgeon—cases of instruments, bandages, bottles, and a model uniformed as a hospital steward, who has stood so long in one position that he shakes as if he had the ague, until the interested painter, noting his suffering condition,



SCENE FROM THE PANORAMA OF "THE BATTLE OF ATLANTA."

boots, staff sword, McClellan saddle; shabrack—black horse; see sketch."

In the above copy of a scene from the cyclorama called "The Battle of Atlanta," several of the figures are portraits, the one on the foremost horse being that of General John A. Logan. Every officer represented is pictured in the uniform which he wore on the day of the fight, while even the horses and their accouterments are as faithfully depicted.

These instances will give an idea of the way in which facts are preserved when a panorama is painted by artists who conscientiously strive to make of the work a great historical painting.

Upon the platform of one of the high cars an artist may be seen carefully finishing a Confederate hos-

pital scene; around him is scattered a complete field outfit for an army surgeon—cases of instruments, bandages, bottles, and a model uniformed as a hospital steward, who has stood so long in one position that he shakes as if he had the ague, until the interested painter, noting his suffering condition,

#### COMPLETING THE PICTURE.

In most panoramas, the sky covers two-thirds and the landscape one-third of the canvas. In

the painting of Missionary Ridge, to which I have before referred, and which represents a battle upon hill-tops, this proportion was necessarily reversed, and so a longer time than usual was required to paint the scene.

But now the artists are busy with the last touches. A car is seldom in one place for more than an hour. The models are chiefly employed in responding to the calls of the artists from their platforms: "Push this car!" "Push this car!" The small cars can be moved without difficulty, but the tall cars are very heavy, and are provided with a mechanical contrivance for their propulsion.

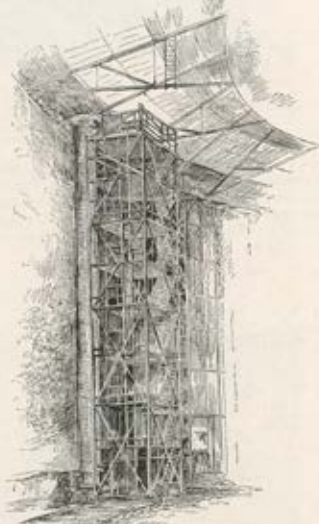
#### THE "SPOOL."

AND now the studio begins to resound with the hammering of carpenters, building a huge "spool" upon which to roll the canvas, and the box to contain and transport it. A small cottage could be built for the cost of these two appliances; for they must be strong and true. The barrel of the big spool is two feet in diameter, and is made of strips of pine three inches thick, grooved together. Sections of oak plank bolted together and fashioned into wheels, six inches thick and four feet in diameter, form the ends; and through these, three-inch holes are bored to pass the cable used in handling the spool when the canvas is rolled upon it. The cable or heavy rope must be strong enough to bear the whole weight of the rolled panorama, and thus avoid a pressure upon the canvas that would surely injure the painting.

#### PACKING THE PANORAMA.

ALL the painting paraphernalia are now removed from the highest car, which is now to be used in rolling the canvas on the spool. At the top and bottom of the car are fastened projecting braces, or "bearings," in which the ends of the spool are secured in such a way that it will revolve readily, and will stand upright and close to the ring. A sailor perched on his boatswain's chair rips out the seam and helps the men on the platforms to nail one side of the canvas firmly to the spool. Other men loosen the canvas from the ring and remove the weights and iron ring at the bottom, and while the car is moved slowly along, the spool is revolved by men stationed above and below. An occasional nail is driven to fasten the canvas to the top of the spool. In two hours, if all goes well, the panorama is safely rolled face in upon the spool. By means of ropes and a windlass, the great roll is then lifted clear of the strong pins that held it in place, and is blocked up to permit the passage of the cable through the spool. The ends of the cable are securely fastened, and the roll, a dead weight

of six or seven tons, is steadily lowered into the box in which it is to be despatched to the place of exhibition. This great box and its precious load are removed from the studio through a large doorway made expressly for the purpose, and are shipped, on platform cars, to the building where the panorama is to be shown to the public.



ROLLING THE PAINTED PANORAMA UPON THE BIG SPOOL.

#### THE EXHIBITION BUILDING.

THE Exhibition Building, now so familiar to all who live in our larger cities, is a great circular edifice of brick, wood, and iron. It is provided with an iron track and a high car built in sections so as to be quickly put together when required for use. Upon its arrival at the Exhibition Building, the panorama is carefully unrolled and is hung by the method employed for hanging the canvas in the studio, which has already been described.

#### THE FOREGROUND.

THE material for the foreground has been prepared before the receipt of the picture. The chief



PANORAMA EXHIBITION BUILDINGS, WABASH AVENUE, CHICAGO.

artist and the mechanical constructor have superintended the construction of the platforms, following the irregular line indicated both on the first drawing and the panorama. All the lumber that is used is treated with a composition of silicate to

keep out moisture, and to make it fire-proof. Hundreds of loads of earth have been carted into the building; quantities of lumber, trees both living and dead, together with a collection of fence rails, bushes, sods, logs, sand, and a variety of camp equipage, are piled about, ready for use. The platforms are the groundwork for the earth and sod, which are very skillfully joined to their painted semblances on the canvas; bushes and trees are planted; earthworks and log camps are built;—everything is done with careful intent to make the foreground and painting appear as one whole landscape, and so to join the two in meaning and color as to make it nearly impossible for a spectator to determine at any point which is the real and which the painted scene. This work calls for very careful judgment, as it is necessary to settle the exact relation in size which real objects shall bear to those in the painting. An ordinary cap or hat placed upon the foreground near the canvas would seem prodigious, though the same hat, thrown on the ground near the platform occupied by the spectator, would not attract notice. The entire foreground must, therefore, be arranged to aid the perspective of the painting, so that when the panorama is ready for exhibition, even the artist, who has constantly labored to attain that very result, finds difficulty in realizing that the scene spread before him is painted upon canvas which hangs vertically but forty feet distant from his eye.

## VISITORS.

THE curiosity of visitors has no end. They refuse to believe facts, and frequently resort to novel methods to confirm their own ideas. Many suspect that an immense plate of glass is placed between the spectator and the canvas; and some persons have even thrown objects with sufficient force to go thrice the distance from the platform



MAKING READY TO HANG THE PANORAMA IN THE EXHIBITION BUILDING.

[186.]

## HOW A GREAT BATTLE PANORAMA IS MADE.

[117]

to the canvas, for the purpose, as they said, of testing this glass. Of course, there is no glass nor any other means of deception than the simple arrangements here described. The largest figures on the canvas are between three and four feet high, though they seem to be full life size.

A certain inquisitive old lady, visiting one of the earliest of these panoramas,—“The Battle

man soldiers which looked like dwarfs beside her. Great laughter greeted her return to the platform, where she remarked: “Oh, my! how they do grow when you get back, away from them!” And this is the whole secret of the effect produced upon the spectator.

Some very interesting “optical facts” are found in these panoramas. In the “Battle of Mission-



BUILDING THE FOREGROUND, UPON PLATFORM, IN THE EXHIBITION BUILDING.

of Sedan,”—helped herself over the platform-rail by means of convenient chairs, and trotted down an earth road leading from the platform to the canvas, where—alongside the painted figures—she looked like Gulliver’s wife among the Lilliputians.

“Why! Oh, my!” she exclaimed, “look at these dear little men! They are only so big!” holding up her parasol near a painted group of Ger-

ary Ridge” there is, near the Craven House, on the side of Lookout Mountain, what appears to the eye to be a steep, open field. Looked at with a suitable field-glass, however, this precipitous appearance disappears, as it does also in the real scene when looked at in the same way. This truth to nature results from the painstaking work of the artists, who have painted the distance as conscientiously as the foreground.

Battle panoramas have been known for years in Europe. During the reign of Napoleon I., one was exhibited in Paris, and at present nearly all the principal cities of Europe have buildings for the exhibition of this kind of panorama. As all these buildings and panoramas are of exactly the same

for the purpose of showing the facts that came under his observation as a soldier in the actual battle.

A tell-tale silence pervades the platform of such a panorama, in direct contrast with the enthusiasm aroused by a panorama in which now one and now another veteran can recognize the places where he



SCENE FROM THE PANORAMA OF THE "BATTLE OF MONSIEUR'S BIDGE."

size, an interchange of canvases is possible, and this is said to be the intention of the panorama companies of the United States. It must, however, be said that some of the panoramas on exhibition have absolutely no value as historical paintings. They are fictitious productions, and have in them nothing that a veteran can recognize and explain to those whom he has accompanied to the exhibition

camped, picketed, marched, and fought. If the soldiers who are so earnest to have only the truth of history correctly printed in books, would but insist upon equal truth in the paintings of the same stirring conflicts, we should have many grand historical pictures instead of what may be interesting but are often badly painted and almost wholly imaginary scenes.

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## **4 Restoration, Management, and Field Reports**



Gabriele Koller, Patrick Deicher

## Introduction: Restoring, Reconstructing and Reviving Historic Panoramas

This section of the *Panoramic and Immersive Media Studies Yearbook* focuses on one of the International Panorama Council's primary objectives, which is to support the preservation and the interpretation of historic panoramas.

The preservation of the few surviving historic panoramas was not only the driving force behind the founding of the association. It has been an important field of activity ever since, encompassing activities like publishing, providing advisory services, and facilitating connections among specialists. Papers on the restoration and conservation of panoramas are also an integral part of the annual conferences organized by the International Panorama Council.

The initial two contributions in this section, authored by Christian Marty and Ryszard Wójtowicz, respectively, address various aspects of panorama restoration. Both authors have committed significant portions of their professional lives to the conservation of panoramas. Their extensive experience has distinguished them as leading experts in the field on a global scale.

In his contribution, Christian Marty describes the process of restoring the optical apparatus of the Bourbaki Panorama in Lucerne, Switzerland. The so-called optical apparatus plays a pivotal role in the creation of the illusionary effect characteristic of a historic panorama. It consists of a canopy, an umbrella-like textile structure above the visitor platform which conceals the upper edge of the panoramic painting in order to create an undisturbed visual continuum. In conjunction with supplementary textile components that remain obscured from the spectator's view on the platform, a sophisticated system of indirect lighting is devised, characteristic of a nineteenth-century 360-degree panorama. Marty describes the extensive and meticulous preparation that was undertaken for the project, as well as the challenges that were confronted during the restoration process.

Ryszard Wójtowicz provides an overview of the substantial undertaking that is required to restore severely damaged or fragmented historic panoramas. In his article, he outlines three major panorama restoration projects in which he participated as a leading restorer, offering insights into the challenges and methodologies involved in this special field of preservation. In chronological order, the projects concern the *Battle of Raclawice Panorama* in Wrocław, Poland (1981–1985); the *Fesztys Panorama* in Ópusztaszer, Hungary (1991–1995); and the *Battle of Gettysburg Cyclorama* in Gettysburg,

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**Gabriele Koller**, Jerusalem Panorama Foundation, Altötting, Germany

**Patrick Deicher**, Bourbaki Panorama Foundation, Lucerne, Switzerland

Pennsylvania, United States (2006–2008). Given that each of the three panoramas was in a different condition, a range of approaches was necessary. It is notable that each project significantly benefited from the preceding project's experience, leading to the development of distinct expertise. The subject is further explored in the author's recent book published in 2024, with a corresponding review included in this edition of the Yearbook.

The subsequent two contributions address ways and methods by which historic panoramas, that are either lost or not accessible to the public, have been revived.

The subject of Vera Bras' contribution is the *Panorama of the Battle of the Yser* painted in 1920–1921 by the Belgian artist Alfred Bastien. The panorama survives, but is not on display any longer. A digitized version of the panorama has recently been incorporated into a new permanent World War I exhibition in Westfront Nieuwpoort, Belgium. Bras describes the integration and contextualization of the panorama within the exhibition, which tells the story of the destruction of the coastal town of Nieuwpoort and how the strategic flooding of the polder plain halted the German invasion in Belgium. Through artefacts, audio guides and other devices, including the digitized version of the panorama, the exhibition invites visitors to learn about the region's history and the historical context of World War I.

The contribution of Carl Smith and Geoffrey Alan Rhodes is dedicated to the American cyclorama that commemorated the Great Chicago Fire of 1871. The *Chicago Fire Cyclorama*, painted by a team of artists, was inaugurated in Chicago in 1892. The cyclorama no longer exists; however, a 1:10 scale study of it is preserved in the collections of the Chicago History Museum. The authors not only recount the history of this cyclorama and its exhibition in Chicago, but also describe its recent revival through the creation of a digitized version of the painted study, which enables an interactive, immersive experience.

Christian Marty

# The Bourbaki Panorama and the Challenges of Restoring the Optical Apparatus

**Abstract:** At the beginning of 2024, the Bourbaki Panorama Foundation, Lucerne completed the largest restoration project since the complete renovation of the circular painting and panorama building almost 20 years ago. As part of this, the so-called *optical apparatus*, the viewing platform, the canopy and the lighting system were replaced. The conversion was largely carried out by industrial climbers since scaffolding was not possible. Due to logistical requirements and safety concerns, the museum had to remain closed for the duration of the work. The project was carried out by the *Bourbaki Panorama*, in order to minimize the discrepancy between the high quality of the painting and the condition of the technical installations. After a six-week renovation phase, the historical illusion medium is now in optimum condition.

**Keywords:** Bourbaki Panorama, canopy, optical apparatus, viewing platform, lighting system, industrial climbers, restoration.

## 1 Introduction

The *Bourbaki Panorama* has already been presented several times at the conferences of the International Panorama Council (IPC). For this reason, only a summary will be given here. The *Bourbaki Panorama* portrays a significant episode in the history of the Franco-Prussian War (1870–1871). This war was initiated by a dispute between France and Prussia concerning the Spanish candidacy for the throne. The war proved to be a setback for the French, and the French General Charles Denis Bourbaki was entrusted with the mission of securing the besieged fortress of Belfort and disrupting the German supply lines with the Armée de l'Est.

Nevertheless, Bourbaki suffered a rout at the Battle of Lisaine, which resulted in a disorderly and protracted withdrawal. The army found itself surrounded by troops from the German Southern Army in the greater Pontarlier area. Following this, Bourbaki was relieved of his duties on 6 January 1871 and attempted suicide. The new commander, Justin Clinchant, requested the internment of his troops in Switzerland on 28 January 1871, due to the fact that the Bourbaki troops were lacking in both food and clothing. In an attempt to avoid dismissal, Bourbaki himself attempted to take his

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Christian Marty, Conservator-Restorer, Bourbaki Panorama, Lucerne, Switzerland

own life on 26 January. The troops, now under the command of General Clinchant, advanced towards the Swiss border where significant casualties were sustained. On the 28th of January, Clinchant petitioned the Federal Council for military asylum. The following night, Swiss General Hans Herzog endorsed the Treaty of Les Verrières. Consequently, a total of 87,000 fatigued soldiers traversed the Swiss border, accompanied by 12,000 horses. Prior to this, a process of disarmament, involving the relinquishment of weapons, ammunition, and equipment, had been implemented (Fig. 1).



**Fig. 1:** Disarmament of the French troops on the Swiss border in Les Verrières. Section of the painting. Image, Bourbaki Panorama Foundation, Lucerne.

This event, which involved the crossing of over 33,000 soldiers in Les Verrières in the mountain region of Jura, is depicted by the Swiss painter Edouard Castres (1838–1902) in his circular painting created in 1881 (Fig. 2). After the cessation of hostilities, Castres returned to Paris, where he turned his memories and sketches from the field into oil paintings, earning himself a reputation as a military painter.



**Fig. 2:** The painter Edouard Castres as a Red Cross volunteer. Section of the panorama painting. Image, Bourbaki Panorama Foundation, Lucerne (emphasis added), used with permission.

## 2 History of the Painting

Subsequently, in 1876, Castres was commissioned to capture the events of 1871 in Les Verrières in a circular painting measuring approximately 1,600 square meters. Castres' team of about 20 painters was able to complete the painting within five months. After its completion in 1881, the painting entitled Bourbaki Panorama, was exhibited in Geneva for a period of eight years.

Following the waning of visitors' enthusiasm and interest in Geneva, the panorama was relocated to Lucerne and rehung in a specially constructed building. The reopening of the panorama occurred on 31 August 1889, and for a period of 36 years, the entrepreneur Benjamin Henneberg, and subsequently his son, operated the Bourbaki Panorama as a tourist attraction (Fig. 3).

However, due to the advent of the First World War, the number of visitors to Lucerne declined, and a new utilization for the panorama was required. The demolition of the building and the subsequent loss of the panorama were averted thanks to the intervention of the Lucerne transport entrepreneur Koch. In 1925, the company Koch &



**Fig. 3:** View of the newly constructed panorama building in Lucerne, 1889. Historical photograph, collection Patrick Deicher.

Söhne acquired the property, including the rotunda and its contents, with the intention of establishing a garage on the ground floor.

In order to address this issue, Koch divided the rotunda into two storeys, utilizing the ground floor for workshops and as a car park. The painting, which was reduced by 2.5 meters at the upper edge, remained on the upper floor with the raised visitor platform. In a subsequent conversion in 1949, a further two meters of the upper edge of the painting were cut off to accommodate additional storage space for the garage. This modification resulted in the painting's surface area being reduced by approximately one third, thereby diminishing the depth effect and perspective that had been achieved through the original design (Fig. 4).

In conjunction with the diminution in the dimensions of the painting, further remodeling and new construction work was undertaken in and on the panorama building. However, due to a lack of maintenance over time, the roof began to leak, resulting in further damage to the painting. The establishment of an association dedicated to the conservation of the deteriorating painting was instrumental in facilitating its rescue and ensuring its long-term preservation. Following a period of over 15 years dedicated to the preservation of the Bourbaki Panorama, extensive restoration of the building and the painting was undertaken between 1996 and 2000. As already explained, the painting has lost a significant part of its illusionistic effect as it has been reduced in height by 4.5 meters (dimensions after reduction: 10 × 112 m). To compensate for this change, extreme care was taken when creating the *faux terrain* (Fig. 5) and the optical apparatus.



**Fig. 4:** Due to the double cutting of the painting at the upper edge of the picture, the painting lost about a third of its surface. Images, Bourbaki Panorama Foundation, Lucerne.



**Fig. 5:** Newly created figures in the *faux terrain* (2000). Images, Bourbaki Panorama Foundation, Lucerne.

### 3 The Project to Restore the Optical Apparatus

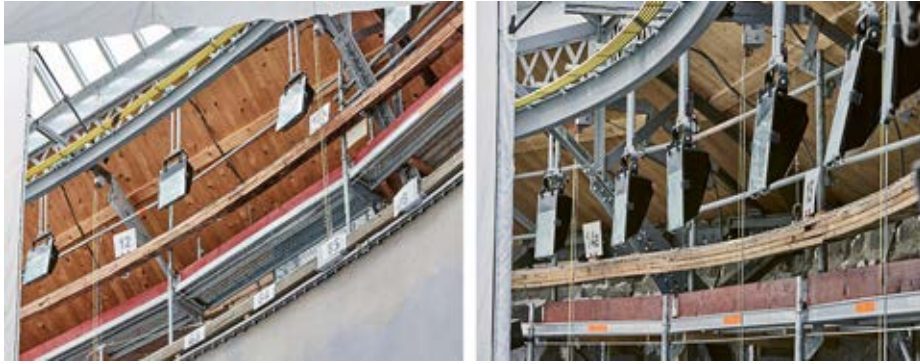
Since its reopening in 2000, this European cultural monument has been visited by over a million people. However, there are also signs of wear and tear. This has led to a significant contrast between the high quality of the painting and the equally sophisticated construction of the medium on the one hand and the condition of the optical apparatus (Fig. 6), the viewing platform (Fig. 7) and the artificial lighting system (Fig. 8) on the other.



**Fig. 6:** Stains and rainwater rings on the canopy, and sagging of the velum fabric due to ageing, 2023. Images, Bourbaki Panorama Foundation, Lucerne.



**Fig. 7:** Signs of wear and tear on the historic components of the visitor platform, 2023. Images, Bourbaki Panorama Foundation, Lucerne.



**Fig. 8:** The 64 sodium vapor lamps had reached the end of their life cycle and there were no replacement lamps available, 2023. Images, Bourbaki Panorama Foundation, Lucerne.

## 4 The Optical Apparatus

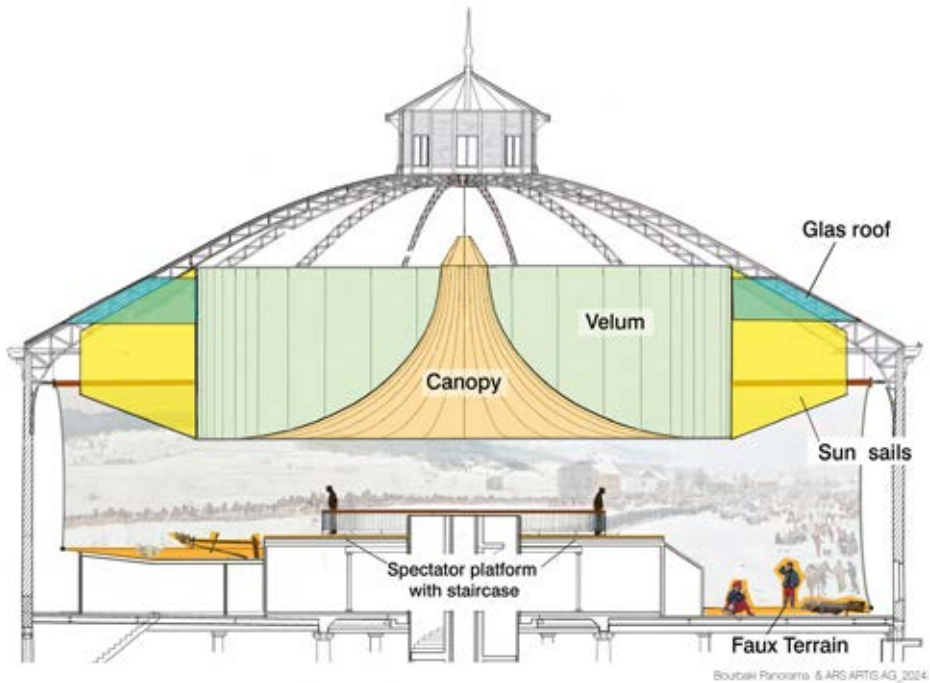
The canopy is the largest and most important element of the optical apparatus. The other components are hidden behind it, invisible to the public: the velum, a cylindrical curtain that reflects the sunlight entering through the dome's skylights, or the sixteen sun sails that diffuse this light by hanging at right angles to the velum. This prevents unwanted drop shadows on the painting surface.

The illustrations (Fig. 9 and Fig. 10), accompanied by explanatory notes, are intended to facilitate a more profound comprehension of the operational principles of the optical apparatus, in addition to the terminology employed.

## 5 The Individual Projects in Detail

### 5.1 Subproject 1—Replacement of the Textile Elements

When selecting the new fabric, only synthetic materials were considered for fire protection reasons and the static weight restrictions of the existing iron construction. After an intensive examination of various textile types and on-site sampling, the fire protection and weight problems were elegantly solved with the synthetic materials now selected. In selecting the color for the new canopy, the existing color scheme from 2000 was utilized as a reference point, as an all-black color palette for the canopy was deemed unsuitable. A canopy that was too dark or even black would have been too oppressive for the viewer on the platform. Also, the transition from the painted sky to the edge of the canopy would have been too abrupt (Fig. 11).



**Fig. 9:** Diagram of the optical apparatus, Image, Bourbaki Panorama Foundation, Lucerne.

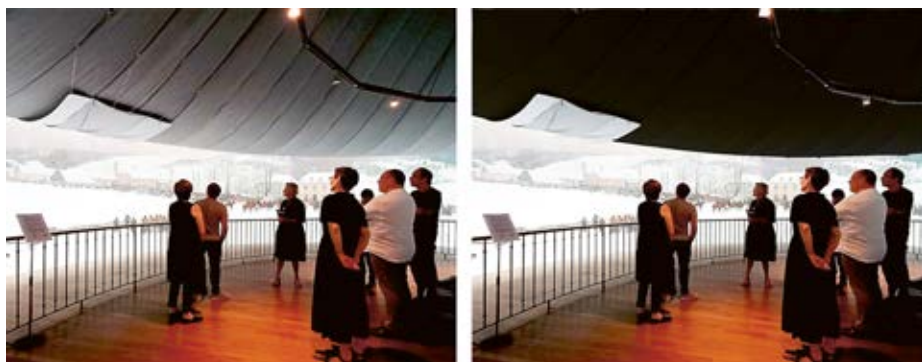
The color of the sun sails and the velum, on the other hand, was not the subject of much discussion; they were to be brightly reflective to diffuse the incident light (Fig. 12).

While the evaluation and selection of materials for the optical apparatus was rather a simple exercise, the planning of the installation of the 1.600 m<sup>2</sup> textile panels with a weight of over 200 kilograms proved to be a logistical challenge. In 2000, the procedure of installing the now removed canopy with velum and sun sails was simpler by length, as a space-filling scaffolding could be installed at that time. In 2024, this was no longer feasible as the ground floor area was now taken up by the new *faux terrain*. Also, the *faux terrain* is practically not allowed to support any loads in large areas. However, the erection of a substantial scaffolding tower, extending into the cupola, was necessary to elevate the canopy. In addition, a smaller, cantilevered scaffold was required, capable of being relocated to secure the canopy at the lower edge (Fig. 13).

Due to structural constraints, as previously mentioned, the installation of additional scaffolding was unfeasible. The project management team therefore proposed the deployment of professional industrial climbers, a solution that proved to be efficient and admittedly also very spectacular for the spectators (Fig. 14).



**Fig. 10:** View of the newly installed optical apparatus with canopy, velum and sun sails, 2024. Image, Bourbaki Panorama Foundation, Lucerne.



**Fig. 11:** A canopy that is too dark will be too oppressive for the visitor. Images, Bourbaki Panorama Foundation, Lucerne.

Prior to the dismantling of the obsolete optical apparatus, a dust shield was installed to protect the *faux terrain*. The historical balustrade on the visitors' platform and the parquet were covered accordingly (Fig. 15). The painting itself did not require special protection, as the assembly work did not take place in the immediate neighborhood of the painting surface but was focused on the area above the visitors' platform.



**Fig. 12:** New sun sails and velum since 2024. Image, Bourbaki Panorama Foundation, Lucerne.



**Fig. 13:** Scaffolding for the assembly of the canopy, velum and the sun sails, 2024. Image, Bourbaki Panorama Foundation, Lucerne.



**Fig. 14:** Industrial climbers dismantling the old canopy, 2024. Images, Bourbaki Panorama Foundation.



**Fig. 15:** Parts of the *faux terrain* and platform protected with plastic film. In the center, the new canopy being lifted into the cupola, 2024. Image, Bourbaki Panorama Foundation.

## 5.2 Subproject 2—Replacement of the Lighting System

Another project involved the replacement of the sodium vapor lamps. Upon the reopening of the renovated panorama in 2000, a total of 64 such lamps were installed to indirectly illuminate the painting during the night and winter times. This allowed the panorama round the year opening. The lamps are primarily used to supplement daylight during winter months, as well as in the evening and night-time hours. In order to avoid the creation of strong shadows on the *faux terrain*, the spotlights are directed towards the white reflectors above the velum, rather than downwards. The previous heavy metal halide lamps have now been replaced by more lightweight LED lamps (Fig. 16). The use of these new LED lamps offers significant advantages over their predecessors, not least in terms of energy efficiency and the negligible emission of harmful UV or infrared radiation. To assess the color rendering of the painting in conditions of low illumination, a variety of LED lighting solutions have been installed on a trial basis. Furthermore, the installation of dimmable spotlights has been undertaken, allowing for the enhancement of the scenography on the *faux terrain*.



**Fig. 16:** Old sodium lamp (left) and new LED lamp (right). Image, Bourbaki Panorama Foundation, Lucerne.

## 5.3 Subproject 3—Restoration of the Visitor Platform

This project encompassed the visitor platform, accompanied by its heritage-protected benches and metal balustrade, which are components dating back to 1889. The balustrade had five different layers of paint, which unfortunately distorted its original shape. Thankfully, a painting company that specializes in preserving historical monuments

removed the two top layers of paint, which were made of synthetic resin. Then, they repainted it, so that it looks just as beautiful as it did before. The project also involved the replacement of the platform lighting (Fig. 17). In terms of sustainability, the existing metal mounting ring was reused for the new platform lighting, as were the retaining bars of the sun sails and the lower metal ring of the velum. Additionally, the newly installed sun sails were configured to be capable of being lowered to the ground and replaced using cable pulls if required.



**Fig. 17:** Comparison of the situation before and after restoration. Images, Bourbaki Panorama Foundation, Lucerne.

## 6 Costs

The total cost of the project amounted to CHF 712,000, which was slightly below the initial budget of CHF 800,000. The velum, the canopy and the sun sails made up the largest part of the budget. The renovation of the visitor platform, encompassing the balustrade, upholstery of the benches, parquet flooring and platform lighting, amounted to approximately CHF 70,000. The refurbishment of the painting's lighting was priced at CHF 195,000. The project was completed with a saving of approximately 10% below budget, attributable to simplifications in the area of dismantling and assembly aids. The costs for painting, lighting and the renovation of the viewing platform were also below budget.

The financial provision was derived from a variety of sources, with 45% of the financing coming from third-party funds, including the federal government, the canton, and the city of Lucerne, as well as from private foundations. The remaining 55% was provided jointly by the Bourbaki Panorama Foundation and the supporting Association for the Preservation of the Bourbaki Panorama.

## 7 Closing Words

The restoration work, which lasted six weeks, was preceded by over a year of intensive planning work, in which six other companies were involved in addition to the in-house team and the architects entrusted with the realization. The execution work was supervised by the cantonal monument preservation authorities and an external group of experts. The successful completion of the restoration work made it possible to open a panorama to the public once again that is historic in terms of its luminosity and energy efficiency. In view of global developments, the Bourbaki Panorama's message of peace remains relevant to this day and the Bourbaki Panorama Museum is of great importance as a place of commemoration and reflection.

## Author Biography

**Christian Marty** completed his training as a restorer of paintings and sculptures in Zurich. He continued his training at various museums and institutes in Switzerland, Austria and the Netherlands. In 1980 he joined the Swiss Institute for Art Research (SIK/ISEA), where he was appointed Head of the Art Technology Department in 1985. During this time, he was active in the Swiss Association for Conservation and Restoration (SKR/SCR) for eight years, including six years as President. He was also a co-founder and member of the Presidium of the European Confederation of Conservators-Restorers' Organization (E.C.C.O.). From 1997, he directed the Institute's major conservation projects, including the conservation and restoration of the Bourbaki Panorama in Lucerne (CH), where he still works as Senior Conservator. In 2003, together with Petra Helm, he founded his own company, ARS ARTIS AG. In 2005, he was able to contribute his experience in handling large panoramas as a consultant to the restoration of the Sattler Panorama in Salzburg (A). From 2007–2011 he was the overall project manager for the translocation of the Battle of Bergisel Panorama in Innsbruck (A). For the translocation of the painting of the Battle of Atlanta Cyclorama in Atlanta, Georgia (United States), from 2016–2019, he acted as leading expert and actively participated in the planning and execution of the translocation. In 2019–2021 he restored and restaged the small panorama Clear World of the Blissful together with his partner Petra Helm on Monte Verità (CH). He is a Fellow of the International Institute of Conservation (IIC).

Ryszard Wójtowicz

# The Racławice Panorama and its Two Counterparts: Reconstruction in the Process of Panorama Revitalization

**Abstract:** To resolve a unique conservation problem, it is necessary to find an approach that innovatively addresses the issue. To do this, it is necessary to define the methodology of conservation measures and to develop a new research strategy. The approach was first adopted in the restoration of the *Panorama of the Battle of Racławice* in Wrocław (Poland) and was then further developed in two other panorama projects: the conservation and reconstruction of the *Feszty Panorama* in Ópusztaszer (Hungary) and the *Battle of Gettysburg Cyclorama* in Gettysburg (USA). The principal goal of the three projects which were all led by the author, was to restore and preserve the main idea of the panorama, the illusion of a “new” reality. The essay provides an insight into the complex sequence of activities that each of the three conservation projects required.

**Keywords:** Conservation, panorama, cyclorama, illusion of reality



**Fig. 1:** The *Racławice Panorama*, Wrocław, Poland, interior view from the *faux terrain*, 2016. Image, the author.

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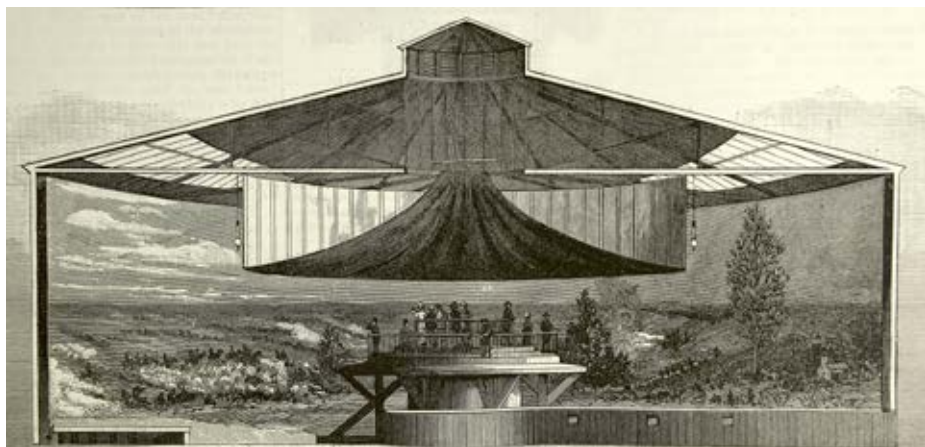
**Ryszard Wójtowicz**, Drabik and Wójtowicz Conservation and Restoration of Monuments, Wrocław, Poland

# 1 Introduction

The panorama as an innovative artistic and architectural phenomenon, resulting from social and technical changes at the turn of the eighteenth to the nineteenth century, was created by the patented idea of one man—the Irish-born English artist Robert Barker (1739–1806). It served as the basis for the development of various fields that are common today, such as cinema, audiovisual art, and 3D design.

In panoramas, the close connection between architecture and art is evident to researchers (Fig. 1). The word “panorama” is a nineteenth-century neologism, composed of the two Greek words “pan” (all) and “horama” (view). The creation of the panorama is associated with Barker’s patent dated June 19, 1787:

. . . To all to whom these presents shall come, &c. Now know ye, that by my invention, called *La nature à coup d’œil*, is intended, by drawing and painting, and a proper disposition of the whole, to perfect an entire view of any country or situation, as it appears to an observer turning quite round; to produce which effect, the painter or drawer must fix his station, and delineate correctly and connectedly every object which presents itself to his view as he turns round, concluding his drawing by a connection with where he began. He must observe the lights and shadows, how they fall, and perfect his piece to the best of his abilities. There must be a circular building or framing erected, on which this drawing or painting may be performed; or the same may be done on canvas or other materials, and fixed or suspended on the same building or framing, to answer the purpose complete. It must be lighted entirely from the top, either by a glazed dome or otherwise, as the artist may think proper. There must be an enclosure within the said circular building or framing, which shall prevent an observer going too near the drawing or painting, so as it may, from all parts it can be viewed, have its proper effect. . . (Specification of the Patent granted to Mr. Barker: 1796, 165–166).<sup>1</sup>



**Fig. 2:** Cross-section of a panorama (presumably the Battle of Gettysburg cyclorama), *Scientific American*, 1886, vol. LV, 19. Image, the author.

<sup>1</sup> See also Engelen & Koller, 2024 for a reprint and discussion of the patent in *The PIMS Yearbook* v1, 2024.

A panorama is a work consisting of several basic elements that together contribute to the effect of a spatial illusion set in certain topographic and historical realities (Fig. 2). The key elements include:

- A specific building with appropriate architectural parameters serving as a place for displaying the “panorama”
- A hyperboloid-shaped painting with dimensions of approximately 115 m in circumference and approximately 14.5 m in height
- A three-dimensional foreground (also known as *faux terrain*, diorama, or artificial terrain) located between the painting and the viewing platform
- A long, dark, and winding corridor leading to the viewing platform, designed to eliminate the outside view and enhance the illusion of reality inside the exhibition room
- A viewing (observation) platform from which the viewer observes the painting along with the foreground, creating the full illusion of a new reality
- An “umbrella” (also *velum* or *parasol*) hung over the viewing platform, concealing the upper edge of the canvas and the lighting elements
- A lighting system with reflective screens that diffuse light

In the panorama as an art form, the exhibition building, the painting, and the exhibition hall are inseparably intertwined. To ensure this, it was necessary to create a specific form of the building—a panorama rotunda—approximately 15–20 m high, with a round or polygonal structure, a diameter of 30–35 m, covered with a dome or conical roof, usually topped with a small lantern. Where the roof rests on load-bearing walls, a 2–4 m wide skylight can be recognized, through which the interior of the otherwise windowless rotunda is illuminated. The panorama’s effect is enormous, as evidenced by the few buildings that have survived to this day. Entering the building from a bustling, bright street, one walks down a long dark corridor, and after a few turns, finds oneself in a different place. It is impossible to see beyond the frame, preventing comparisons between what is painted and what is real. After a few minutes, as the memory of the outside world fades away and the eyes adjust to the slightly muted light, one has the impression of gazing from an elevated hill at a vast landscape and a lively blue distance.

## 2 Three Major Conservation Projects

Due to the need to address a unique conservation problem, it was necessary to adopt and invent an approach that could solve the subject in an innovative way and answer any questions. To support this thesis, it was essential to define the methodology of conservation proceedings and develop a new research strategy regarding the monument. These studies were initiated and carried out during the restoration of the *Panorama of*

*the Battle of Raclawice* in Wrocław. This work also served as the basis for the continuation of conservation efforts for two additional panoramas, located in Hungary and the United States.

Each of the three panoramas enjoyed a period of prosperity in their initial years of exhibition, approximately 10 years after their creation. However, subsequent events, including the storage of panorama paintings and their often unfortunate repairs and conservation, led to their significant destruction. This included their division into separate sections of approximately 15x8 m each, and many smaller parts. All three panoramas were deprived of their original buildings, along with their three dimensional foregrounds, leaving them mutilated, cut up, and awaiting rebirth. For the Polish or American-Polish teams of art conservators, which I co-led or led, the adventure of conserving and restoring panoramas began in 1981 with the rescue of the *Raclawice Panorama* from oblivion (Figs. 3, 4, 10). As a result of developing new methods for the conservation and reconstruction of the original values of the panorama, two more panoramas—the *Feszty Panorama* (Figs. 5, 6) and the *Battle of Gettysburg Cyclorama* (Figs. 7, 8), its counterparts or rather sisters—were restored. After many years of analyses, panorama research, and active participation in conferences organized by the International Panorama Council since its foundation in 1992 in Szeged, Hungary, in which I co-participated, and after defending my doctoral thesis at the Wrocław University of Science and Technology in 2023, I decided to describe my experiences from restoring “our” three panoramas (Wójtowicz, 2024).

The basic premise for technical and aesthetic solutions in the conservation of the three panoramas was the restoration and preservation of the main idea of the panorama, which is the illusion of a “new” reality. The experiments and research described in the book are based on the results of conservation work on the following works of art.

## 2.1 Panorama of the Battle of Raclawice, Wrocław, Poland

Creation date: 1893–94, Lwów, Poland

Artists: Jan Styka, Wojciech Kossak, and others

Dimensions: approximately 114.5 m x 14.2 m

Conservation date: 1981–85

## 2.2 The Feszty Panorama—Arrival of the Hungarians, Ópusztaszer, Hungary

Creation date: 1892–94, Budapest, Hungary

Artists: Árpád Feszty and others

Dimensions: approximately 113.5 m x 14.1 m

Conservation date: 1991–95



**Fig. 3:** The *Raclawice Panorama*, inspection of the canvas upon its return to Poland in 1949.  
Archival photo in: Natusiewicz, Janina. 1970. *Historical Study of the Raclawice Panorama*; PKZ Wrocław, Poland.



**Fig. 4:** Section of the painting and *faux terrain* of the *Raclawice Panorama*, Wrocław after completion of maintenance work in 2016, 32 years after the completion of the main conservation work in 1984. Image, Jerzy Ilkosz.



**Fig. 5:** The conservation studio storage, Hungary 1991, with sections of the *Feszty Panorama* wound on rollers and preserved (after facing), condition before conservation. Image, the author.



**Fig. 6:** Section of the *Feszty Panorama* showing the arrival of Prince Árpád and his entourage. Panorama after completion of the project, 1995. Image, the author.

### 2.3 *Panorama/Cyclorama of the Battle of Gettysburg, Gettysburg, Pennsylvania, United States*

Creation date: 1884, Boston, Massachusetts, United States

Artists: Paul Dominique Philippoteaux and others

Dimensions: approximately 114.8 m × 12.9 m

Conservation date: 2006–08



**Fig. 7:** *The Panorama/Cyclorama of the Battle of Gettysburg*, condition of the painting during conservation work in 2007 when the painting was restored to its proper shape and stretchability. Image, the author.

The scope of conservation and reconstruction included:

- Restoring the appropriate mechanical strength of the entire painting (approximately 115 m × 14.5 m) and its individual original sections—fourteen canvases (approximately 8.2 m × 14.5 m each)
- Reconstructing the shape and spatial form of each canvas
- Restoring the overall form of the painting as non-ideal yet consistent with its inherent rotational hyperboloid shape
- Recovering the continuity of the paint layers while simultaneously restoring their saturation and glossiness
- Reconstructing the three-dimensional foreground to align with the spatial configuration of the painting, based on collected archival descriptive and photographic materials

- Restoring the illusion of reality as experienced by viewers due to the initial artistic creation
- Reconstructing or erecting the panorama building, complete with essential equipment that considers the features of both the painting and the foreground

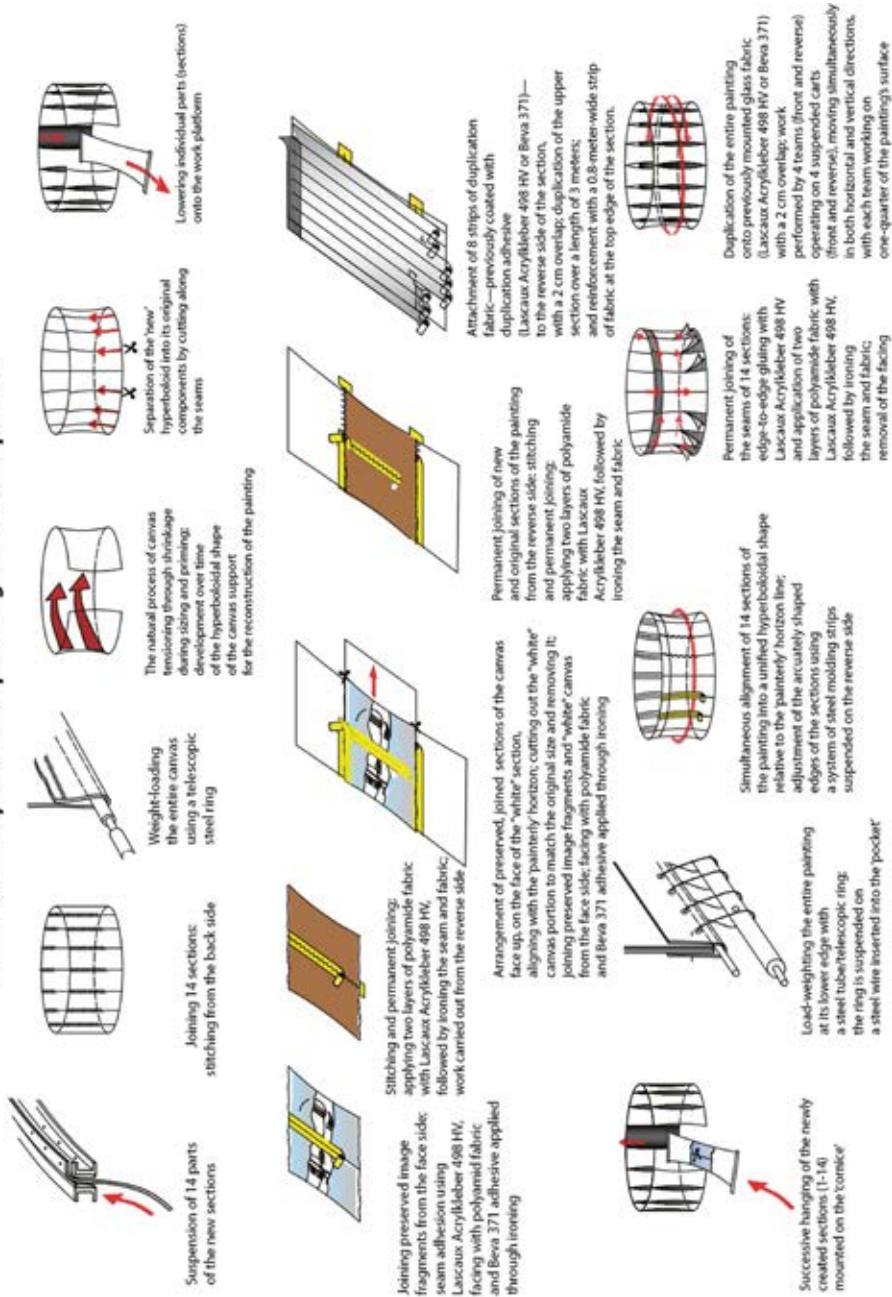
These are the seven pillars of the reconstruction process in revitalizing panoramas. Although the last point mainly relates to the work of architects and construction-installation teams, it is carried out in accordance with the assumptions and guidelines provided by art conservators.

To implement the conservation and technical assumptions, particularly concerning the first five points mentioned above, it was essential to develop a research program in which the principles of the conservation program were worked out. Due to the extremely poor condition of the panoramic paintings to be conserved and the assumption that they were to be hung on the upper support beam, basic research had to focus on determining the exact parameters of the mechanical and thermal durability of the paintings and ways to restore sufficient mechanical strength to the structure so that the paintings could be displayed for many years once they were mounted. The studies also covered activities preceding the hanging itself, namely the movement of the canvases during work and the process of their stretching to a vertical position, followed by their shaping and joining into a hyperboloidal form. The safety of carrying out all these activ-



**Fig. 8:** Section of *The Battle of Gettysburg* cyclorama painting after completion of conservation work, 2007. Image, the author.

### Scheme of the panoramic painting restoration process



**Fig. 9:** Diagram for the technical solution of reconstructing and ensuring proper stretchability on the previously dismantled panorama. Ewa Alina Bloch, Ryszard Wójtowicz, Elżbieta Woś, 1992. Image, the author.

ities was linked to restoring the coherence of the painting's structure and its resistance to the mechanical activities that produce tensions (Fig. 9).

### 3 Conclusion

Within the realm of philosophical questions, one of the fundamental inquiries arises: what is truth? The classic answer to this query asserts that the truth of thought lies in its conformity with reality: *Veritas est adaequatio rei et intellectus* (Thomas Aquinas). By slightly paraphrasing this scholastic thesis, it can be adapted to ethical issues in the field of conservation, including the conservation of panoramas. The reconstruction of a damaged or destroyed work should align with the original, which seems self-evident. This principle is highlighted in professional ethical codes established in various countries, especially in foundational documents such as conventions, primarily The Venice Charter, though voices arise questioning the need for their verification.

The issues of all aspects of conservation problems and terminology, contained in a complex sequence of activities aimed at recovering all artistic values of preserved works of art inscribed on the national heritage lists in each homeland of the described panoramas, were developed and applied. In addition to relocating them to new, well-prepared buildings, whose architecture and function were refined with their builders, they were preserved, and a rich offering of historical information was created through additional museum and exhibition rooms.

Extensive discussions on the issues of preserved and emerging new panoramas, conducted at forums such as the International Panoramic Council, allow for the synthesis of scientific conclusions concerning panoramas around the world.

In the book, an effort was made to draw attention to the great complexity of conservation problems and the importance of the practicing conservator in the area of the project he is implementing. Contemporary conservation and restoration of works of art is an interdisciplinary issue—an intellectual process combined with thoughtful execution, there is no room here for uncontrolled chance. History, emotions, and the opportunity for proper presentation after conservation work—all these factors contribute to panoramas, as museums of a single work of art, continuing to enjoy unchanging popularity. Successive generations wish to see them and immerse themselves, if only for a moment, in another reality.



**Fig. 10:** Section of the painting and *faux terrain* of the *Raclawice Panorama*, Wrocław, 2016. Image, the author.

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## Author Biography

**Ryszard Wójtowicz** PhD, art conservator-restorer, Wrocław, Poland. 1975–80 master’s studies in conservation and restoration of works of art, Nicolaus Copernicus University in Toruń, Poland. Since 1992 member of the International Panorama Council, Switzerland, the Association of Art Conservators, Poland, and the Association of Art Historians, Poland. Leading conservator of three panoramas: the Raclawice Panorama, Wrocław, Poland; the Feszty Panorama, Ópusztaszer, Hungary; the Gettysburg Cyclorama, Gettysburg, United States. Participation in many research projects, among others of the Getty Institute, Los Angeles, California, United States; many conservation projects of historic monuments (from the early Middle Ages up to the twentieth century), including two located on the UNESCO World Heritage List (the

Centennial Hall in Wrocław, Poland, and the seventeenth-century Peace Church in Świdnica, Poland). Numerous works in the field of his profession, expert opinions and consultations in Poland and abroad. Preparation of several exhibitions and many presentations. Author of a number of articles. Awarded by the Polish Prime Minister and Minister of Culture for conservation work on the Raclawice Panorama, honoured with the Cross of Appreciation by the President of Hungary for work on the Feszty Panorama, a special award from the Gettysburg Foundation for work on the Gettysburg Cyclorama, United States.

Vera Bras

# **The *Panorama of the Battle of the Yser* at Nieuwpoort: How One of the War Heritage Institute's War Panoramas is Presented in a New Permanent World War I Exhibition in Westfront Nieuwpoort, Belgium**

**Abstract:** This article presents an in-depth overview of Westfront Nieuwpoort, a visitor center and war memorial site in the coastal area of Belgium. Highlighted during the Belgium Battlefield of Europe (BBE) network event in 2024, Westfront Nieuwpoort features a permanent exhibition on World War I, focusing on the strategic flooding of the Yser river plain that halted the German invasion in 1914. A central attraction is the digital projection of Alfred Bastien's monumental *Panorama of the Battle of the Yser*, a restored and partially immersive visual interpretation of the frontlines, now animated with audio guides and iconographic detail.

The museum offers interactive and child-friendly experiences, including narrated tours through historical characters, gaming elements, and authentic artefacts. In addition to its historical displays, Westfront Nieuwpoort integrates contemporary art exhibitions, such as "Remain/Remember," exploring the theme of memory through various modern artists.

The article written by one of the experts of the War heritage Institute (WHI) also explores the history, iconography, and presentation of Bastien's original 360-degree panorama, tracing its creation, exhibitions, and eventual digitization. The exhibit's interpretive and educational value is emphasized, especially regarding themes like propaganda, war perception, and remembrance.

The author suggests further multilingual accessibility and technological upgrades, to expand the site's reach and deepen its impact. Westfront Nieuwpoort is presented as a dynamic space for historical education, artistic engagement, and commemorative reflection and by that means reflects where the War Heritage Institute stands for.

**Keywords:** Battle of the Yser, World War I, War Heritage Institute (WHI), Belgium, Westfront Nieuwpoort, exhibition

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Vera Bras, War Heritage Institute, Brussels, Belgium

# 1 Introduction

The War Heritage Institute (WHI) is a scientific institution under the custody of Belgian Defence containing several sites in Belgium headquartered in Brussels in the Royal Army Museum (<https://warheritage.be/en>). With more than 130,000 collection pieces, the War Heritage Institute shows an extraordinary variety of military history.

The Belgium Battlefield of Europe (BBE) is a network established in November 2021 on the initiative of the War Heritage Institute. BBE brings the military heritage of 2,000 years of conflict history on Belgian soil and its memory close to the public. This network includes permanent offerings such as museums and historical sites as well as temporary activities such as exhibitions, events, lectures and commemorations. BBE is a hub that brings together public and military heritage partners. On the 7th of October 2024 members of Belgium Battlefield of Europe had the chance to visit the permanent exhibition at Westfront Nieuwpoort during their annual network event. I presented the creation and history of the WHI's *Panorama of the Battle of the Yser* and with it the idea of writing a review of this recently reopened museum in general and the circular reproduction of the Battle of the Yser from the War Heritage Institute in particular.

The visitor centre Westfront Nieuwpoort with the King Albert I Monument war memorial (Fig. 1) is located in the Belgian coastal town of Nieuwpoort, outside the old town centre, on the right bank of the river Yser, near the Ganzepoot lock complex.



**Fig. 1:** A view of the King Albert I monument at the Westfront Nieuwpoort visitor centre, photo taken on 7 October 2024. Image, the author.

After World War I, Nieuwpoort was left in ruins. Westfront Nieuwpoort tells the gripping story of the destruction of the town and how the strategic flooding of the polder plain halted the German invasion in Belgium. The war monument at Westfront Nieuwpoort is dedicated to the fallen Belgian front soldiers and their commander King Albert I. It was constructed in 1938 on the initiative and with support of the Belgian National War Veterans Association. It was made of clay dug from the banks of the river Yser. Here and there, traces of ordnance can still be found in the stones. On top of the monument, accessible from the visitor centre below, one can enjoy a 360° panoramic view of the Yser plains and the city of Nieuwpoort today. Around the sluice complex one can take a walk and discover several monuments. The nearest monument is dedicated to the fallen soldiers of the British Empire, while another one to French troops is stationed in this region and attention is also given to the several African and Indian military victims including the mentioned Allied Armies.

## 1.1 Of Particular Interest to Young Visitors

At the entrance desk of Westfront Nieuwpoort, each visitor receives a headset with a scanner, which can be used in every exhibition-booth. Depending on how the visitor answers five questions at the start, the voices of various well-known Belgian actors interpret the characters that guide them. Each voice gives explanations in a narrative with a West Flemish accent. Ellie, Juul or Rosa will take every visitor (Fig. 2) through the history of Nieuwpoort before, during and after World War I. With historical stories and anecdotes, the character of choice which focuses on young ones, will not only inform but also present a moving testimony. In this way, every visitor, including children, can discover this exceptional piece of history with spectacular models, unique objects and original footage. Historical events, original uniforms and artefacts—mainly from private owners—are attractive elements in this permanent exhibition.



**Fig. 2:** A father with three children using the audio guide. Photo taken on 18 August 2024. Image, the author.

Two of the voice characters are children who give their interpretation of wartime life. A visit to the exhibition at Westfront Nieuwpoort with my family gave me the opportunity to add information from my own experience. In my opinion, even children of a young age can connect through these young voice characters with the narrative of World War I. In the future, new characters and young voices will be added so that everyone

can identify with them. With some gaming elements for young visitors, it is also possible to get a realistic impression of a soldier's life during World War I in the Belgian coastal region and an overview of the flooding of the Yser basin.

Finally, every visitor also gets an auditory and visual overview of the war by way of a huge circular panoramic reproduction: the digital version of the *Panorama of the Battle of the Yser*. Visitors gain access to this impressive panoramic reproduction by walking from a raised platform with balustrade to the projection space on a lower level.

## 1.2 Art at Westfront Nieuwpoort

Westfront Nieuwpoort not only aims to give an insight into daily life during the war. The permanent exhibition also includes several paintings by artists who were active during World War I. Most of them were in the service of the Belgian Army in a special artistic department. Some of the Belgian front artists were stationed in what was called the “Painters’ Cellar” near the sluice complex, behind the front line. One of these painters and a co-founders of this “*Section Artistique*” is Alfred Bastien (1873–1955). At the age of twenty, Bastien was a founding member of the artists’ circle *Le Sillon*, together with several artist friends such as Maurice Wagemans (1877–1927).<sup>1</sup> The latter was also stationed in the “Painters’ Cellar” in Nieuwpoort. From Maurice Wagemans and another “cellar artist,” André Lynen (1881–1984), three paintings from the iconographic collection Front Art of the War Heritage Institute are shown in the exhibition in Nieuwpoort.

A second focal point of Westfront Nieuwpoort will be created in the museum space for changing temporary exhibitions featuring mainly national contemporary artists. These are presented together with the World War I section and complement each other. The first temporary exhibition space in Westfront Nieuwpoort is occupied by “Remain/Remember.” It features nine contemporary artists whose work is related through the theme of remembrance, including video artist David Claerbout, photographer Sammy Baloji and painter Penelope Deltour. The slogan of this exhibition is a quote from cultural philosopher George Steiner’s, “We are what we remember,” which emphasizes the power of memory to warn, teach and heal. “Everything could be taken away from you but what you carry with you the bastards can’t touch, . . .” Steiners says in an interview and further: “What you ingest, is what you remember.”<sup>2</sup>

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1 Le Sillon was an association of visual artists in Brussels, founded in 1893, chaired by Gustave-Max Stevens. The association was intended as a counterpoint to neo-impressionism and symbolism, and later to luminism. The artists wanted to return to solid painting as in the past, back to the rich tradition of Flemish realism. The Spanish painter Velázquez was one of their great examples in this regard; their goal was naturalism. More information can be found on: <https://art-info.be/groupes-artistes/cercle-le-sillon>.

2 <https://www.youtube.com/watch?v=aMACXIFyE8E> Dutch journalist Wim Kayzer interviews George Steiner in his home in Cambridge in 2014. The French-American literary critic, essayist, philosopher and novelist thinks people aren’t fascinated by ideas like beauty or pride, but much more by the darker sides



**Fig. 3:** The circular projection of the *Panorama of the Battle of the Yser* at Westfront Nieuwpoort. Photo taken on 18 August 2024. Image, the author.

Using the memory concept as a thematic starting point, curator Mieke Dobbels selected a fine collection of artists who surprise with works in diverse genres. Sammy Baloji explores the amnesia caused by colonial nostalgia through an installation with World War I trench art. With a simple postcard from the early twentieth century, David Claerbout triggers our own melancholy. As a child, Penelope Deltour often stayed by the sea. The everchanging dune landscape nestled in her memory as a safe haven. While Sammy Baloji literally searches for the amnesia caused by colonial nostalgia.

## 2 A Partly Immersive Digital Reproduction of the Panorama of the Battle at the Yser

At the end of the permanent exhibition every visitor finally gets an impressive overview (Fig. 3) of the Panorama showing the Battle of the Yser which took place between

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of life: war, violence or rape. The complete interview of 40 hours is available on <https://www.youtube.com/watch?v=LJhsuwg5Jns>.

16 and 31 October 1914, when the Yser plain was flooded to stop the German advance. It is a hemispheric projection of a giant panoramic painting on the wall measuring 32 m in length and 4 m in height till about 15 cm above the ground without a *faux terrain*. However, it is not a perception of reality in the strict sense, which is generated by surrounding the visitor by virtual reality technology with images, sounds and other stimuli that simulate a complete environment. Nevertheless, it is an impressive encounter once the visitor comes face to face with this panoramic impression of the local battleground that played a key role in halting the German invasion in October 1914.

## 2.1 Genesis and Display History of the *Battle of the Yser Panorama*

The 360-degree *Panorama of the Battle of the Yser*, 120 m long and 14 m high with a surface area of 1,800 m<sup>2</sup>, was painted by Belgian artist Alfred Bastien (1873–1955) and his team in 1920–21 in 340 days. Prior to this, Alfred Bastien left Belgium in 1903 to travel the world. He roamed France, Spain, England, travelled to Algeria, Morocco and Egypt, as well as Congo, India, China and Japan. In 1911, he was commissioned by King Albert I to paint his first panorama of the Belgian colony of Congo. During World War I, he demonstrated his exceptional patriotism and his will to keep the memory alive. He made sketches during his time in the service of the Belgian army. They prove that he had the first idea for a panoramic painting of the Battle of the Yser already in 1914. He did not witness this battle in October 1914, as he stayed in London at the time. However, he made sketches of the coastal battlefield area with its inundation and used also contemporary photographs. The War Heritage Institutes preserves some of the painted sketches and drawings by Bastien for his Panorama.

Alfred Bastien began painting his panoramic masterpiece in 1920 in Brussels in the Cinquantenaire Park in the Rotunda that had previously been built for the *Panorama of Cairo*. He undertook the work together with three other painters, Charly Léonard (1894–1953), Charles Swyncop (1895–1970) and Jef Bonheur. The *Panorama of the Battle of the Yser* was finally inaugurated on 6 April 1921 in a circular building on Avenue Lemonnier in Brussels. From June 1924 onwards it was put on display in a specially built rotunda in the coastal city of Ostend. For the first few decades, the gigantic panorama attracted huge numbers.<sup>3</sup> However, during World War II when visitor numbers were already past their peak, the rotunda was badly hit by bombing.

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<sup>3</sup> Leroy, Isabelle. 2009. "Alfred Bastien. L'Artiste et la Genèse du Panorama de L'Yser, 1920–1921." *Panorama Redevelopment, Restoration and Repositioning with Focus on the Panorama of the Battle on the Yser*, April 2009. Proceedings of the Eighteenth IPC International Panorama Conference, in cooperation with the Royal Museum of the Armed Forces and of Military History, Brussels. *Bulletin du Musée Royal de l'Armée et d'Histoire Militaire*. Brussels: Royal Museum of the Armed Forces and of Military History, 14–20.

For these reasons, the monumental work was added to the collections of the Royal Army Museum, which is now the main site of the War Heritage Institute. After a restoration under the eye of the master painter Alfred Bastien in the Aviation Hall it stayed there during the following decades. It was taken down in 1982, divided into fourteen-by-fourteen metre canvases and rolled up. Between 2008 and 2011 these huge panoramic painting fragments were moved, unrolled, thoroughly studied and fully photographed. They are now kept rolled up on movable steel rolling structures in one of the external reserves of the War Heritage Institute.

## 2.2 Iconography

The Belgian army's defence of the Yser Canal in October 1914 is referred to as the Battle of the Yser. The German offensive at the Canal, which ran south from the English Channel at Nieuwpoort in north-western Belgium, formed part of a wider battle for control of Flanders, notably at Ypres. At Nieuwpoort locals found a way to stop the German invasion outside the city gates with an ingenious flooding using the power of the sea and closing the locks.

The original *Panorama of the Battle of the Yser* is not a panorama painting in the strict sense. It offers a 360-degree circular view of a landscape that the viewer would not be able to capture in situ from a single central point. The geographical setting covers 52 km, from the dunes of De Panne to the Grote Markt in Ypres, via Nieuwpoort and Diksmuide. The artist's intention was clear: the panorama had to give an overview of the entire Belgian front. To depict the different locations, Bastien used varying angles of view: the dunes region is seen from south to north, Nieuwpoort from south-west to north-east, Diksmuide from west to east and Ypres from south-east to north-west. While the first three viewpoints are in keeping with the configuration of the battlefield, the fourth is justified by the desire to depict the town of Ypres through its emblematic market hall.

Finally, the distances separating the towns are not respected, nor are the proportions. The dunes and Nieuwpoort take up more than half of the panorama, when in fact they make up only a quarter of the landscape. Diksmuide and Ypres are only briefly mentioned. The distribution of space can be explained by the fact that Bastien, a member of the company of "sapeurs pontonniers"<sup>4</sup> or pontoon engineers responsible for regulating the locks at Nieuwpoort, spent most of his time in this sector of the front. The painter therefore attached more importance to this part because he knew the area inside out. He drew on photography and his own accounts of the battlefields and the

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<sup>4</sup> The *Sapeurs-Pontonniers* company was formed on 2 September 1915. It was responsible for maintaining the locks and hydraulic installations of the Belgian front. One platoon worked continuously on the locks at Nieuwpoort, one platoon for night work was sent to Wulpen and one platoon on half rest stayed at Veurne. The company had a platoon of cyclists, three sections of divers and a technical office.



**Fig. 4:** Detail of a bridge in the flooded area around Nieuwpoort. Photo taken on 18 August 2024 at Westfront Nieuwpoort. Image, the author.

flooded area. This influenced the iconographic choices he made with a focus on the flooding around Nieuwpoort.

There was, however, a very different intention: to highlight this strategic point on the frontline, a reminder of the role played by the Belgian army in halting the German advance by flooding the Yser plain. These strictly geographical considerations demonstrate the talent of the painter who, in his composition, manages to give the illusion of a single landscape and makes the transitions from one point to another credible through clever trickery. Dr. Natasja Peeters, today Head of the Collections Department, and Sandrine Smets, M.A., an expert on the First World War at the War Heritage Institute, gave a talk on the history of Alfred Bastien's panoramas, the *Yser Panorama* and the *Meuse Diorama* during the 23<sup>rd</sup> IPC conference 2015 in Luxembourg City. The iconographical information comes mainly from their research.

### 2.3 Actual Projection

The disproportions and the consequent emphasis on the strategic objective of this panoramic painting to represent a brave Belgium rather than a poor little Belgium has survived in the actual hemispheric projection of Bastien's panorama at Westfront

Nieuwpoort. On today's curved projection runs an animated movie on loop during the opening hours. Thanks to these projecting and filming techniques realised by Vioso, it is possible to alternately zoom in on iconographic details (Fig. 4) of the projected panorama. Through the narration that each visitor can follow via the Dutch or French audio guide, one can zoom into certain magnified imagery of the Battle of the Yser.

It is interesting that, thanks to the recent reopening of Westfront Nieuwpoort, the War Heritage Institute was invited to interpret and narrate the historical and iconographic context of the *Panorama of the Battle of the Yser* with lectures to a wider and a specific audience alike in front of the actual digital projection of this panorama. It is also an opportunity to inform the public and to open the public dialogue on this art form in Belgium.

### 3 Conclusion

After a thorough update of the permanent exhibition on Nieuwpoort during World War I and the inundation of the region, Westfront Nieuwpoort is more than ever a valuable place to experience war and front art, inviting visitors to inspiration and reflection. However, at this moment only the French or Dutch-speaking visitor is served. Hence lots of tourists at the Belgian coast and English-speaking visitors could be attracted in the future in my opinion with an abroad focused tourist campaign and an audio tour guide in more languages available at Westfront Nieuwpoort.

The way in which young visitors explore the story of a selected character draws their attention to specific exhibited objects and brings the First World War vividly to them. Moreover, several subjects of this new permanent exhibition can be linked to contemporary war news but also to the perception of art.

The projection of the World War I panorama and the audio guide telling the story of the genesis and historical context of the *Panorama of the Battle of the Yser* may incidentally play an important role for each visitor on art perception and on learning what warfare means. Moreover, it is educationally interesting to reflect on fake news and propaganda as a medium of all times by looking at military art and especially at the panorama display in this exhibition. In addition, it would be a good idea to survey the current public with a view to future adaptations.

The actual curved projection could perhaps be upgraded in the future to a more complete immersive experience. With the digital images from 15 years ago, it might still be an option to create a VR experience that would allow the current coastal projection of the *Panorama of the Battle of the Yser* to be experienced with accompanying war sounds and a virtual *faux terrain*. It could be an extra link to the many memorials of the Allies that are situated just outside Westfront Nieuwpoort and the War Heritage Institute's commemorative mission without language barriers.

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## Author Biography

**Vera Bras** is a Belgian art historian and archaeologist with an additional graduate degree in Management, Tourism and Recreation. Besides experience in writing film reviews, guiding tours in museums for diverse audiences and teaching skills, she started in June 2008 as collection manager at the Belgian Royal Museum of the Army and War History. Since 2017, when the Royal Army Museum became part of the War Heritage Institute, she is responsible for the preservation and management of the paintings and sculpture collections in addition to her function as keeper of the prints and drawings cabinet. For the past year, she has been Head of Service for Iconography at the War Heritage Institute in Brussels, Belgium.



Carl Smith, Geoffrey Alan Rhodes

# The Chicago Fire Cyclorama Reimagined: A Prototype for Immersive, Object-based Storytelling

**Abstract:** The cyclorama depicting the Great Chicago Fire of 1871 no longer exists. But a study, one tenth the size of the four-story-tall version the public saw in 1892, is in the collections of the Chicago History Museum.

A full-size reproduction of the study has played a featured role in the museum's *City on Fire* exhibition, which opened on the 150th anniversary of the Great Fire. In addition, the online Chicago00 Project, led by John Russick, who was then the Chicago History Museum's Senior Vice President, and Geoffrey Alan Rhodes, Director of the Future Museum Media Innovation Studio at Shanghai Jiao Tong University, turned the study into an interactive immersive digital experience (<https://1871.chicago00.org/>) that enables contemporary viewers to put themselves in the center of the fire as did visitors to the *Chicago Fire Cyclorama* in 1892–93.

The painting underwent significant digital repair to make a seamless experience. The online cyclorama features 360-degree viewing, high resolution zooms, and narrated audio tours of the painting. Carl Smith prepared the accompanying interpretive text. One can search for landmarks, read about the context, and study a gallery of historical photos. And though it was made from scans of only a study, the image is highly detailed. Scores of individual figures perform narrative vignettes drawn from personal accounts of the fire. One of the narrated audio tours shows black-and-white photographs of the full-size cyclorama in 1892, contrasted side-by-side with the extant study. These photos are the only known complete capture of the original cyclorama. But through an innovative reimagining of the artists' preliminary study, the *Chicago Fire Cyclorama* is given a second life.

**Keywords:** Chicago00, cyclorama model, digital preservation, digital humanities, Chicago History Museum, interactive media, web

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The cyclorama depicting the Great Chicago Fire of 1871 no longer exists. But an interactive, digital version, produced in 2021 for the Chicago History Museum's *City on Fire* exhibition can be seen online at <https://1871.Chicago00.org/>.

Early in 2013, Olivia Mahoney, a senior curator at the Chicago History Museum, was exploring a collection storage area at the museum when she spotted a large tube wrapped in muslin. The attached tag read, "Fire Cyclorama Study." Intrigued, Mahoney hurried to the museum's card catalog, where she discovered an entry from 1905 that identified the piece. It was an enormous painting—five feet high and forty feet wide—of the Great Chicago Fire of October 8–10, 1871, from the imagined perspective of someone in the midst of it. The fire destroyed about a third of the city, including its entire commercial center and left almost an equivalent fraction of its population of over 300,000 homeless.

Large as it was, this painting was only a preliminary version of one ten times bigger.<sup>1</sup> At approximately 50 feet high by 400 feet long, the latter painting was almost a third as wide as a football field and forty feet longer. It had been on display to paying viewers from the spring of 1892 to the autumn of 1893 in a specially constructed building on Michigan Avenue between Monroe and Madison Streets in downtown Chicago. The main feature of the building was its capacious central circular room, sixty feet high and almost 130 feet in diameter, on whose wall the painting was mounted. A stairway led visitors to a platform in the center of this room, where they found themselves surrounded by what advertisements in the Chicago papers proclaimed was "a marvelous representation of an event that is without parallel in the history of civilization" (*Chicago Tribune*, April 3, 1892).

The scale of this colossal artwork, its 360-degree vista with multiple vanishing points, and its meticulous attention to detail, were all intended to simulate the experience of being present at the actual fire. Much like a 3D film or a set of virtual reality goggles, it provided an exciting and even unnerving visual and psychological simulation of being present at one of the most legendary disasters in history.

The heyday of the cyclorama in the United States was the last three decades of the nineteenth century. The battles of the Civil War, fresh in memory, were the most popular subjects. Soon post-war military encounters, notably the legendary 1876 defeat of US cavalry troops led by General George Armstrong Custer by Indigenous Plains warriors, would join the cyclorama repertoire. As one of the country's biggest cities and the center of its transportation network, Chicago was a prime location. The first cyclorama in Chicago was a view titled *Paris by Moonlight* mounted in 1874 in the immense Interstate Exposition Building (Fig. 1). With a quarter million square feet of floor space, that structure had been erected the year before for a trade fair whose main purpose was to declare that Chicago had triumphantly risen from the ashes. Located along the east side

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<sup>1</sup> It was standard practice to create such a 1:10 model. As is the case with the *Chicago Fire Cyclorama*, the final version might include some modifications in detail.

of Michigan Avenue and centered on Adams Street, it hosted many other events and activities until it was torn down in the early 1890s to make way for the Art Institute of Chicago, which, much expanded, occupies the site today.



**Fig. 1:** Inter-State Exposition Building at Michigan Avenue and Adams Street, c. 1890; J. W. Taylor, photographer. Image, Chicago History Museum reference number: ICHI-064394.

By the mid-1880s there were three permanent cyclorama buildings in downtown Chicago. Two were across the street from one another, on the southeast and southwest corners of Wabash Avenue and Hubbard Court, now Balbo Street (Fig. 2). The one to the west hosted the most enduring cyclorama in Chicago—one of French artist Paul Philippoteaux’s several renditions of the Battle of Gettysburg, the most crucial conflict of the American Civil War. When the *Chicago Fire Cyclorama* opened in 1892, the Gettysburg painting had been on display for a full decade. In the same ten years, the cyclorama building on the east side of Wabash Avenue had hosted *The Siege of Paris*, *The Battle of Lookout Mountain*, *Jerusalem and the Crucifixion*, and *Niagara Falls*.

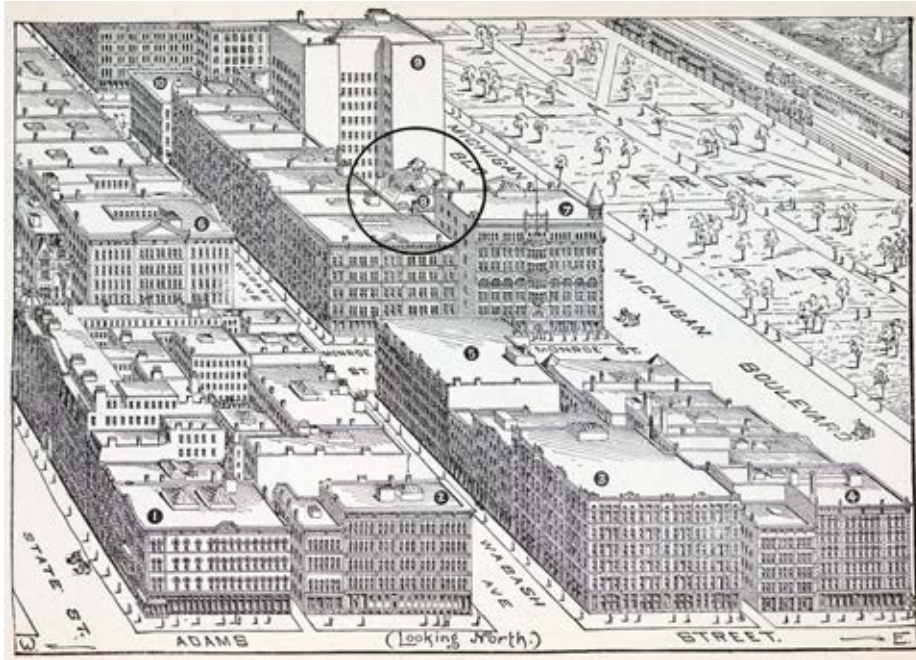
The *Chicago Fire Cyclorama* building between Madison and Monroe Streets on Michigan Avenue was six blocks to the north and one to the east of the venues on Wabash, on land owned by the family of mechanical reaper magnate Cyrus McCormick (Fig. 3). It was erected in 1885 to host *The Battle of Shiloh*, at which Union and Confederate troops clashed in April of 1862.



**Fig. 2:** Cyclorama Buildings (with the round roofs) on Wabash Avenue, looking south, c. 1895–1900. Image, Chicago History Museum reference number: ICHI-005715.

When plans were announced for the 1893 World's Columbian Exposition, the certainty of a major spike in visitors to Chicago inspired backers of all sorts of entertainments to try to take advantage of the influx of tourists, as well as attract local residents. *Rand McNally & Company's Bird's-eye Views and Guide to Chicago*, first published in 1893 in anticipation of travelers from around the country and the world, stated that there were now five cycloramas in the city. During the run of the fair, there would be six. The three newer ones in addition to the three already downtown were in temporary buildings close to the main exhibition buildings of the Exposition, which were located along the lakefront in Jackson Park, about nine miles south of the city's business center.

On the fair's Midway Plaisance, next to such attractions as Carl Hagenbeck's performing wild animals, the recreation of a street in Cairo, and the first Ferris Wheel, one could view cycloramas of the Hawaiian volcano Kilauea (Fig. 4) and the Swiss Alps. A few blocks away was *The Battle of Chattanooga*, whose opening was delayed when, in April, what was described as "a medium wind" blew down the flimsy structure intended to house it (*Chicago Tribune*, April 8, 1893).



**Fig. 3:** View of Fire Cyclorama Building (in oval) from *Rand McNally & Co.'s Bird's-Eye Views and Guide to Chicago*, 1893, p. 55. Image, the author.

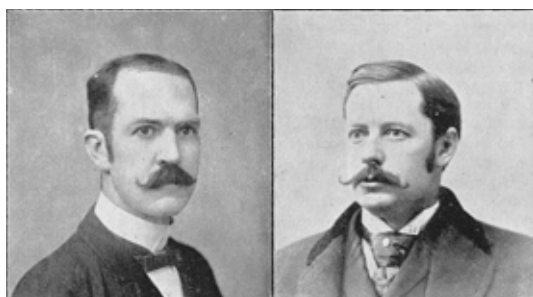
The entrepreneurs behind the Chicago Fire Cyclorama were Isaac N. Reed and Howard H. Gross (Fig. 5), whose partnership included similar projects in Melbourne and London as well as Chicago. Gross also oversaw the preparation of seven large paintings of scenes of California for the state's Spanish colonial-style building at the Columbian Exposition.

Reed and Gross hoped to begin admitting viewers to the *Chicago Fire Cyclorama* on October 11, 1891, almost exactly twenty years after the fire. When they missed this deadline, the reason given in the newspapers was “the difficulty in procuring data” on the fire and “the absolute necessity of exactness of detail in the drawing” (*Chicago Tribune*, October 11, 1891). Gross claimed that he had spent more than a year gathering information, in which time he had collected 8,500 photographs and interviews with some 1,300 people, at a cost of \$120,000. To obtain these resources, he placed ads in the local newspapers appealing to those who had experienced the fire and purchased photographs from P. B. Greene, one of the several local photographers who marketed stereographs of the ruined city after the disaster. All this effort, he insisted, ensured the fidelity of the painting to its subject. Gross challenged any survivor of the fire “to point out a single detail which was not historically and architecturally accurate” (*Chicago Tribune*, October 11, 1893).

Like other cyclorama impresarios, Reed and Gross assembled a talented group of artists to recapture the fire in all its vivid intensity. Salvador Mège of Paris and Edward



**Fig. 4:** Hawaii Kilauea Cyclorama on the Midway, 1893. Image, Chicago History Museum reference number: ICHI-092991.



**Fig. 5:** Isaac N. Reed (left) and Howard H. Gross (right). Image from *A Story of the Chicago Fire*, by Rev. David Swing, 1892, 34–35.

James Austen of London, both experienced cycloramists, laid out the entire composition and decided on the colors employed. Austen suffered serious injuries in falling from a platform, which contributed to the delay in completing the project. Oliver Dennett Grover, a faculty member of the School of the Art Institute (which dates to 1879), was responsible for the many figures in the painting, with assistance from Charles Corwin

and Edgar S. Cameron, who was also an art critic for the *Chicago Tribune*. Paul Wilhelm, a Chicagoan from Düsseldorf, Germany, did much of the foreground work, including the vessels on the main branch of the Chicago River. The horses were created by animal painter Richard Lorenz, a German-born artist based in Milwaukee. Another Frenchman, Albert Francis Fleury, was credited for the structures by the lake and river, while C. H. Collins's hand is seen in the blocks of buildings destroyed by the fire. Twenty-five-year-old William de Leftwich Dodge, who had studied with the noted artist Jean-Léon Gérôme at the École des Beaux Arts in Paris, also assisted in this massive undertaking.

Some of these artists created other important works in Chicago besides their contributions to this and other cycloramas. Fleury, who also was associated with the School of the Art Institute, executed many superb drawings of the Chicago cityscape and painted the large murals on the sides of the interior of the Auditorium Theatre that accompany architect Louis Sullivan's odes to spring and fall inscribed on these walls. Corwin would later specialize in another form of virtual reality, the backgrounds of dioramas that were among the natural history exhibits in the Field Museum, whose current building opened in 1921. Dodge completed murals for the Administration Building at the Columbian Exposition (and the Library of Congress in Washington, DC).

The *Chicago Fire Cyclorama* opened at 7:00 p.m. on Wednesday, April 6, 1892. Notices stated that the painting could be viewed twelve hours a day, from 10:00 a.m. to 10:00 p.m., seven days a week. Regular admission was fifty cents (half that for children), the same price as entry to the entire World's Columbian Exposition main grounds or a single ride on the Ferris Wheel. This was at a time when a laborer might earn five or six dollars a week. Reed and Gross ran large advertisements in the daily papers declaring their latest marvel "the most thrilling spectacle art ever presented to human vision." Attuned to what would win the attention and respect of a Chicago audience, the promoters also proclaimed that "The 'CHICAGO FIRE' is the Most Expensive Work of Art Ever Created in the History of the World" (Fig. 6). The figure featured prominently in newspaper ads was \$250,000. Elsewhere it was reported that the painting alone cost \$90,000.

In addition to paying their admission, visitors could spend another ten cents on an illustrated souvenir booklet. Titled *A Story of the Chicago Fire*, it consisted mostly of a personal account of the disaster by the Reverend David Swing, one of the most popular ministers in the city. This was followed by factoids pertaining to the fire ("The loss in property was a million dollars every five minutes!") and the painting, as well as profiles of Reed, Gross, and their artists (Swing 1892, 31). The booklet calculated that the almost 20,000 square feet of surface area was covered with nearly two tons of paints and oils, and that if one artist had undertaken the job alone, it would have required over twenty years.


The *Chicago Fire Cyclorama* remained open for some nineteen months, until the Columbian Exposition closed its doors at the end of October 1893. It was necessary to suspend operations for a short period when in November 1892 the neighboring Illinois Athletic Association (also called the Chicago Athletic Association, and now the Chicago Athletic Association Hotel) next door caught fire (Fig. 7). In battling the blaze, the fire

## THE BURNING OF CHICAGO.

Magnificent reproduction of the thrilling scenes of that terrible day—Oct. 9th, 1871—showing the city in flames and thousands of helpless and homeless in a mad, furious flight for safety. No words can describe the matchless grandeur of the scene. It is the most thrilling spectacle art ever presented to human vision. Chicago in Ruins! A marvelous representation of an event that is without a parallel in the history of civilization. Nearly three thousand acres burned over in *eighteen hours! Twenty-five acres every ten minutes!*

READ WHAT THREE OF CHICAGO'S MOST DISTINGUISHED  
CITIZENS THINK OF THE CYCLOPAMA OF THE CHICAGO FIRE.

<p style="text-align: center;">From Rev. DAVID SWING.</p> <p>H. H. GROSS:</p> <p>Dear Sir—Your artists have done wonders with that scene known as the Chicago Fire. I had little hope that any painters could do anything with so large a subject; but to those of us who saw the whole affair your picture is true and really wonderful. Yours,</p> <p style="text-align: right;">DAVID SWING.</p>	<p style="text-align: center;">From L. J. GAGE.</p> <p>H. H. GROSS:</p> <p>Dear Sir—I congratulate you on the successful development of your new Cycloorama, "The Burning of Chicago." Favored with a first view I am deeply impressed with its realism and much pleased with its high artistic merit. I think "our folks" will all want to see it.</p> <p style="text-align: right;">Yours truly, L. J. GAGE.</p>	<p style="text-align: center;">From WM. D. KERFOOT.</p> <p>H. H. GROSS, Esq., Chicago:</p> <p>Dear Sir—When you first spoke to me of your determination to attempt to reproduce the burning of Chicago in 1871 I made up my mind that you had entered upon a Herculean task and one that no artist could do justice to; but as I have seen the picture grow under the touches of your artists, and now have seen it completed, I think that you are a fit subject for congratulation. The details of the painting and the thrilling scenes therein depicted are beyond description, and those who passed through the terrible ordeal of Oct. 9, 1871, can have their many vivid recollections awakened by viewing this masterful effort. Yours truly,</p> <p style="text-align: right;">WM. D. KERFOOT.</p>
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 The "CHICAGO FIRE" is the Most Expensive Work of Art Ever Created in the History of the World.

**Opens to the Public WEDNESDAY Evening, April 6th, 1892, 7. p. m.**

OPEN DAILY THEREAFTER 10 A. M. TO 10 P. M.

WATCH TUESDAY'S PRESS NOTICES.

Michigan-av., Between Madison and Monroe-sts.

ADMISSION 50 CTS. CHILDREN 25 CTS.

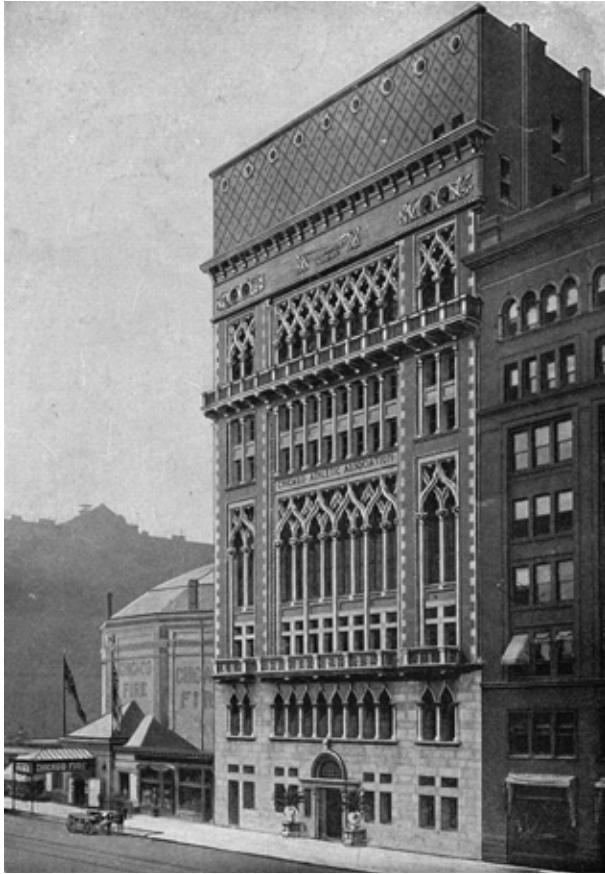
**DON'T MISS THE CHICAGO FIRE.**

Fig. 6: Advertisement for the *Chicago Fire Cyclorama*, Chicago Tribune, April 3, 1892. Image, *Chicago Tribune*.

department demolished the Cyclorama building's glass roof and flooded its interior, forcing considerable repairs. According to one reporter, "The boys mistook the painting for the real fire" (*Chicago Tribune*, November 2, 1892).

The *Chicago Fire Cyclorama* appears to have done a decent but not remarkable business. The Rand McNally & Co. guidebook to the city stated that the number of patrons in the first year was 144,000, but this is not authoritative and might be based on an exaggerated claim by the promoters. Given that many visitors were children, who were admitted at a discount, it seems likely that the enterprise either made little money or even failed to break even. In any event, its backers decided not to keep it open after the close of the Columbian Exposition.

When Chicagoans learned the Cyclorama's days were numbered, and that there was talk of moving it to London, some called for finding it a permanent home in the city. The leading suggestion was to place it in a building in one of the city's parks. Nothing came of this. In 1900, Gross again offered to donate the cyclorama on the condition that it be properly housed and free to the public. And again, there was a proposal to place it in a park, but this, too, went nowhere. The gigantic cyclorama painting remained rolled up in storage near the South Side's Washington Park. In 1913, by which time it probably



**Fig. 7:** Michigan Avenue entrance of the *Chicago Fire Cyclorama*. The Illinois Athletic Association is the large Venetian Gothic building just to the north. Image, from *One Hundred and Twenty-Five Photographic Views of Chicago*, Rand, McNally and Co., Chicago, New York, 1910, p. 20.

had deteriorated a great deal, it was sold as scrap to a junk dealer for two dollars. Years before this, Gross had given the study for the painting to Chicago businessman and collector Frank G. Logan, who donated it to the Chicago Historical Society, which was renamed the Chicago History Museum in 2006.

Cycloramas continued to play in Chicago and other cities for a while, but most cyclorama buildings that did not close survived by finding other uses. In 1895 the structure that had presented the *Chicago Fire Cyclorama*, commonly called the Panorama Building, accommodated an exhibition of druggist's products. The next year it presented a pure food show with all kinds of edible goodies. Soon dogs would disturb the cats at a household pet show held within its walls, which also housed the 1897 poultry and pigeon show sponsored by the National Fanciers' Association of Chicago. One of the

building's final uses was as the site for the city's grateful welcome to sailors returning from the 1898 war in the Philippines.

Shortly after that, Stanley McCormick, reaper inventor Cyrus McCormick's youngest son, commissioned the top architecture firm of Holabird & Roche to design two buildings for the site of the Panorama Building and a third building just to the south. The three buildings, erected in 1898–99, were originally leased to prominent wholesale millinery companies. The northernmost of the three, known as the Gage Building, was soon extended to its current height of twelve stories. Its ornamental enameled terra cotta façade was designed by Louis Sullivan and is one of the few buildings in Chicago on which he worked that are still standing.

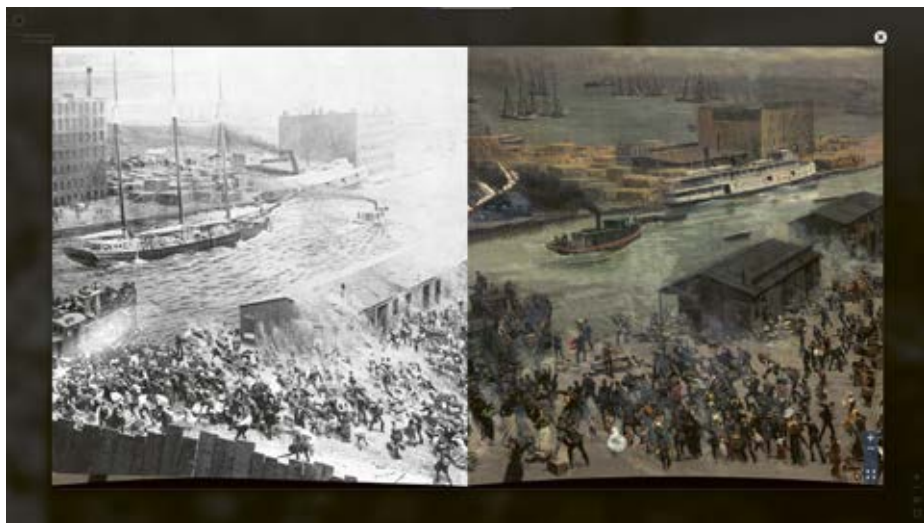
Fast forward to 2013. Word of curator Olivia Mahoney's discovery of the study quickly spread through the museum's staff, who were as excited as she was and as eager to see it. Viewing an aged and fragile large object like this painting is a complicated undertaking, however, even for museum professionals. After much discussion and logistical planning, the painting was very carefully unrolled with the help of several curators, conservators, and object handlers. Not surprisingly, there were cracks throughout its surface, but the work was still a visually stunning representation of the city on fire. Like the final version, most impressive is its attention to detail, especially in its depiction of terrified Chicagoans fleeing the fire.

And, while it took eight more years, Mahoney's discovery came to be displayed in multiple ways. A full-size reproduction of the study played a featured role in the museum's *City on Fire* exhibition, which opened on the 150th anniversary of the Great Fire. In addition, the online Chicago00 Project, led by John Russick, who was then the museum's Senior Vice President, and Geoffrey Alan Rhodes, the Director of the Future Museum Media Innovation Studio at Shanghai Jiao Tong University, turned the study into an interactive immersive digital experience (<https://1871.chicago00.org/>) that enables contemporary viewers to put themselves in the center of the fire as did visitors to the *Chicago Fire Cyclorama* in 1892–93.

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**Figs. 8–10:** Three screen-captures of the online cyclorama: at top left, crowds of people seek to escape across the Rush Street bridge; at bottom, a detail of the depiction of the crowds; on the following page, a side-by-side exploration of archival black-and-white photos of the long-lost cyclorama, and the smaller painted study. Image, Chicago00: 1871 Chicago Fire, <https://1871.Chicago00.org>.



Figs. 8–10 (continued).

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## Author Biographies

**Carl Smith** is Franklyn Bliss Snyder Professor of English and American Studies and Professor of History, Emeritus, at Northwestern University. His latest book, *Chicago's Great Fire: The Destruction and Resurrection of an Iconic American City* [2020], tells the story of the Great Chicago Fire and of the rebuilding of the city, and it also discusses the place of the fire in Chicago's history. His other books include *Chicago and the American Literary Imagination, 1880–1920* [1984]; *Urban Disorder and the Shape of Belief: The Great Chicago Fire, the Haymarket Bomb, and the Model Town of Pullman* [1995]; *The Plan of Chicago: Daniel Burnham and the Remaking of the American City* [2006]; and *City Water, City Life: Water and the Infrastructure of Ideas in Urbanizing Philadelphia, Boston, and Chicago* [2013]. In collaboration with Academic and Research

Technologies at Northwestern and the Chicago History Museum, he is author/curator of two major online exhibitions, *The Great Chicago Fire and the Web of Memory* and *The Dramas of Haymarket*.

**Geoffrey Alan Rhodes** is a tenured professor at Shanghai Jiao Tong University's Institute of Cultural and Creative Industry. He is Director of the Future Museum Media Innovation Studio, a new center for research in augmented and virtual reality. Previously, he was Chair of the Department of Visual Communication Design at the School of the Art Institute of Chicago, where he led the development of new media design curriculum. Rhodes has created many film and media art works; they seek profound combinations of virtual and real.



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## **5 Visual and Creative Essays**



Ruby Carlson, Sara Velas

## Introduction: Immersive Empires, Expansive Texts

A traveler—whether on horseback, elevator or tram ride—is on a morphological path, transforming from inhabitant to tourist through a seemingly imperceptible shift guided by the visual and the multisensorial.

The views are epic. They are invented to delight and distract as illusions of the limitless. The following pages in this edition of the Visual and Creative Essays section have been staged as a multi-layered experience, meant to be read like a moving panorama transitioning between interconnected scenes.

Picture this: a distant view of the pyramids of Saqqarah with the Nile River in the foreground, the sand a warm reddish-brown and the waves rocking a solitary boat. The scene shifts, and we are in what appears to be New York City—but is in fact Universal Studios, Hollywood—witnessing an automated flood sweeping in from management. To escape the deluge we must ascend, so we take the nearest elevator to the 86th floor of the Empire State Building. On the observation deck, peering through the circular lens of a telescope, the city takes the shape of a sphere, as in Wyld's Great Globe. What are we looking at? Living in the spheric world purposefully and multidimensionally, we experience digital invention as a wild, briar-filled space—a domestic enclave of simultaneity, where shimmering foliage resembles mechanized birds, stones soften into the built environment and light reflects the transparency of shadow.

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**Ruby Carlson, Sara Velas**, Velaslavasay Panorama, Los Angeles, California, United States



Stephanie Ellis Schlaifer

# Men Arrived on Horseback (Boas)

## Introduction

“Men Arrived on Horseback (Boas)” is a part of my new poetry collection-in-progress, *Amortals*, which explores the rise and fall of contemporary empires by way of ancient ones. Written in response to news media as well as historical art and artifacts, these ekphrastic poems contemplate the desire to be everlasting, the weaponization of religion, and the hubris of thinking we have surpassed our animal selves.

Although ekphrastic poems are traditionally written in response to works of art, I began writing them in response to news coverage after Hurricane Katrina. I wanted to use this traditional literary device to explore the limitations of second-hand materials—*mediated* sources. After Trump took office in America, I wrote them urgently, documenting the changes in language and imagery—the fractiousness of disinformation, the surreality of believing what you can’t believe.

At the same time, I found my gaze curiously pulled toward a traditional subject: ancient art. I was entranced by the visual representation of cultural shifts and power—the shared and borrowed symbologies, the adoptions and adaptations. From floor mosaics to faience scarabs, these ancient works speak so redolently to this moment of global upheaval. They lionize, memorialize, and propagandize. They record history, they distort history—they process information. The human and the animal intersect in language, in motifs, and in rituals to establish hierarchies for this life and the next. Not altogether human but not everlasting either, they are *amortal*.

“Men Arrived on Horseback (Boas)” responds to several plates from *Description of Egypt*, the books produced by Napoleon’s civilian army during his failed military escapades in Egypt, when the Rosetta Stone was discovered (Figs. 1, 2). This encyclopedic record documents nearly every animal, vegetable, and mineral present in the region—the great pyramids and palmettos and fossilized cephalopods—but it also documents the eighteenth/nineteenth-century French gaze—Napoleon’s panoramic appetite for conquering. The poem plays on the visual vernacular of this wide horizon, the boats sailing desirously across the Nile.

The poems in *Amortals* ask what should be made of *our* gaze—of our return to a kind of post-post-Enlightenment era. Human impact has never been more self-evident, and the denial of it has never seemed more dangerous. My hope is that by closely examining representations of power throughout time, these works will help to tease out a better understanding of human nature and what makes true progress so fugitive.

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Stephanie Ellis Schlaifer, Saint Louis, Missouri, United States

A. Vol V.

MEMPHIS.

PL. 5



VUE DES RUINES, PRISE DU SUD-EST.

A. Vol. V.

MEMPHIS ET ENVIRONS.

Pl. 2.



VUES DES PYRAMIDES DE SAQQARAH ET DES ENVIRONS.

## Men Arrived on Horseback (Boas)

Men arrive in boats                      and form a pyramid  
of disaster

   Sail in the form of  
an ostrich plume           sail in the form of a leaf

sails in formation of an *ahhhhhhh*           an *ohhhhhhh*  
circling their so-to-speaks

   Madonna lilies perfume the ruins  
Shaggy date palms shade the men           standing at Saqqarah

the way men standing on ceremony stand           a hand on their hip  
or a hand in their hands

   These men of feathers           men of boas  
These men standing on their heads

Men of the waves send           an engraved invitation  
back across the waters—*Répondez s'il vous plaît*

   Party at the necropolis  
1789—whenev           (mind your steps)

## Author Biography

Originally from Atlanta, Georgia, Stephanie Ellis Schlaifer is a poet and installation artist in St. Louis, Missouri, United States. She is the author of the poetry collections *Well Waiting Room* (Fordham University Press, Editor's Prize, 2021), and *Cleavemark* (BOAAT Press, 2016), as well as the children's book *The Cloud Lasso* (Penny Candy Books, 2019). Schlaifer earned her BA/BFA from Washington University in St. Louis and her MFA from the Iowa Writers' Workshop. Her poems, art, and criticism have appeared in *Bomb*, *Georgia Review*, *Harvard Review*, *AGNI*, *Washington Square*, *The Offing*, *The Wilson Quarterly*, *Colorado Review*, *Ploughshares*, and the Poetry Foundation, among others. She served as the 2016 Greyfriar Writer-in-Residence at Sienna College, and she was named the 2019 runner-up for the Iowa Review Prize. Her work has been supported by the Saint Louis Regional Arts Commission and the Mid-America Arts Alliance (MAAA), and in 2025 she will attend residencies at Ragdale at Willapa Bay AIR. She frequently collaborates with other artists on works that combine language and visual art. Learn more about her work at [stephanieschlaifer.com](http://stephanieschlaifer.com).

**Fig. 1:** “Memphis.” Pl. 3, *Description of Egypt*. Second edition. Antiquities, Volume Five (Plates). Commission des Sciences et Arts d’Egypte, and Napoleon I, Emperor of the French, 1769–1821. Egypt, 1823. Paris: C. L. F. Panckoucke. Image, World Digital Library, <https://lcn.loc.gov/2021669726>. Digital resource accessed April 27, 2025.

**Fig. 2:** “Memphis et Environs.” Pl. 2, *Description of Egypt*. Second edition. Antiquities, Volume Five (Plates). Commission des Sciences Et Arts D’Egypte and Napoleon I, Emperor of the French, 1769–1821. Egypt, 1823. Paris: C. L. F. Panckoucke. Image, World Digital Library, <https://lcn.loc.gov/2021669726>. Digital resource accessed April 27, 2025.



Megan Koester

## A Façade on a Façade: The Necessity of Universal Studios' Immersive Fictions

At the call of “action” I was to run, in simulated terror, down the artificially soaked cobblestone streets of a nondescript European village. We were approaching the twentieth take; the period shoes wardrobe had loaned me possessed no arch support and even less traction. “The streets are wet,” a production assistant helpfully informed us when we arrived to set. “Try not to slip.” The oldest extra, a man in his 70s, slipped so frequently you’d think he was cast in a silent-era physical comedy. His 98-pound scene partner struggled with the task of keeping him upright.

With each take my performative grimace of fear had lessened, gradually becoming an earnest grimace of podiatric ache. At no point did the look on my face, the *acting* part of the acting, actually matter—when I watched the completed project, all the background faces were a blur, shots tight on the two stars.

But months would transpire until the network television show we were shooting actually aired, and at the moment I awaited yet another call to action. I looked up at the hollow wall constructing the set. Directly behind it, I noticed, sat *another* wall.

I dug my phone out of my prop handbag and made sure none of the crew were looking in my direction. The note is always given to background actors (who normally love notes, as they provide motivation for their out-of-focus performances) not to bring their cell phones to set; this note is routinely ignored. Bulbous rectangles are visible through even the thickest wool. They place their hands in their pockets during takes to conceal the contraband.

I opened the notes app.

“It’s a façade on a façade,” I typed.

I wrote of the wall, but the sentiment was transferable to everything within eyeshot: my fellow extras, the studio backlot we inhabited, the myriad sets therein, my own heavily made-up face.

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Megan Koester, Los Angeles, California, United States

With its fake fountains, pseudo bistros and false flower pots, the set that held the wall in question, located on the backlot of Universal Studios, was unimaginatively dubbed “European Street” (others on the lot include Brownstone, Colonial, Western, Mexican and New York Streets). These façades lie within the very real enclave of Universal City, home of the oldest continuously operational studio in Los Angeles. Universal Studios, which has occupied Cahuenga Pass for over 100 years, created its own city in 1915—unimaginatively dubbed Universal City—out of whole cloth where once sat a rural ranch. A three-dimensional post office, school, hospital, and even a zoo were built in the service of the façades that justified its existence. The city even had inhabitants (specifically, extras from Cowboy and Indian pictures, amongst other studio employees).

The formation of a company town for the still nascent industry of motion pictures was fodder for the press. “To gaze down upon this city from one of the mountains which surround it is like getting a bird’s eye view of the entire world,” wrote Poughkeepsie, New York’s *Evening Enterprise*. “Universal City is a land of make-believe. . . there is not a building in the entire limits of Universal City which could not be changed overnight into something radically different and changed back again with equal facility.”

In 1915, founder Carl Laemmle threw a three-day-long grand opening celebration that was copiously advertised to the entire American public via newspaper ads, imploring them to take cross-country trains to witness the reveal of “the only moving-picture city in the world.”

You’ll see all your favorite screen stars at work. You’ll see buildings built in an hour and then blown up. You’ll see comedies and tragedies, ballroom and battle scenes, screaming cowboys and fuzzy redskins. You’ll see buildings with different architecture on the four sides so they can be used as backgrounds for foreign pictures. You’ll see a moving picture city with a population of 2,000—a population as varied as a mince pie—and all making Universal pictures. You’ll never forget it if you live to be a thousand. (Universal Studios. “Welcome to Our City,” advertisement, *The Washington Times*, February 10, 1915, 11).

Over 10,000 people took the bait and purchased \$0.25 tickets (box lunch included) that allowed them to watch the filming of a wild west shootout, the flooding of a village and the (unplanned) death of a man. Frank A. Stites, a stunt pilot, lost control during a daredevil maneuver and fell from his plane, plunging to the ground as his unmanned aircraft crashed into the Cahuenga hillside while onlookers gasped in horror. Pronounced dead two minutes after arriving at the Universal City hospital, the memory of Stites is now “honored” on the “Terror Tram” component of Universal’s theme park’s yearly Halloween Horror Nights event.

Yes, a man died, but thousands of members of the paying public were entertained. And so Laemmle, consummate showman he was, once again commenced tours of his company town, the “Most Unusual City in the World.” These tours, in practice, were more self-guided than structured; while bleachers could be sat in, most visitors literally just wandered around the lot. With the advent of sound, however, brought the end of such gawking—quiet on set and all that.

While Laemmle, who sold his empire in 1938, didn't necessarily *need* the income from his tours, the point of the studio tour when then-owners MCA Inc. restarted it in the summer of 1964 was to generate income for the then-struggling lot. Specifically, in their case, to boost sales at the studio commissary. An original deal with the Gray Line tour bus company to bring in hungry tourists and have them nosh on cold roast beef sandwiches and "Eggs Universal" (poached eggs and grilled Canadian Bacon on toasted English Muffins, "topped with a mild cheese sauce") was going well; why not cut out the middleman and do the bussing themselves?

A 90-minute tour of the backlot on pink and white "Glamor Trams" cost \$2.50 and carted sightseers around operational soundstages and the sets from such films as *The Hunchback of Notre Dame*, *Phantom of the Opera*, *Psycho* and *Frankenstein*. Hollywood gossip columnist Hedda Hopper wrote that "For years I've been howling for the studios to do something for millions of tourists who come to our town expecting to see how pictures are made. . . it needn't have taken a great brain to know that giving a movie fan a look inside never-never land could be a money-making proposition and also generate good will for an industry that needs it." And a money maker it was. By 1967, a million people per year were taking the tour.

Studio higher ups and actors, however, hated it, viewing the imposition of a tram full of gape-mouthed hayseeds as an annoying distraction from the business of actual filmmaking. Tour guides in the '60s were forbidden from pointing out Cary Grant; actors in westerns would threaten to leave set if made to wave at the gathered masses. Shirley MacLaine once mooned a tram.

In 1968, the Screen Actors Guild instituted rules barring visitors from the majority of soundstages, where 75% of production took place. When visitors *could* see stars, they were happy; when they couldn't, they complained that the lot itself looked dilapidated, a collection of crumbling façades that weren't worth the price of admission.

The question became how Universal could give tourists the *experience* of being behind the scenes of movie making without letting them witness *actual* movie making. The solution? To, well, put a façade on a façade.

The idea was masterminded by Jay Stein, a scrappy go-getter who started in the MCA mailroom in 1959 and by 1967 had been tasked with running the tour. Stein came up with the idea of a fake flash flood to dazzle spectators.

"The geography was there," Stein recalled. "What the hell could we do with this dead-ass street and involve the audience with something other than looking at an inactive, sterile set? That's how I came up with the flash flood."

It's funny that a flash flood was Stein's first fake attraction, as it was one of Laemmle's first *real* attractions. The difference was that Laemmle's served an actual purpose.

When the gates of Universal City opened to the public on March 15th, 1915, visitors witnessed a deluge of biblical proportions, wherein the "entire 130,000 gallon reservoir (Fig. 1) of the city [was] emptied into a small but complete village erected on the grounds in a grand flood scene" being shot for Henry MacRae's film *The Torrent*. The



**UNIVERSAL**

**A Roaring,  
Tearing, Smash-  
ing, Dashing Flood**

**Do you know what?**  
When you folks get to  
**UNIVERSAL CITY, March 15th,**  
we're gonna do sumpin' big. Our reser-  
voir for **UNIVERSAL CITY** holds millions of gallons  
of water. It's up on a mountain. Just below it, on the  
mountain side, we've built a village. Well, sir, we're  
gonna turn the water loose and *blot that village out*. It'll  
be a *feed* worth looking at. We're gonna use the scene  
in a **UNIVERSAL** drama. But we're holdin' that scene for you. Did  
anybody ever entertain you like that? No, sir, *not nobody*.

**And what's more, we are**  
gonna do something thrilling like that  
every day of the Opening Week beginning  
March 15. So if you happen to be a day or a few days  
late, there's still a thriller waiting for you. And these thrillers are only  
located in Universal City—the famous, dream-city in California  
where the **UNIVERSAL** makes its big dramas. That's where the stars  
of the **UNIVERSAL** do their deadly actings and if you come out, either on your way  
to or from the exposition, you can see 'em all act in moving-pictures.

**Don't forget that E. Phillips Op-**  
penheim's great serial "**The Black Box**"  
written for the Universal is now being acted at Universal  
City. It will be released March 1. Come on out. *Take the Santa Fe*  
*direct to Los Angeles*. Universal City is only a few minutes from there. We'll show you

**How the Movies Are Made**

**Universal Film Manufacturing Co.**  
Curt Laemmle, President  
"The Largest Film Manufacturing Concern in the Universe"  
Studios in New York, New Jersey and California. Factories in New York  
and New Jersey. Distributing Agencies Throughout the Civilized World.

Fig. 1: Newspaper advertisement for Universal City Opening Week, published February 17, 1915 in *The Evening World*. Image, Public Domain.

real fake flood was so powerful, it reached the public viewing area; Laemmle himself had to jump on top of a car to avoid being carried away.

Stein's flash flood, on the other hand, was contained, and able to replicate itself every three minutes; it's still a highlight of the modern iteration of the studio tour. Similar fabrications of natural disasters quickly became the tour's main attractions, alongside cheaply produced stunt shows. Simulated rockslides, avalanches, earthquakes and bridge collapses shocked and delighted tram riders. They even replicated the parting of the Red Sea, which company man and tour fan Charlton Heston (who played Moses in *The Ten Commandments*) showed up to christen on opening day.

Emboldened by the knowledge that movie fans loved immersing themselves in the spectacle of the end result far more than the nuts and bolts of filmmaking, Universal quickly became ground zero of live entertainment based on pre-existing, non-animated intellectual property.

Singapore Lake, a man-made body of water used for shooting on the lot, was rebranded as 1976's *Jaws Experience*, a replica of the fictitious town of Amity and its terrorizing shark seen in the smash hit of the year prior. It was an incredibly costly but incredibly successful attraction, and paved the way for more attractions based on Universal shows and films like *Battlestar Galactica*, *King Kong*, and *The Mummy*. Soon, stationary attractions that required no tram, like the *Six Million Dollar Man/Bionic Woman Testing Center* and *Airport '77*, started popping up. In due time, the façades on the façades became the point, the sole purpose for public attendance and the primary thing Universal City (and its corresponding Studio) was known for. Without ever declaring as such, Universal Studios had invented the modern theme park (Figs. 2–5).

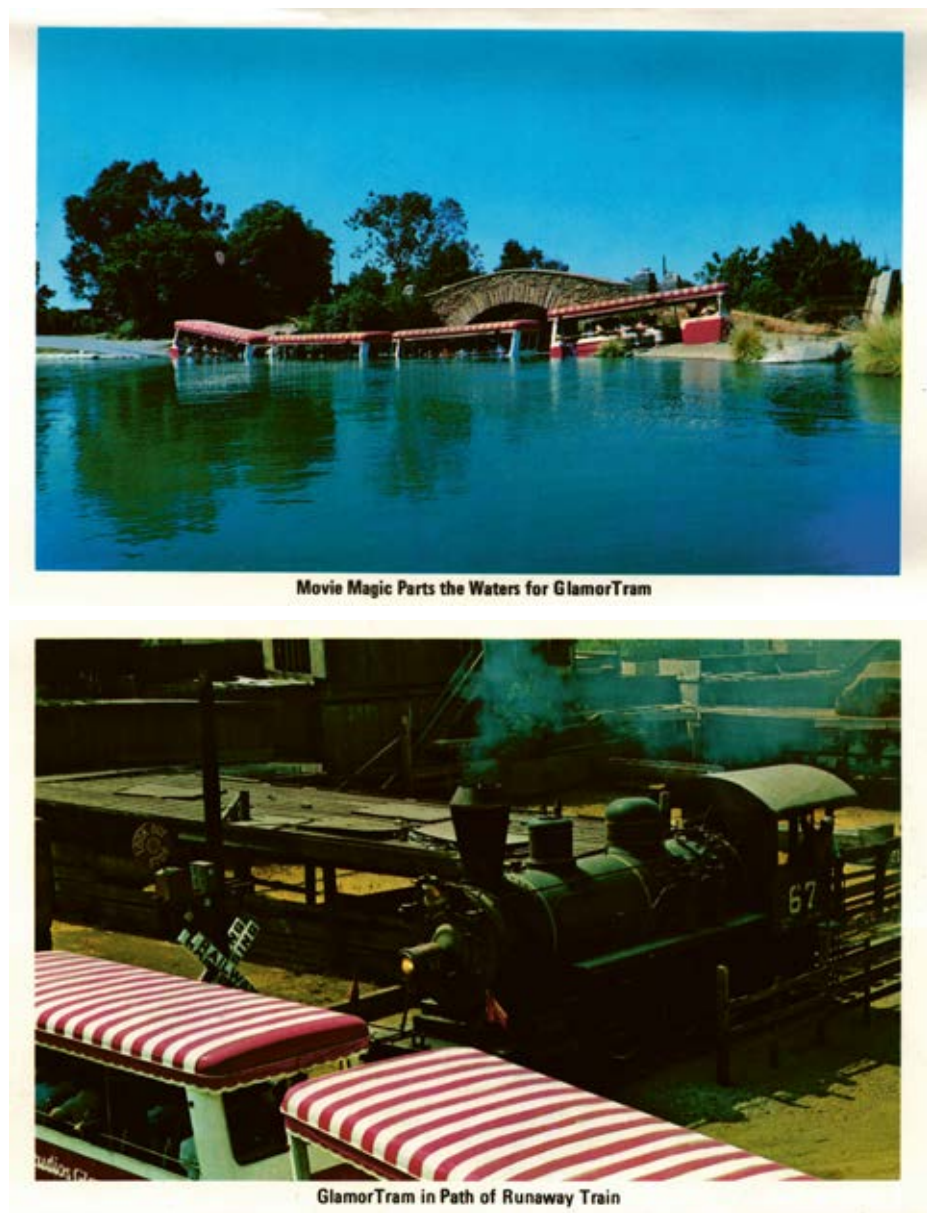
Universal opened its first standalone theme park in Orlando, Florida in 1990, a place not exactly known for filmmaking *but* known as where Disney opened Disney-MGM Studios in 1989, a shameless imitation of Universal Studios complete with tram tours and man-made disasters. Disney-MGM Studios resembled Universal's original plans for their theme park so closely that Universal felt the need to change things up, leaning less on the tour element of the park and more on standalone attractions. "We're not afraid of Disney," Stein said at the time. "We're ready to take them on."

Soundstages were built at Universal Orlando, but, with the exception of a building housing studios for the children's network Nickelodeon, rarely used; they seemed more a technicality to justify the "studios" moniker than anything. While Cahuenga Pass' Universal Studios remains a functional lot, its primary selling point has become a place where visitors can "Ride the Movies," a tagline coined by *Jaws* director Steven Spielberg to describe the IP-branded standalone attractions that have become Universal's bread and butter.

The Studio Tour is *still* an attraction at Universal, but the lines to ride it are nowhere near that of Jurassic World or Transformers: The Ride 3D. Most of the time, the tour will show you nothing but a handful of grips and, at best, a producer's parking spot. Televisions have been added to the trams, playing pre-recorded footage of Jimmy Fallon over-excitedly explaining the history of the pseudo streets you're driving down in between encounters with fake disasters that have only ever been filmed for the purposes of promoting the theme park you're currently in.

It is, in sum, not a place where visitors expect to watch Hollywood royalty make the next great epic. So when they see action, *any* action, it is assumed they are witnessing the filming of something major. Having no functional knowledge of what you're looking at helps bolster any illusion.

In the humdrum hours that passed *after* hair and makeup up but *before* we were tasked with running in terror, my fellow background actors and I killed time on the hill above



**Figs. 2 and 3:** Souvenir postcards from Universal Studios. Images, Author's collection.



European Street on Universal's Back Lot



Flash Flood Roars Down Hill Towards GlamorTram

**Figs. 4 and 5:** Souvenir postcards from Universal Studios. Images, Author's collection.

the *Jaws* attraction in our getups from Western Costume. A tram filled with tourists drove by; upon noticing a collection of people in World War II-era clothing, mouths fell agape and phones were removed from pockets. We stood in a line and waved, as if our job was solely to be there.

I believe, had I seen such a lineup as a child, I would have surely believed the people in it were all of incredible importance. Genuine movie stars! In actuality, our IMDb pages were graveyards; we would have had to spend the entirety of our day's wages on the park tickets required to wave at ourselves.

Being an extra is tedious work. You are often shoved in a cramped, cage-like room between takes; on a good day, you're left out in the elements, free to graze from the craft services table when not talking shop or reading a dog eared copy of Una Hagen's *Respect for Acting* while the real stars hurry up and wait in their own trailers. Without the excitement of being number one on the call sheet, the experience of being on set is zero glamor and all banality.

In the hours of downtime you're allowed to wander, like Universal's first visitors, around the lot; there you see that the books used as decoration are hollow, the bread is styrofoam, the doors lead to nowhere. When you are actually there for the purposes of making a film or television show, it is impossible to lose yourself in the artifice being created.

Because while the camera is designed to lie, the human eye is not. The camera doesn't capture the seams, little tells that un-immerses you, like the visible rubber bands that hold the replica license plates on the picture cars. We are closer to the real action than any visitor is allowed to be, and this is by design.

The only way to be convinced by the lie is if you observe it from an intense distance—even further removed than the seat of the king of costume epics, *The Ten Commandments* director Cecil B. DeMille, who would use the perspective provided by his vantage point to criticize robed extras for wearing wrist watches. The majority of Universal's attractions take place in the studio's upper lot, hundreds of feet above the filmed fictions that lie below.

Which is not to say the façades aren't real. They are so real, in fact, they themselves can become victims of real disaster, as was the case when a portion of the Universal backlot caught fire in 2008 after a blowtorch was used to apply shingles to the façade of a New York City brownstone.

As they are empty inside, façades burn quickly; in this case, the flames immediately traveled to Courthouse Square, the set most famously used in *Back to the Future*, before moving onward. In the blink of an eye, two of the eight locations used in CBS's *The Ghost Whisperer* became but a memory. But was the disaster filmed? It was not, as it was unplanned. Most cinematic disasters are made in post production now, anyway.

The façades that burned in the fire were quickly rebuilt. Trams still drive by, but the likelihood of anything happening on them while the tours are taking place is slim. Which isn't exactly a disappointment—you didn't pay \$109 to see an empty street. You paid \$109 to visit *The Wizarding World of Harry Potter*.

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## Author Biography

**Megan Koester** is a writer, comedian and card-carrying member of the Screen Actors Guild. She co-authored the audio book *The Indignities of Being a Woman* with Merrill Markoe, has appeared on basic cable multiple times, and her Adult Swim special *The Last Open Mic at the End of the World* is currently streaming on HBO Max.



Ursula Brookbank

# Lens, Light, Mirror: Various Experiences Made with an Overhead Projector

## Introduction

In 2014 I was searching for a simple, direct, analog image-making method. Something with the tactility of celluloid that could create a gentle, textural image. The discovery of a classroom OHP (Overhead Projector) ended my search and has become essential to my artistic practice. As a device for delivering information, the OHP presents a sense of academic authority. It also makes beautiful images (Figs: 1–10).

Having a biology professor for a father connected me to the concept of the lecture format. My various projects, including moving image screenings, live projection performances and still photographs, have all evolved from the idea of a lecture. Outside of an academic situation the OHP has endless possibilities. Instantaneous images resulting from the manual manipulation of the projector and lens have played a large part in my video/movies, often being the sole method for conveying visual information. What began as a simple lecture presentation of personal objects has grown to include multiple projectors, additional operators, varied locations, a multitude of objects (often handmade from glass or metal), moving panoramas, prisms, transparent overlays, and musicians, creating an expanded live lecture experience.

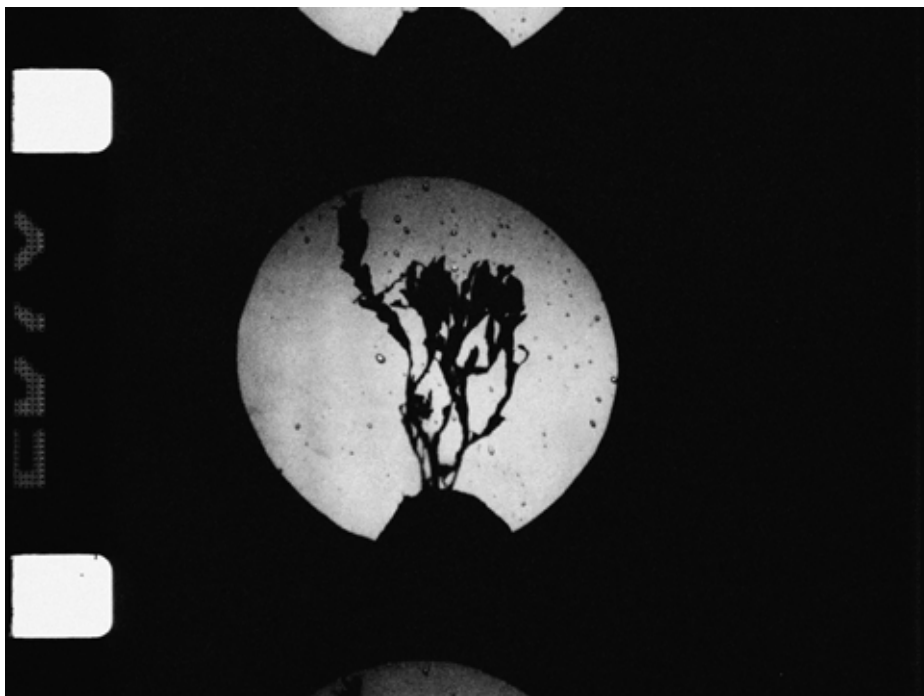
Ordinary things, under conditions of light and shadow, produce another world, one that illuminates the poetry of the ordinary, provoking questions about the information given. Everyday objects become magical, charged with transcendent light. My hand is often revealed in the process emphasizing a tactility and tenderness of touch while engaging with the objects. The lecture format, dating back to the medieval times, and use of the overhead projector with a kinship to the magic lantern, can be experienced as an immersive cinematic experience.

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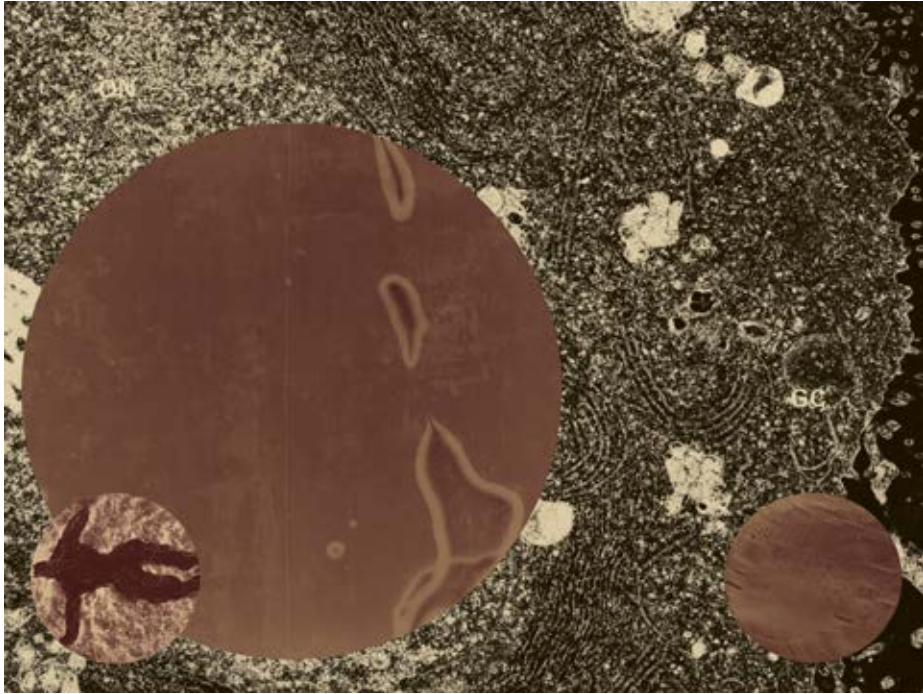
**Note:** All images are the work of the author.

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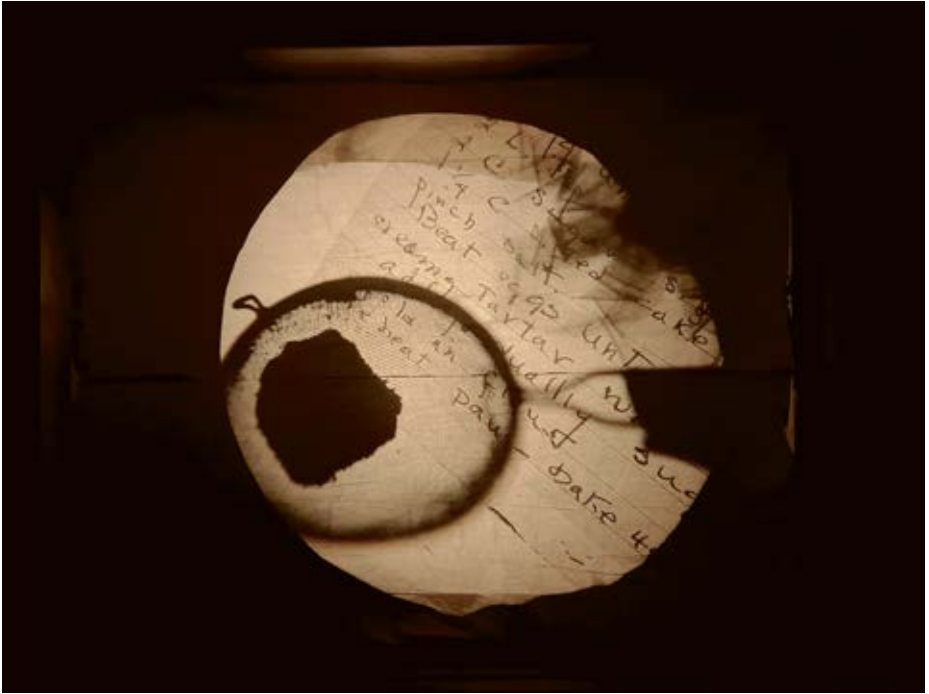
**Ursula Brookbank**, Seattle, Washington, United States



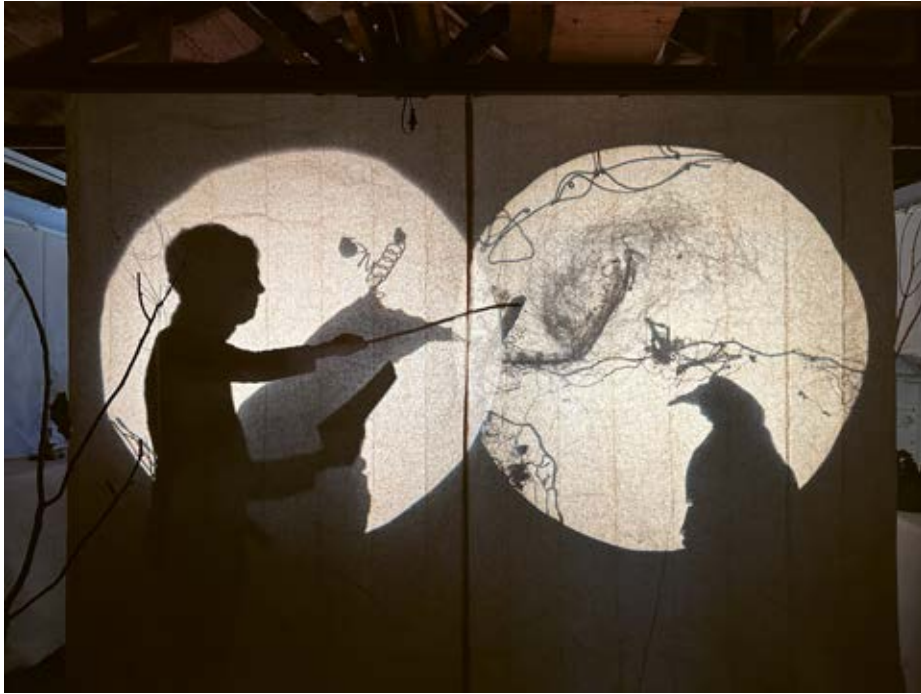
**Fig. 1:** Movie still , *Washington: A Biology Lecture*, 2016–2023. 16mm. Autobiographical in nature, the film includes overhead projection studies of aquatic creatures and botanical specimens from the herbarium of Julia Fritz Jensen, filmed at the University of Washington Marine Labs, San Juan Island, Washington, United States.



**Fig. 2:** Movie still, *Cells*, 2021. Overhead projection of objects, liquids and acetate overlays from a biology textbook, authored by my father study, a world under the skin. Microscopic images move like corpuscles with ambient music by Kris Force.



**Fig. 3:** Projection performance documentation, *David Ireland's Birthday with Ursula Brookbank*, 2021. Rear projection onto a paper screen from inside the garage at the David Ireland House 500 Capp Street, San Francisco, California. Ingredients for an angel food cake and various utensils from the artist's kitchen were used to demonstrate a family recipe for the birthday celebration. The wind blew the paper, making it behave as if it was breathing. Audio featured interview excerpts from *Visions of Paradise (Lunch with Mother)* video, Tony Labat, 1984.



**Fig. 4:** Performance documentation, *Bird Show*, 2021–2023. Rear projection using two projectors, musings on birds with factual information, lyrical music, and song. Projected objects were collected from nature, made from wire, and metal foil. Two performers operated the projectors while a third performer provided oration and music. Presented at the Audubon Bird Center, The Grocery Studios and Wishwood, all in Seattle, Washington, United States. The additional performers were Shelli Markee and Frances Woods.



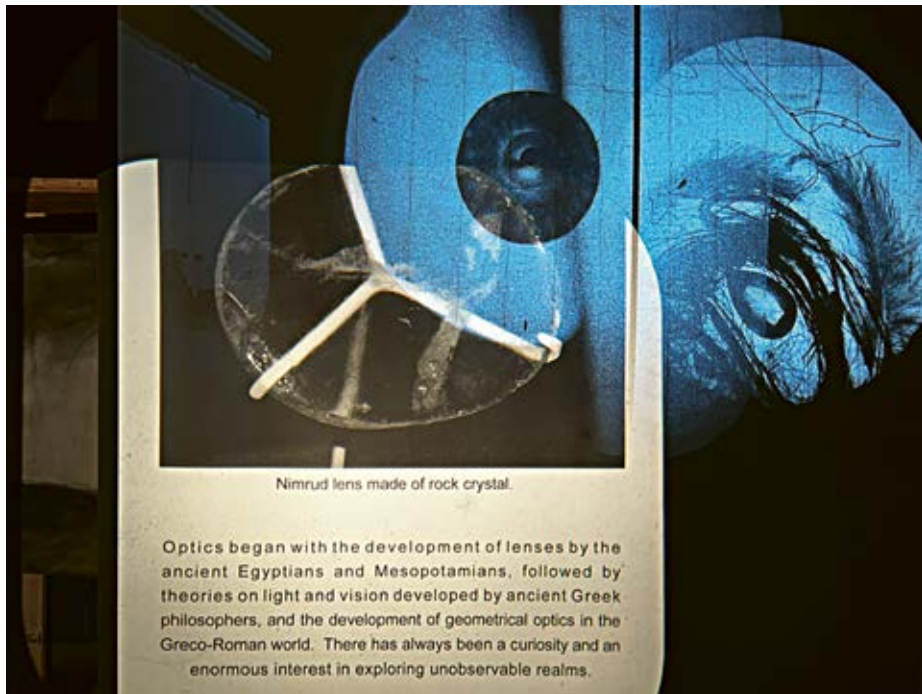
**Fig. 5:** Movie still, *Fulvia's Flight*, 2023. Overhead projection of mysterious personal objects, real and handmade artifacts for a fairytale I wrote about the transformations of an ancient Roman empress. This movie was inspired by a trip to Italy and touring the ancient Baths of Caracalla.



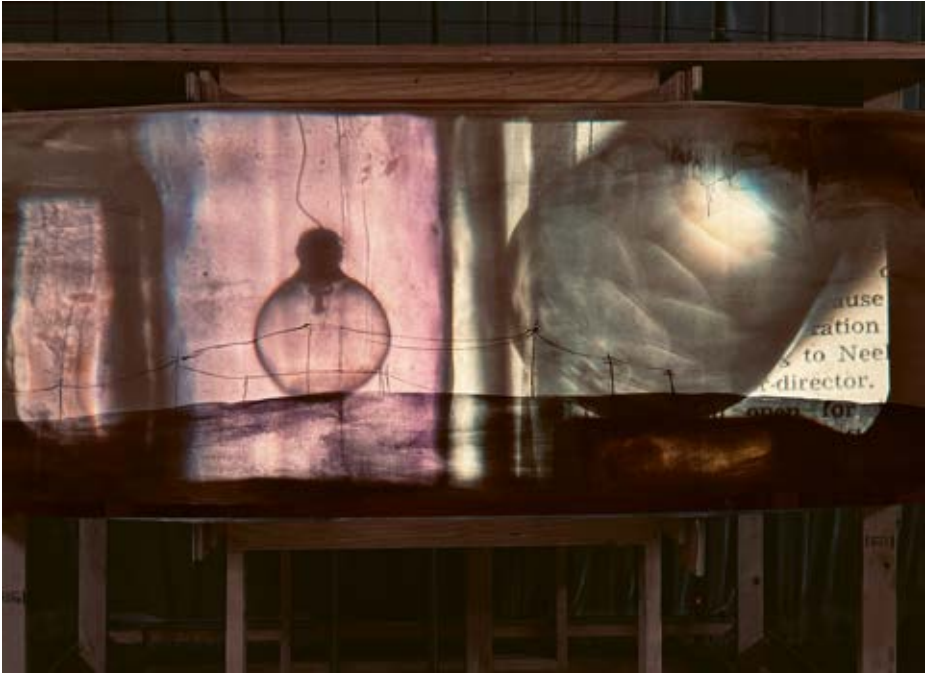
**Fig. 6:** *Untitled*, 2023, used for promotion of the *Wheary Peepers Trunk Show* workshop at the Velaslavasay Panorama, Los Angeles, California. The photograph was created by manipulating the OHP lens to project onto a ceiling, creating a distorted image. Transparent text of an old letter becomes an abstracted memory.



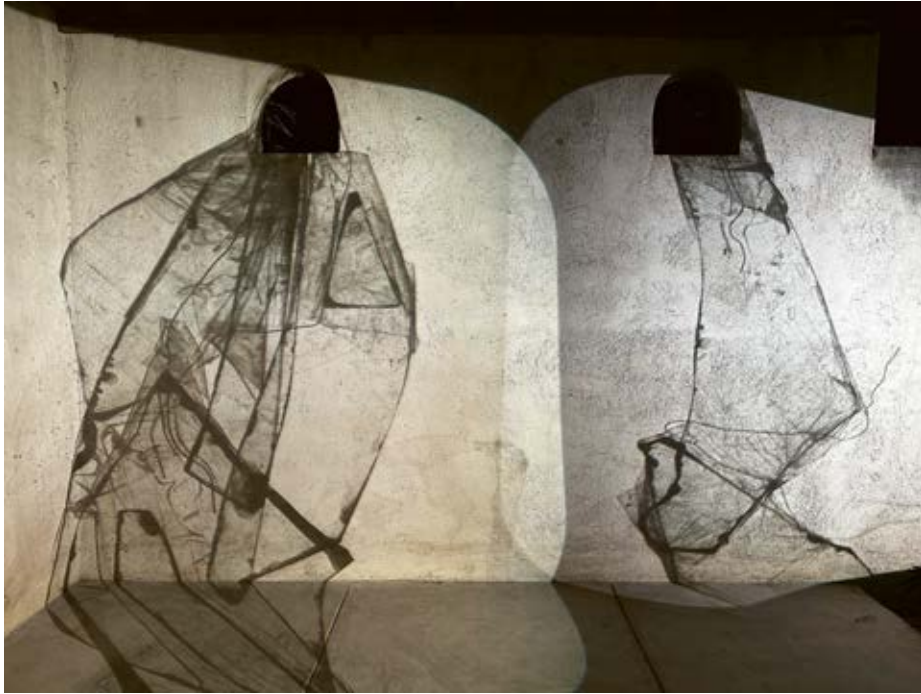
**Fig. 7:** *Body of Glass*, 2024. Studio view of fused glass figure and shapes with a sense of biology. A return to the ideas I explored in my movie *Cells*, new imagery is being developed into another movie about biology, anatomy, and more specifically, transparency related to bodies. Using a stark screen, a simplified lecture presentation will be the result.



**Fig. 8:** Documentation of a lecture performance accompanying *Wheary Peepers Trunk Show*, 2024. To illustrate the origins of the OHP, a traditional lecture presentation with an old school projector screen is layered with video. The resulting experience is a lively form of presenting academic information. A hands-on demonstration was part of this event at the Velaslavasay Panorama, Los Angeles, California, United States.



**Fig. 9:** Live performance documentation from *Wheary Peepers Trunk Show*, 2024. Glass objects, transparent photographs, and memorabilia were projected onto a very imposing mechanical moving panorama that was positioned on the stage. A lonely landscape passed by evoking train travel, sleep, dreams, and looking out the window. Presented at the Velaslavasay Panorama, Los Angeles, California, United States.



**Fig. 10:** Performance documentation, *Music of Light*, 2023. Projection onto outdoor architecture at the Tea House, a domestic art and music venue in Tucson Arizona, United States. Two projectors were used to engage found and artist-made glass objects with the windows on a patio. Cats and bugs also interacted with the projections. Members of the audience were invited to make their own arrangements on the OHP. Improvised music by Andrew Withers.

## Author Biography

**Ursula Brookbank** is a West Coast artist currently living in Seattle, Washington, United States. Her performance, projection, and screening events have been presented at 2220 Arts and Archive, Automata, the Echo Park Film Center, the Museum of Jurassic Technology, the Roy and Edna Disney CalArts Theater (REDCAT), the Dorothy Chandler Pavilion, and the Velaslavasay Panorama, all in Los Angeles, California, United States; onto and outside of David Ireland's 500 Capp Street house in San Francisco, California, United States; The Grocery Studios, Seattle, Washington, United States; and at the Westbeth Gallery, New York, New York, United States.



# Blagovesta Momchedjikova

## Panorama Poem

### Conversations Up Above

Where are you?  
asks my 18-year old son,  
when I Facetime him.  
I am on the top of the world, I say.  
Huh? He thinks I'm joking.  
I am on the 102<sup>nd</sup> floor  
of the Empire State Building, I say.  
I turn the phone around,  
to show him.  
I am looking  
at the whole city  
from above  
I am looking towards  
Brooklyn, where you are  
but I can't see you,  
from so far away. . .  
Have fun, he says.  
Take lots of pictures!  
Stay safe!  
I have to bring you here again,  
I say, they have  
changed so many things  
since we were last here. . .  
Thank you but not  
any time soon,  
he says. He is afraid of heights.  
Why are you there?  
My 17-year old son asks,

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**Acknowledgements:** I want to thank my dear friend Prof. Thiago Leitao, who was a visiting scholar at NYU for 6 months. During that time, we visited many sites together and thanks to his curiosity and enthusiasm, I was able to see many of the places that I had grown too used to, in a new light. I loved visiting the Empire State Building with you, Thiago.

I also want to thank both Thiago and my sweet friend Neven Armanios—both of them encouraged me to write and present a poem at IPC, after hearing me read some poetry at Mary O's, in the East Village. I am so grateful for the encouragement both of you gave me, and I am so happy that both of you got to hear me read the Panorama Poem at IPC 2024 in Lausanne, Switzerland. It was Neven's first time at IPC, and I hope many more will follow.

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**Note:** This work excerpts three stanzas from the longer poem of nine stanzas.

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**Blagovesta Momchedjikova**, New York University, New York, New York, United States

all suspicious,  
 when I call him next.  
 Because I missed seeing  
 the city from above, I say.  
 I wanted to see the Panoramic drawing  
 a guy from England did here,  
 And I wanted to see  
 the city from above  
 with a friend.  
 Oh, hi, Thiago! My son says.  
 My friend Thiago  
 has just called  
 his wife in Rio,  
 she waves at us!  
 Let me show you  
 the view, I say.  
 You are like  
 old people,  
 my son says.  
 Didn't I show you  
 how to turn  
 just the camera around,  
 not the whole phone?!  
 I wish you guys were  
 here, I say.  
 To see what I see.  
 The city is all around  
 and down below.  
 Like at the Panorama in  
 The Queens Museum.  
 Like a scale model,  
 only bigger.  
 But here, you are  
 in the middle of the city,  
 not around it,  
 having risen above it.  
 This is  
 a living Panorama! I say.  
 Pazi se, says my son.  
 Take care!

### **A Vertical Experience**

There is no elevator  
 that shoots you  
 straight up from the first  
 to the 102<sup>nd</sup> floor,  
 or the 86<sup>th</sup>.  
 Seeing the city  
 from the Empire State Building

has been staged  
as a multi-layered  
vertical experience.  
You build up the  
anticipation,  
you prepare for  
the grand view,  
you immerse  
yourself  
in what is to  
come,  
bit by bit,  
with every level  
you stop at.  
1<sup>st</sup> floor welcome,  
scale models,  
wall-sized photos  
of the Empire  
State Building  
from every angle  
and in every  
weather  
condition,  
Then stairs,  
2<sup>nd</sup> floor,  
scale models,  
more wall-sized photos,  
some history  
of the Empire State  
Building  
Then a miracle  
elevator ride  
to the 80<sup>th</sup> floor,  
when the top of  
the elevator as  
if flying off, and  
we see a video  
of the elevator  
going up  
the elevator shaft.  
Some gasp, some  
scream with anticipation.  
Once on the 80<sup>th</sup> floor,  
more scale models,  
wall-sized photos  
of the Empire State  
Building  
a semi-circle historical  
photo panorama,

binocular stations,  
 interactive exhibits  
 more history,  
 The Empire State Building  
 in popular culture,  
 A special King Kong  
 picture opportunity,  
 where Thiago and I  
 take turns to picture  
 ourselves with the gigantic  
 King Kong simulation.  
 To be held in  
 King Kong's  
 hand: oh, the thrill!  
 We giggle  
 with excitement  
 like kids.  
 Then, a dark room with  
 a semi-circle panorama of  
 TV screens with  
 scenes from Empire State  
 Building movies,  
 then glass display cases  
 with Empire State Building  
 memorabilia and  
 merchandise.  
 Now we are  
 surrounded by  
 standard-sized  
 windows. Outside  
 each and every  
 one of them  
 lies the city.  
 Though the view  
 is interrupted by  
 the window frames  
 and the walls between  
 them, it resembles  
 an old film reel with different  
 New York City frames.  
 Looking down  
 through a  
 window,  
 at first the city  
 seems frozen,  
 dead  
 in a vacuum.  
 But when you stand  
 still for a while

you begin to detect  
the city at work:  
cars, trucks,  
and buses  
move along  
clear-cut  
streets and avenues,  
as if part of an  
enormous,  
automatic  
train set.  
Fans on rooftops  
are endlessly  
turning.  
Water towers  
stand tall and proud.  
This view is  
pulsing with life.  
We try to find  
the High Line but  
with no luck.  
We see Macy's, the  
world famous  
department store.  
Thiago finds  
a green, grass-like  
Nike logo  
on a rooftop.  
Logos speak,  
even from a distance.  
They are much needed  
identifiers in the  
ocean of structures  
below.  
Finally, we are at the sketch  
I came here to see.  
It is a bird's eye view  
of the metropolis  
drawn by British  
sensational Stephen  
Wiltshire,  
who circled around  
the city for 45 min, in  
a helicopter, and then drew,  
on a panoramic piece of  
paper, what he saw.  
It took him  
5 days to replicate  
the view,

in pen and pencil, relying  
on his natural gift  
of photographic  
memory.

At the Panorama in Queens,  
I talk about the memory  
palace: a memorization  
technique  
you can train  
yourself to use,  
which  
became  
obsolete once  
we handed over  
remembering  
to other devices.

Photographic  
memory is a unique  
natural ability to  
capture the details of an  
image after seeing it  
just once, and without  
the aid of any  
mnemonic device.

The sketch is framed  
and exhibited  
against the window light  
so no good picture of  
it can be taken.

Perhaps a marketing trick,  
so you can buy  
reproductions of it  
in the gift shop later?

### **The Spell**

On our way out of the  
building  
we are quiet,  
still under the  
spell of the view  
from above  
hoping it will  
last us a while.

We know now,  
that to see the city,  
one needs to leave it,  
To feel the city,  
one needs to stay in it.  
And we are starting to feel

the city as soon as we  
 set foot outside.  
 The city street  
 already feels too loud,  
 too harsh, too dirty,  
 just too much.  
 We spot a  
 security guard  
 we met on the  
 observation deck upstairs.  
 He is now working  
 the crowds  
 at the entrance.  
 How do you switch  
 from the majestic  
 view on top of the  
 world to the  
 smelly street below?  
 And just like  
 that,  
 spell broken.

## Author Biography

**Blagovesta Momchedjikova**, PhD, is a lover and writer of cities, who has been teaching at NYU's Expository Writing Program since 1998. She is the editor of *Captured By The City: Perspectives in Urban Culture Studies* (2013) and *Streetnotes: Urban Feel* (2010); co-editor of *Urban Habits* (2024), *Sounds and Silence in the Pandemic City* (2022), *From Above: The Practice of Verticality* (2019), *Thoughts and Visions On and Around the Queens Museum's Panorama of the City of New York* (2018), and *Public Place: Between Spectacle and Resistance* (2016); and contributor to *The International Panorama Council Journal*, *The Everyday of Memory*, *Robert Moses and the Modern City*, *Streetnotes*, *Iso Magazine*, *The Journal of American Culture*, *Tourist Studies*, *Genre: Imagined Cities*, and *PIERS*. She chaired the Conference Scientific Committee for the International Panorama Council (IPC) for 5 years and the Urban Culture Area for MAPACA for 15 years, originating the "Writing the Urban" Workshop there. She is a founding member and editor of *The International Panorama Council Journal (IPCJ)*, 2018–2023), and sits of the editorial boards of its successor, *Panoramic and Immersive Media Studies Yearbook (PIMSY)*, and *Streetnotes*. She has been a fan, educator, and tour guide of the *Panorama of the City of New York* at the Queens Museum for over two decades.



Jeffrey Ose Ohuaregbe

# The Multidimensional Living Manifesto

## Introduction

As humans, we occupy—varying from bodies to spaces. Navigating with our senses, the human, devoid of technology, exists mainly in the physical plane. The emergence of the internet provided another territory to dwell, enabling us to create a digital presence of self that is conditioned to laws of the webspace. These ‘digital selves’ explore the web-space confined to an X & Y axis with no spatial depth or Z plane. Eventually, with the introduction of 3D models and elements, technology has veered towards an optimized exploration of digital space particularly with immersive media. This concept sees the digital self being more ‘fleshed’ out rather than abstract and thus provides a new perspective.

The Wyld’s Great Globe of 1851 (Fig. 1) was an architecture typology encapsulating a panoramic viewing of the surface of the Earth as captured by James Wyld on the concave interior. 172 years later, we witnessed a reiteration of such typology with the MSG Sphere in 2023. In this case with advanced technology, the panoramic viewing is not only restricted to the concave interior but the sphere’s exterior as well. This makes it a 2-fold shared experience both for visitors and passersby fully establishing its placial identity and enhanced scope of collective memory in the city’s inhabitants.

Placial identity refers to the soul of a structure and its location in space or the distinctive character and significance that a structure imparts to its surroundings and the individuals that explore it. Collective memory is the shared pool of experiences and knowledge held by a particular group which in turn shapes the memories and identities of its members at the individual level. Multidimensional living thus occurs when a structure can be experienced in both physical and digital realms hence creating placial transferability and cohesiveness. The meteoric rise of immersive media provides opportunity for a new ‘viewport’ of physicality. With data and the internet being prevalent, bilocation in the phygital (physical and digital) is an imminent necessity that would usher an augmented experience of human life. By tying the architectural typology from the physical to the digital space, a zero point or point of origin occurs providing ease of transition into the extended reality. With connection to IoT (Internet of things) and AI (artificial intelligence), a spatial framework of information becomes available and integrated real time in the phygital (Fig. 2).

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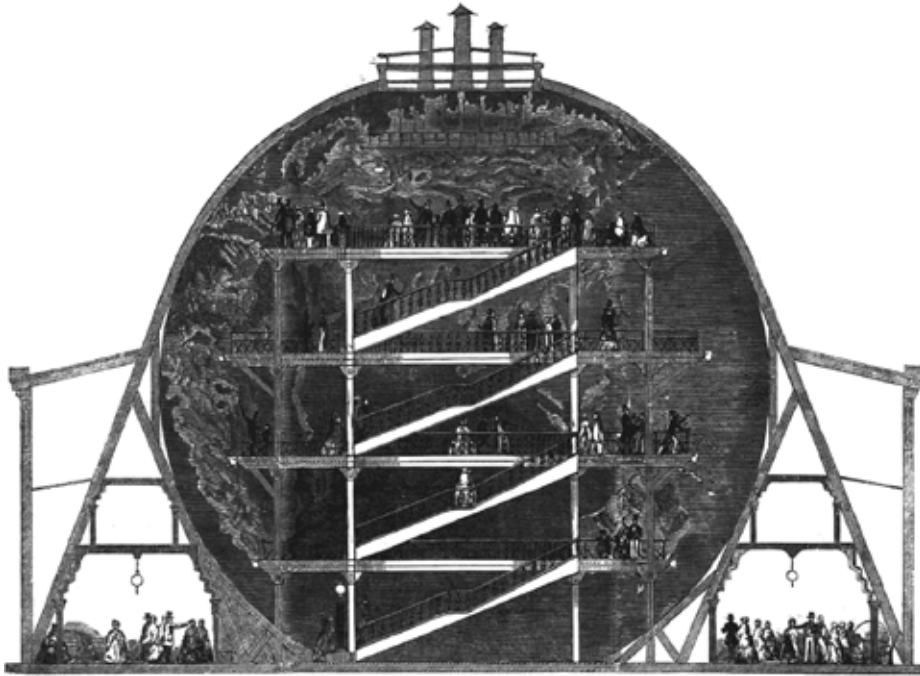
Jeffrey Ose Ohuaregbe, School of the Art Institute of Chicago, Chicago, Illinois, United States

## A Manifesto

The following are the tenets necessary to implement multidimensional occupancy:

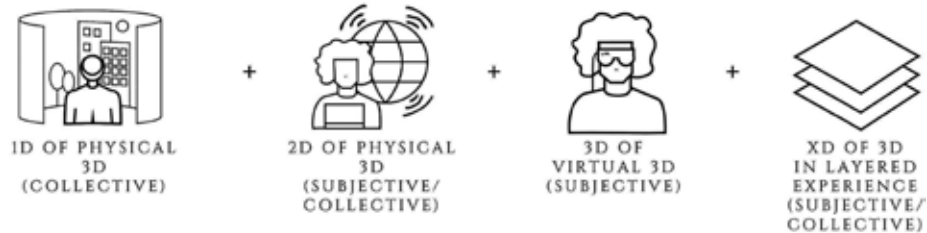
- **Every building must have its digital twin:** For new structures, it is imperative that the building and its digital model are commissioned to the client/owner providing them access in the physical and digital realms. Older buildings can be scanned and made available for access as well.
- **XD Space within every architectural typology:** Following panoramic-based architecture, XD (extended dimension) spaces should be located in a separate zone in all building typologies (residential, commercial, health, etc). This would serve as a recognizable transition point into the extended reality while providing ample room for full immersion.
- **Every building must be smart:** Using the internet of things, structures should be built to be ‘online’ so as to ensure connectivity and render real-time information of itself within the phygital. New buildings can be designed to house technological gadgets and wiring while older buildings can be rehabilitated.
- **All spatial data should be shared and accessible across platforms:** Data collected should be accessible to users of both augmented reality (AR) and Virtual Reality (VR) devices, except if restricted. This enables seamless connectivity for both use cases and promotes cross-platform interaction.
- **Enforcing typology-specific content access in XR (Extended Reality):** By limiting access of certain content to its physical architecture typologies (e.g. museums, offices etc), there would be a nudge for people to visit physical locations to unlock such content. This promotes a healthy balance of life in the phygital and ensures physical human interaction.

To experiment with the emergent technology, I designed a prototype home utilizing the geodesic dome to speculate how the XD space can be inculcated in the residential typology (Fig. 3). Curbing the risk of isolation, these shared spaces become a physical anchor for digital exploration while retaining the structure’s pertinent value. Enabling inhabitants to work, live and play in the phygital is a leap forward to the imminent future with its potential gains and significance to human civilization.



**Fig. 1:** *Interior of the Great Globe*, Illustrated London News 7 June, 1851. Created by map maker James Wyld, this attraction was open to the public in London's Leicester Square from 1851–1862. Image, Public Domain via Wikimedia Commons.

## HOW WE EXPERIENCE SPACE



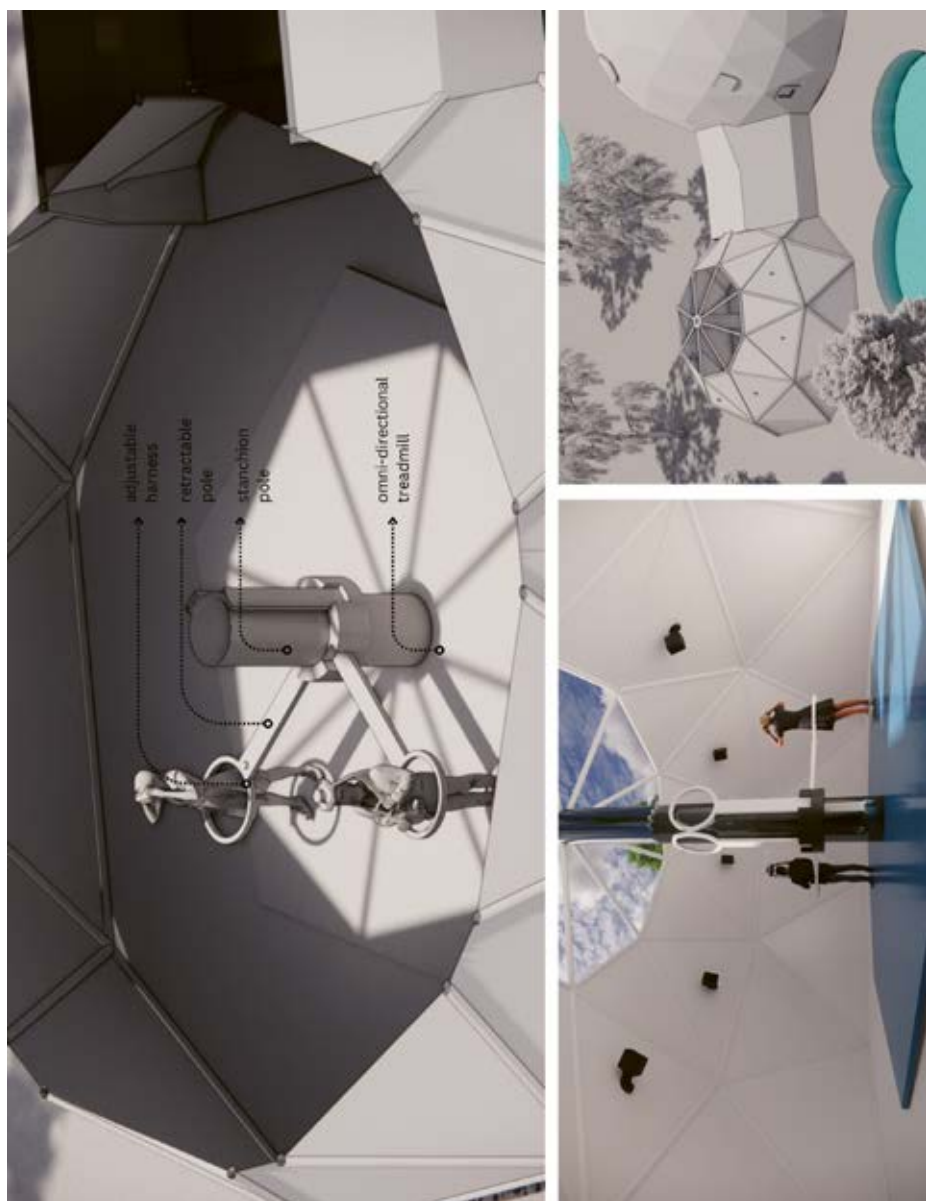
**1D - PHYSICALITY**

**2D - PHYSICAL AND WEBSPACE**

**3D - PHYSICAL, VIRTUAL AND EXPERIENTIAL**

**THE MULTIDIMENSIONALITY OF PLACE IN XD  
(EXTENDED DIMENSIONS).**

**Fig. 2:** *How we experience space*, 2024. Image, Jeffrey Ose Ohuaregbe.



**Fig. 3:** Axonometric section of XD space, 3D rendering of XD space & Axonometric View of XD space connected to Geodesic Dome Home, 2024. Image, Jeffrey Ose Ohuaregbe.

## Author Biography

**Jeffrey Ose Ohuaregbe** (NOMA, Assoc. AIA) is an M.Arch graduate from the School of the Art Institute of Chicago. He was born in Nigeria and also graduated from the University of Benin, Nigeria with a Bachelor of Science in Architecture. O.J. believes in the interdisciplinary nature of architecture leaning on concepts from Vitruvius to Da Vinci. He experiments with a variety of disciplines ranging from design, fashion, graphics, robotics, and art then culminates these experiences into his design approach. As a polymath, O.J. appreciates the interconnectivity of every field and is continually curious and willing to learn and experiment with new techniques, systems and fields.



Matilda Bathurst

# The Wilderness Shall Blossom as the Rose

~ A Wrap-Around Prophecy in Pasadena ~



Driving through the streets of Los Angeles, lowered from the level of the highway-sky and slowed by the tangles and fabric of the city, the suburban Londoner will soon become aware of the presence of medieval architecture.

As a British citizen holding lightly to the status of Los Angeles resident, I choose to use the local terminology, “medieval.” I.e. that sloughy European *durée* before the invention of the handheld firearm, when self-defense was limited to swords, maces, and lances—an era sufficiently captured in the arena of the Medieval Times Dinner & Tournament in Buena Park, Orange County, where knights on white horses engage in staged combat, while a four-course feast distracts attention from historical accuracy.

In a city where residential architecture is adjacent to movie studio sets, the flat-packed façade is an accepted element of the Los Angeles vernacular. Of the many options of mythologies on offer, the Dark Ages have an unexpected appeal—surveilled by near-constant sun, the floodlit city finds its shadow and escape in the creaky design features of the olde worlde.

Medievalism at street-level has two primary modes. The high-theme sales pitch—motels modelled on gingerbread storybook cottages, squat mini-malls posing as wattle-and-daub villages; or amnesiac assimilation—polyurethane-beamed shopfronts for vape shops and taquerias, the origin of their style long absorbed into the walls.

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Matilda Bathurst, UK / United States

If the sight of these buildings makes me feel at home, it is not because they reconnect to a root system of Chaucerian garderobes and English Heritage-funded castles. Rather, they are reminiscent of the neo-Tudor homes that line the inferno circles around Heathrow, or the late Victorian villas built for solicitors and pharmacists, each door capped with a domain name inscribed in Gothic font—Rosemont, Edelweiss, Beulah.

Yet even as I think I have found a source of grounding—is Los Angeles pastiche really so different from English aspiration?—a doubt starts to seep into my mind like rising damp. Those suburban follies I knew in England were pungent with desire, whereas Los Angeles consumes olde worlde aesthetics just because it can—part of a global pic-a-mix of architectural styles, empty of either context or craving.

However, it would be wrong to assume that Los Angeles is bereft of craftsmanship. This is a city that takes its stage sets seriously, with guilds to protect the labor of expert technicians. Visit the Tam O'Shanter in Atwater to experience the hospitality afforded to a kilted Scottish laird, your whiskey glinting beneath blazing wall sconces and warmed by the fortifications of wood-paneled walls. Slide into a booth at the HMS Bounty in Koreatown and witness the seafaring camaraderie of the captain's table; dusty alcoves stocked with ships-in-bottles, low ceilings hung with dim red lamps. These are the places I would go when yearning for solidity—to the most effective stage sets.

But to really capture the Los Angeles love of craftsmanship, we need to gain access to the most coveted stage sets of all—to that dark interior of the Los Angeles psyche, the object of desire that launched the city's sprawl—the so-called “single family home.”

\*

Leaving behind the hungry streets of commercial zones—as wide and hostile as a motorway to the English mind—you'll find tree-lined avenues intended for children to play safely and for dogs to convey status. Here, along the high-palmed avenues of West Adams or the arcadian lanes of Pasadena, you will encounter the craftsman bungalow—an architectural style modelled on the principles of the Arts and Crafts Movement, an aesthetic philosophy that originated in England in the mid nineteenth century in response to the mechanization of the Industrial Revolution.

The Arts and Crafts Movement advocated for the value of skillfully crafted hand-made objects as the premise and expression of unalienated labor. Inhabiting a house that emerged from the landscape and living among objects of beauty and use, the householder would once again feel at home in the world—with himself, with his work, with the rhythms of growth, time, and decline.

For the English art critic John Ruskin, whose writing and social reform campaigns established the foundations of the Arts and Crafts Movement, the archetype of the joyful laborer took the form of the medieval craftsman. Ruskin imagines the masons who built the great cathedrals of Europe, absorbed in the arduous toil of carving saints and gargoyles, euphoric as they clung to the giddy scaffolding of spires.

The craftsman—Ruskin speculates—was sustained and sublimated by the conviction that he was working for the glory of God. But how could this figure—simple of

heart and sure of hand—survive the Victorian age, threatened by the chatter of apes and the long withdrawing roar of faith? Cut loose from the support ropes of his God and relocated to the soot-streaked streets of Manchester and London, the craftsman found an alternative source of orientation. He redirected his efforts towards transforming a sick society; infusing a morality into the material culture that served as ballast and backbone for Britain at the height of the empire.

Before long, the craftsman was being called upon to etch his memories of medieval emblems into kitchen cabinets and fireplace inglenooks; techniques for stained glass, borrowed from Orvieto and Chartres, found new and lucrative uses when applied to the windows of downstairs lavatories.

Itinerant by nature and well-suited to a nation of materialist-idealists, the craftsman found easy passage to the United States. Settling first in Boston, he received a courteous welcome from Italianates and Anglophiles who sought a unified scheme of aesthetic and moral order for their Grand Tour souvenirs. His ideas were treated decorously and translated fairly accurately—enshrined within the catechism of the Boston Society of Arts and Crafts, flickering in the last light of the Victorian age.

With the blank canvas of a new century before him, the craftsman embarked upon his own mission of manifest destiny. Venturing west, his new-found detachment from antimacassars inspired the expansion of Prairie Style. Funded by Buffalo railwaymen and Cleveland steel moguls, he combined American mod-cons with his own primordial instincts for tangled vines and sacred geometry. In Iowa, he was reunited with his countrymen, and settled for a while to learn bookbinding and quilting techniques from neighboring Scandinavians.

Having come of age among fin-de-siècle decadents, the craftsman was not designed to withstand Midwestern austerity. After a winter of stitching hymnals and consuming cabbage from a jar, he joined a convoy of Swedish settlers in search of sun. Someone had once seen a speculator's postcard of palm trees and orange groves; they made their way through the southwestern deserts in search of the oasis.

By the time he reached California, the craftsman had developed various food intolerances, a penchant for Japonisme, and a tuberculosis cough that called for open air and sleeping porches. In *The Craftsman* magazine—which published his principles as a pattern language for replication—he read of the benefits of Hydratite waterproofing and Sanitas washable wall-covers—technologies sufficient to exorcise the traces of any Canterville ghost.

The magazine gave its name to the modern craftsman house, providing floor plans and stylistic guidance for readers inspired to build their own. Launched in 1901, its pages heralded a new and progressive age built on the best of what had come before—a contemporary approach to artistic and skillful living, featuring in-depth analysis of Flemish tapestries alongside articles extolling the benefits of jiu-jitsu gyms.

In the language of Los Angeles real estate, the craftsman house is compressed simply to “craftsman.” Thus, the medieval laborer—now so far from his origins at the roots of the green world—is finally sublimated to architectural form. He manifests, static and

sturdy, heftily belted by a wrap-around porch, his gables supported by tapered columns of boulders or bricks. His eaves are deep, and exposed rafters with filigree brackets reveal his aesthetic tensions—an instinct for structural straightforwardness, entwined with a liking for ornament and organic form. His elements, his pattern language, could be cut and rewoven like strands of DNA in shades of rust, ochre, and sage.

Here, at home, the craftsman finds a place of rest—his evolution suspended, earthy and idyllic, before the arrival of sanatorium aesthetics and the strictures of war. Today, when doomsday narratives of rapid technological development and the global ecological crisis hold equal media sway, the moral argument of these houses has attained a new relevance. The craftsman makes tangible—inhabitable—a vision of engineering and industry continuous with nature's telos, a shelter for the son of man as free of neuroses as a burrow or a nest.

\*

It was several years after moving to Los Angeles that I crossed the threshold of my first craftsman. I had observed these houses from the outside, passing by on warm evenings just as the glowworms were starting their nightly vigils. I had admired the patterned window panes of floral motifs and geometric tracery, and found my gaze drifting to the gestalt of the interior—seeking the recesses of built-in cabinets and heavy-mantled fireplaces, occasionally modeled by the slow and lamplit movements of residents as they engaged in the closing of the day—the dusting of a desk, the construction of a smore—until my eyes seemed to attract some unconscious apprehension, and the blinds were lowered against the dark outside.

I hadn't been inclined to investigate further. As a transplant to California, still thirsty for seemingly limitless resources of sun and the fractal surfaces of Hockney-esque pools, craftsman houses seemed to me an aberration, a dark and hulking retreat to the world I had left behind. I selected my friends carefully and accordingly. Semi-successful and committed to cleanliness, they gathered on the premise of a shared liking for modernist aesthetics, tennis, and chaparral scents. Almost all of them lived in houses with an east-facing breakfast nook, a single basil plant, and a blue Matisse cut-out print framed on the wall.

For the most part, this set-up served me well. The brunches were gluten and histamine free, the evenings were early, the microdoses friendly. It was only the holidays that were hard. Not being attuned to alerts that Thanksgiving was approaching (pumpkin spice lattes at Starbucks), or Independence Day (flags attached to toothpicks, on sale at CVS), I often found myself without plans shortly before the entire city went into party mode. As a result, I would typically latch onto a friend's schedule last minute, finding myself adrift from breakfast nooks in a far-flung part of the city.

That was how I accessed my first craftsman. On a dusty golden evening, one Fourth of July, the national celebration of detachment from the English.

The invitation had come from an East Coast screenwriter friend whose English credentials were much greater than mine, given that she could trace her lineage to Plan-

tagenets. The party was to be held at the Batchelder House in Pasadena, the home of an antiques dealer specializing in the Arts and Crafts Movement, and I received a brief and online-accessible architectural primer in advance.

This was sufficient to expect a c.1910 “woodsy” Swiss chalet-style bungalow built by Ernest Batchelder, one of Southern California’s foremost tilemakers, whose earth-toned, slip-glaze tiles, can be found installed on domestic fireplaces and in public buildings throughout the United States. Single-surface tiles are interspersed with highly-worked relief designs across a wide range of categories for meaning-making: heraldic emblems, medieval knights, mayan patterns, oaks and angels, and—a particular favorite among California homeowners—a whole aviary of peacocks, raptors, and songbirds. The tiles were produced in the backyard studio, alongside a platform for performance where Batchelder’s wife, Alice Coleman, staged chamber music concerts.

On approaching the house for workshops and soirees, the artists and patrons of Pasadena would walk along a garden path of mottled brown and green tiles—and here, expectation cedes to experience. The path spread out before me, as though two peacocks had merged together and pixelated into squares.

Standing at the open front door; that evening of the fourth, my attention could have settled upon any arrangement of objects and materials. The built-in wooden desk that once served as a display counter for Batchelder’s tiles; today, set with Tiffany-style lamps projecting silhouettes of cattle, windmills, and milkmaids. The heavy fireplace of brown glazed tiles, inlaid with motifs of exotic plumed birds and guarded by relief sculptures of shield-bearing lions. The turquoise ceramics and glassware placed on the ledge of the paneling—fluted edges and orbs, reflecting the light cast by Japanese hanging lanterns.

On another day, in another mind—what the eye cuts through to, might be different. What it alights on becomes a sign, an indication of what you are seeing, you are seeking, at that time. The aperture is only ever as wide as the world at that moment, and expands to fit the shape and duration of attention.

As it happens, the first thing I saw, subliminally selected, was not authentic to the origins of the house. It was a layer added later in the 1980s: a wallpaper frieze that wrapped around the room just below ceiling level.

A reproduction wallpaper, based on a 1901 poster produced by the Arts and Crafts illustrator Walter Crane as a protest against the Boer War. Proud lions, teeth bared, process in linear fashion, making their way between thorny rose stems. The lions are guided by flying doves, and snowdrops bloom beneath their paws; an unbroken scroll of text weaves around their brawny bodies. Its message becomes the mood and meaning of the room; an oblique key that is part poetry, part pageantry, part prophecy:

~ The Wilderness shall blossom as the ROSE ~

The line is borrowed from the Book of Isaiah, in which the prophet stages a panoramic vision of divine judgement upon Jerusalem: the purgation of the city, the salvation of the righteous, and the restoration of God’s kingdom on earth. We are told that on the day of His vengeance “the heavens shall be rolled together as a scroll”; that the land

shall be soaked in blood, that palaces and fortresses shall be overgrown with nettles, brambles, and thorns.

The wallpaper reveals the next scene; the wilderness where humans once walked. In time, God's people will be granted forgiveness and civilizations will rise again—fountains and flume pools, lending libraries and leisure centers, crystalline domes and highways of holiness. But in the meantime—the dreamtime—the skeletal structures of cities are home to the lion, the satyr, and the screech owl.

What is this blossoming—what is promised? For Isaiah, it is the redemption of those chosen few who can read between the lines of their own desire and restore the Earth to its natural order, a cosmos wrought from chaos. The wilderness is worked-with; it becomes the raw material for human invention and world building.

For Crane, the promise of the blossoming is the socialist vision of freedom from economic slavery—man no longer locked into the capitalist contract, duty bound to produce and to consume. From the contaminated wasteland of industry would rise a reinterpretation of the green world, a land that Crane referred to as “Merrie England.” The phrase appears in miniscule script on a scroll in the lower right-hand corner of Crane's 1895 woodcut, “A Garland for May Day.” May, the female embodiment of the triumph of labor, is dressed in peasant garb and walks barefoot upon fertile fields; a re-grafting of medieval pastoral, efficiently stripped of the feudal system and culled of every last warmongering lion.

Where is this blessed plot, this earth, this realm, this Merrie England? Perhaps in Pasadena which, it should be noted, is technically a separate city to Los Angeles (the transition between municipal districts made known primarily by the removal of the right to turn right at a red light). The promise that the wilderness shall blossom holds the receiver in the forever future tense, suspended in the faith-zone of the eternal not-yet.

To live contained within these words—the wallpaper proclaims—is to exist in a halfway house to heaven on earth. For as long as the letters stick, as long as the paper does not peel, there is the possibility of absorbing the prophecy and carrying it forward into the outside world.

And yet—the effect of the frieze is not so much elevation as compression. There is something anxiety-inducing about being immersed in its message; the wrap-around form and the density of the briars press inward like library stacks closing. In its insistence, the ROSE risks slipping its meaning—becomes a rose, is a rose, is a rose, and finally subsides to lion-language.

If a lion could speak, we would be unable to understand him. I poached this phrase from a philosopher, but it doesn't take an education in logic and linguistics to attain such gnostic knowledge. The un-cut continuum of the scroll opens space for doubt; the emphatic repetition and overlaid appliqué of the words draw attention to the wallpaper as—paper—and yet it is also *trompe l'oeil*, the dimensionality of the folds—of the scroll—tangling the neural networks of the brain—the medium shifting register to tapestry, to film strip, to stop-motion, to panoramic pageant with subtitles—each incarna-

tion tinted with the opalescence of dream and psychedelia that is the particular palette of Isaiah in California.

There is no melody of prophecy without the hum of oblivion. In being wrapped within, the foregrounding of messaging only sinks to background, sense yielding to sound, to pure pattern, as untranslatable as a dense thicket of briars designed to keep growing after you've left the room.

This is the curse of immersion: to be submerged, sunk inside—is to become accustomed to not-noticing. It is only when the qualia of immersion are brought to the surface that we become aware of our element. The forest for the trees, the water that we breathe.

It's a phenomenon leveraged by immersive environments staged for entertainment—from the cityscapes of nineteenth century panorama paintings, to the VAN GOGH! etc artist amplifications favored by museum marketers, to the augmented reality applications that conjure rare beasts and restaurant recommendations into otherwise uninspired surroundings. These experiences offer us an escape into intensified presence—a renewed awareness of what it feels like to be a body as receiver, a medium for a superflux of sensate information. It is fun to feel the swirls of a starry night revolve around you, and to walk beneath the heavy heads of huge drooping sunflowers. It is enlivening to survey your city as a spin in 360°, instead of being down there, on the grey pavings, with the gum under your feet.

Immersion, these technologies tell us, is all we have ever wanted—ever since being wrenched from our amniotic habitat, and then again—this morning—when some malevolent motivation forced us out of bed. Expulsion is the premise for re-entry into wonder, but the fee at the door only holds for as long as we believe ourselves dissociated, beings made for not-noticing.

What would happen if we recalled that we exist as immersion? Born umbilical, strung within this tensile, flexing net we call reality. That we live in panorama; for as long as we can see and spin. And yet, forgetfulness is the source of human survival. It is our evolutionary duty to normalize the extraordinary and gloss over glittery mysteries, applying open awareness only to the degree that it might enable us to evade any last remaining lions.

This is why the going price for immersion remains stable. And then, the final twist of the knife—that on entering spaces framed as immersion, zones in which we become self-conscious of experience, we are set at one remove—no longer immersed. We have been plucked out of the picture. Until we remember that the only way back is through forgetfulness.

Prophecy operates by the same mechanisms of revelation and assimilation. It is the prophet's lot to articulate a truth—but always to speak obliquely, so that we might receive that truth as our own. Credibility depends on resonance; an apprehension of the message already inscribed within us (whether or not the words were first planted by the prophet), and it is the proof of wisdom to be passed over as truism. Articulation becomes an applied art, always in excess of what needs to be said. Thus, in being written

and repeated, and around and around the room, Isaiah's prophecy is pre-scripted for an amnesiac unscrolling—a homily-mnemonic that recedes as it is read.

If only we could remain attentive to the wrap and reality of wonder, instead of allowing ecstasy to slip the net again. But this is the rhythm of perception, the dynamic rising to the surface and sinking again to background, which describes what it feels like to be alive. The eye is designed like a panorama rotunda: the strategic pinpointing of a distant tower to create depth of field, and the softening fall-out of focus modelled by the curvature. What our attention alights upon, blossoms. But there is no attention without distraction, no knowledge without not-noticing. For this reason, we will always be blessed with the potential to re-know the rose. Always and again, the ever-present possibility, expectant and forgetting.

And so, I cannot remember what new guest, or small dog, or opening gambit, or offered snack prompted my attention to stray from the scroll and to spend the rest of the evening oscillating between half-seen stimuli; the Japanese painting of the crane in the stairwell, the red-white-and blue strata of the rice krispie squares, the flaking faces of colonial-era portraits, and how to find the right flavor of seltzer in the already melting ice of the cooler.

And then, as darkness fell, attention following back along the peacock path, now monochrome, to the bridge over the Arroyo where the guests will gather to watch the fireworks. Someone mentions that archers practice there, down in the parched earth between the banks of the riverbed. Arrows imagined—briefly—until sight responds to sound and eyes are raised to the sky, attention switching north-south, either side of the bridge, and the show arches over our heads like a painted firmament.

Later, driving home, flowing forward along the concrete channel of another dry arroyo, fireworks east and west of the 110, up ahead over the skyscrapers of Downtown, and reflected in my rear-view mirror. The exit to Olympic. Then, waiting for the turn to my street between Covered California and Iglesia Roca Fuerte, watching firecrackers explode on the sidewalk and feeling the hit and scatter of burning remnants against the roof of my car.

Parked between two pillars in the narrow garage, and now walking into the courtyard of my motel-style apartment; around the illuminated dolphin-blue pool, keys opening the metal grille of the double front door. Inside, darkness and the sonic ricochet of every backyard bottle rocket. Twisting the switch of each lamp sequentially, then proceeding inward to the boudoir between the bedroom and bathroom, a waiting space for 30's starlets not yet qualified for Hollywood. The building shudders, the light flickers. Momentarily reflected in the three-way mirror; all of us together, in our impossible independence.

And at last, entirely alone. Entering the walk-in-wardrobe for another unconscious undressing, the walls papered with post-it notes—reminders, intentions, predictions—some still recent and readable, others fallen like layers of petals to the floor.

## Image Credit

Wallpaper section from *The Wilderness Shall Blossom As the Rose* based on an original image by Walter Crane, Bradbury & Bradbury Art Wallpapers, 1988. Image, Author.

## Research Material

*The Batchelder Tiles: A Catalog of Tile Products Made in Los Angeles by The Batchelder Wilson Co.*, 1923, Los Angeles: The Batchelder Wilson Co.

*The Craftsman*, 1901–1916, Eastwood, New York: United Crafts, Digital Library for the Decorative Arts and Material Culture, University of Wisconsin-Madison. <https://search.library.wisc.edu/digital/AQ5VII6GNL36H78T>

*VR Field Trip: Pasadena Museum of History: Ernest Batchelder Exhibit*, 2016, History View, <https://historyview.org/library/pasadena-museum-of-history-ernest-batchelder-exhibit/>.

## Author Biography

**Matilda Bathurst** is a writer originally from London and now based in Los Angeles. She is a graduate of University of Cambridge and the University of Iowa Nonfiction Writing MFA, and her essays and art criticism have been published in *ARTnews*, *The Economist*, *The Independent*, *Apollo*, and *The Iowa Review*. She writes about the contours and contradictions of craft: art, architecture, furniture, gardens, literature, dressmaking, myths.



Tonia Ramogida

## Panorama: IPC 2024 Post-Conference Tour




“once a year we get to feel normal”:

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**Acknowledgements:** Thank you to Prof. Sarah Kenderdine for making the trip possible. Thank you to my colleagues Daniel Jaquet and Tsz Kin Chau for your respective feedback on form and content which helped shape the work.

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**Tonia Ramogida**, Researcher in Digital Humanities at the Laboratory for Experimental Museology, EPFL, Master's Student in Digital Humanities and English, Department of English and Faculty of Arts, University of Lausanne, Lausanne, Vaud, Switzerland

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raptured  
by  
the melancholic

sign.



c  
a  
r  
n  
i  
val-  
esque discovery:



wonder-world



and portal.



the canvas once was taller:  
excised swathes of steely sky



used to catch the eye  
and sweep the looker in  
on dead-of-winter wind  
to Verrières, but vaster, where  
men, she said,  
“seemed lost.”

Forlorn men, today, still falter  
in the uninviting cold,



and “frost bitten big toes  
still fall  
off  
feet  
like  
ripe  
prunes.”



sticky plum-on-biting white:



captivating

hard

appeal

& zeal

for

gory

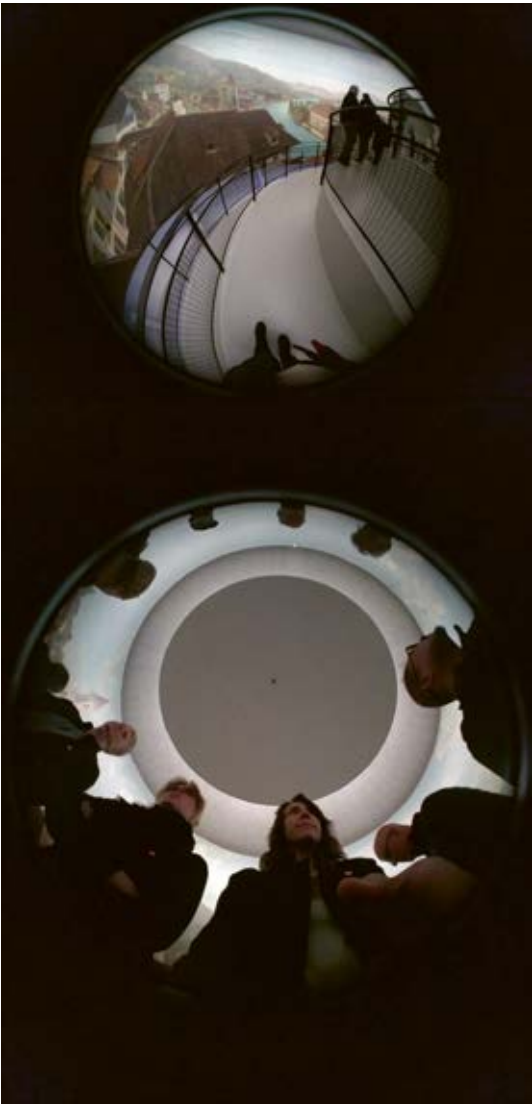
detail.



leaving time



to river    roofs



on

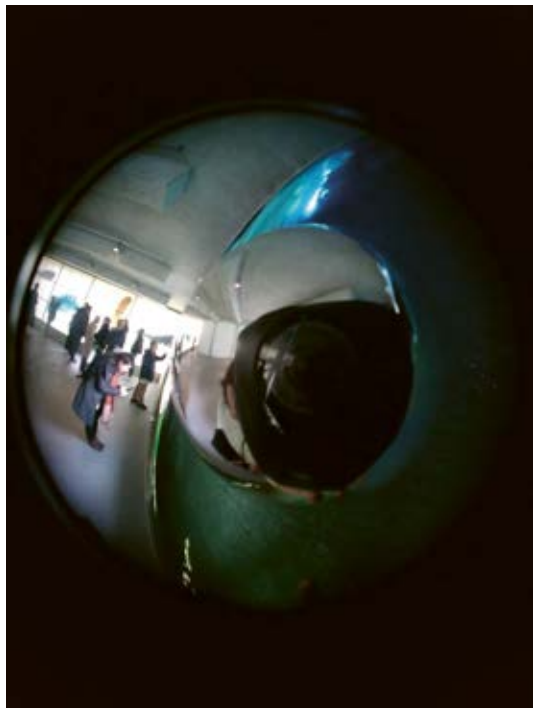
Thun's

attuning

tiers



tired eye



till the end

a-looking

## Key to Images

*In order of appearance:*

Page 247

**Fig. 1:** Exterior view of the rotunda. Panorama of Jerusalem and the Crucifixion of Christ. Einsiedeln, Switzerland. Image, Tonia Ramogida, 2024.

Page 248

**Fig. 2:** View from the observation platform with *faux terrain* elements visible in the foreground; here, a weathered tent on rocky ground littered with broken dishes. Panorama of Jerusalem and the Crucifixion of Christ. Einsiedeln, Switzerland. Image, Tonia Ramogida, 2024.

**Fig. 3:** Penetrating the *faux terrain* and finding vintage panorama signs. Panorama of Jerusalem and the Crucifixion of Christ. Einsiedeln, Switzerland. Image, Tonia Ramogida, 2024.

**Fig. 4:** View from the bottom of the *faux terrain* looking up to the sun sail and skylight windows. An unexpected room is seen beneath the observation platform. Panorama of Jerusalem and the Crucifixion of Christ. Einsiedeln, Switzerland. Image, Tonia Ramogida, 2024.

Page 249

**Fig. 5:** Close up view of the Fuchs family's private museum beneath the observation platform. The Fuchs family have owned and operated the panorama since its inception. Panorama of Jerusalem and the Crucifixion of Christ. Einsiedeln, Switzerland. Image, Tonia Ramogida, 2024.

Page 250

**Fig. 6:** Entryway to the Alpineum Kaffehouse°Bar. Alpineum Museum. Lucerne, Switzerland. Image, Tonia Ramogida, 2024.

**Fig. 7:** Entryway to the museum and diorama displays from inside the coffeehouse. Alpineum Museum. Lucerne, Switzerland. Image, Tonia Ramogida, 2024.

Page 251

**Fig. 8:** View of the Bourbaki Panorama from the observation platform. Bourbaki Panorama. Lucerne, Switzerland. Image, Tonia Ramogida, 2024.

**Fig. 9:** Tour participant on the observation platform, with a view of the painting's desolate landscape and distant marching men. Bourbaki Panorama. Lucerne, Switzerland. Image, Tonia Ramogida, 2024.

**Fig. 10:** View from the Bourbaki Panorama guided tour; the guide appears in the middle of the group and is pointing towards the canvas. During the tour, the guide provided wonderful details about soldiers seeming “more lost” prior to the removal of upper sections of the canvas depicting the valley’s vast sky, as well as a gruesome historical account about soldiers’ fruit-like frost-bitten toes. Bourbaki Panorama. Lucerne, Switzerland. Image, Tonia Ramogida, 2024.

Page 252

**Fig. 11:** View of a very cold-looking soldier, one of many human figures in the *faux terrain*. Bourbaki Panorama. Lucerne, Switzerland. Image, Tonia Ramogida, 2024.

**Fig. 12:** Close-up view of realistic, air-pocketed bread in the elaborate *faux terrain*. Bourbaki Panorama. Lucerne, Switzerland. Image, Tonia Ramogida, 2024.

Page 253

**Fig. 13:** Tour participant greeting a local cat in Iseltwald on Lake Brienz before boarding the bus for Thun. Participants enjoyed a lakeside lunch in the picturesque village. Iseltwald, Switzerland. Image, Tonia Ramogida, 2024.

**Fig. 14:** Participant on the upper tier of the Thun Panorama observation platform. Thun Panorama. Thun, Switzerland. Image, Tonia Ramogida, 2024.

Page 254

**Fig. 15:** View of the observation platform’s winding tiers with Thun’s Aare River depicted in the background. Thun Panorama. Thun, Switzerland. Image, Tonia Ramogida, 2024.

**Fig. 16:** Participants gathered in circular formation on the upper tier of the observation platform during a guided tour. Thun Panorama. Thun, Switzerland. Image, Tonia Ramogida, 2024.

Page 255

**Fig. 17:** Image of a reflective hemispheric element and coloured canvas in Swiss artist Giacomo Santiago Rogado’s exhibition, “Out of Sight,” on display in the rotunda extension. Thun Panorama. Thun, Switzerland. Image, Tonia Ramogida, 2024.

**Fig. 18:** View of Swiss artist Giacomo Santiago Rogado’s exhibition, “Out of Sight,” in the rotunda extension. Tour participants inspect the work’s reflective elements, vividly coloured canvas, and portal windows opening onto the Schadaupark outside. Thun Panorama. Thun, Switzerland. Image, Tonia Ramogida, 2024.

## 2024 IPC Post-Conference Tour Program (adapted from the 2024 IPC Conference Digital Package):

### Day Four—Post-Conference Excursion (Optional)—Saturday, October 5, 2024

- 08:15 Departure from conference venue
- 09:45 Coffee break in the town of Murten
- 10:15 Visit to Murten battlefield and Bois Domingue viewpoint, Murten
- 12:00 Standing lunch with wine tasting (apéro) in Murten's traditional wine cellar
- 13:15 Transfer to Einsiedeln
- 16:15 Einsiedeln Panorama, guided tour, including visit to the *faux terrain*
- 17:15 Transfer to Lucerne
- 19:45 Dinner at Hofgarten Restaurant in the city centre

### Day Five—Post-Conference Excursion (Optional)—Sunday, October 6, 2024

- 08:45 Visit of the Alpineum Museum with the Diorama of Gornergrat and the Matterhorn
- 09:30 Bourbaki Panorama, Lucerne, guided tour (in front of and behind the scenes)
- 10:45 Rest break
- 11:00 Transfer to Iseltwald
- 12:15 Lunch at the Strandhotel, Iseltwald
- 13:45 Departure
- 14:15 Thun Panorama (Woche Panorama)
- 15:15 Transfer to Bern
- 16:00 Arrival at Bern station (train connection to Zurich airport)
- 16:15 Transfer to conference venue (St-Sulpice)
- 18:15 Arrival at St-Sulpice

## Author Biography

**Tonia Ramogida** is a researcher in digital humanities at the EPFL Laboratory for Experimental Museology (eM+) in Lausanne, Switzerland. Her work on olfactory, sonic, and narrative augmentation for the Terapixel Panorama Project. Research has now led to a series of immersive exhibitions and an online portal. She is completing an interdisciplinary master's degree in digital humanities and English literature at the University of Lausanne, Switzerland, under the co-supervision of Sarah Kenderdine (eM+, EPFL) and Kirsten Stirling (English Department, University of Lausanne). Previously, she completed a BA Hons 1<sup>st</sup> in French literature at the University of British Columbia for which she won the 2014 Prize of the Ambassador of Switzerland; this was followed by several years with the federal public service. She has completed a word/image ecopoetry collection and is interested in digital synesthesia, multimodality, panaesthetics, poetics, and Word & Image.

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## **6 International Panorama Council Conference Report & Papers**



Tonia Ramogida, Daniel Jaquet, Sarah Kenderdine

# Panoramas as Memory of the World: Perspectives from the 33rd IPC Conference Hosts

**Abstract:** This contribution is an introduction to the 33rd International Panorama Council conference, entitled *Panoramas as Memory of the World*. It presents the individual contributions, organized within the structure of the three-day conference, as well as the expectations of the hosts and their perspectives on the achievements.

**Keywords:** Painted Panoramas, International Panorama Council, 33<sup>rd</sup> IPC conference, media archaeology, UNESCO Memory of the World

The 33rd annual International Panorama Council (IPC) Conference was hosted by the EPFL Laboratory for Experimental Museology (eM+) in Lausanne, Switzerland, from October 2nd to 6th 2024 (Fig. 1). Panorama experts from different fields—scholars, owners, custodians, conservators, architects, and artists—gathered at EPFL Pavilions, the university's renowned exhibition space and amplifier for art, science, and technology—to take a media archeological approach to the panoramic form.

The conference explored themes of media archeology, early visual media, media innovation, narrative techniques, cultural practices, as well as mass media and commercialization, and sought to establish the basis for the UNESCO Memory of the World listing (see the Call for Proposals in the appendix for further details). In this introduction, we will outline the perspectives of the conference organizers, and introduce individual contributions as per the overall conference structure.

## 1 Day One—UNESCO Memory of the World workshops

The first day was dedicated to addressing and discussing issues related to the current project of listing the panorama as a media form in the UNESCO Memory of the World program. It brought together Swiss panorama owners and custodians, as well as UNESCO representatives and conference attendees. We sought to use the Swiss example as a case study and basis for a broader application headed by the International Panorama Council.

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**Tonia Ramogida, Daniel Jaquet, Sarah Kenderdine**, Laboratory for Experimental Museology, EPFL, Lausanne, Switzerland



**Fig. 1:** 33<sup>rd</sup> IPC conference attendees, at EPFL Pavilions, 2 October 2024. EPFL Laboratory for Experimental Museology. Image, J. P. Chabrol.

Sarah Kenderdine (Laboratory for Experimental Museology, EPFL) and Daniel Jaquet (Laboratory for Experimental Museology, EPFL; Foundation for the *Panorama of the Battle of Murten*), members of the IPC Commission for UNESCO Recognition, opened the conference with a presentation of results from IPC's 2024 Interest Survey which garnered responses from 19 panorama owners in a bottom-up approach. Results highlighted the need to adequately define the panorama as a media form and to identify representative examples for a UNESCO Memory of the World application.

## 1.1 Workshop One—Insights from the Swiss UNESCO Office and Successful Applications

Workshop One dealt with the application process and included a talk by Christof Bareiss (Swiss Commission for UNESCO) who discussed how obtaining a UNESCO designation could lead to increased visibility and trigger financial support from national organizations.

Nicolas Ducimetière (Fondation Bodmer) shared insights from the Bibliotheca Bodmeriana's successful 2015 Memory of the World application. He suggested that an IPC application should insist on the panorama's national importance and international resonance.

## 1.2 Workshop Two—Swiss Case

Workshop Two focused on Swiss panoramas and began with a talk by Patrick Deicher (Bourbaki Panorama Foundation) who echoed the need for a clear definition of the panorama as a media form. He pointed to the *Panorama of the Battle of Waterloo* as an outstanding representative example. Focusing on the panorama as a media form would allow for contemporary panoramas to be included in an eventual application.

In a following roundtable discussion moderated by Daniel Jaquet, Patrick Deicher was joined by Christianne Feldmann (Foundation for the *Panorama of the Battle of Murten*) and Helen Hirsch (Thun Panorama). They also saw the value of a UNESCO designation as a means of increasing public awareness and garnering support from government and cultural institutions to assist with fundraising, maintenance, and valorization. Such a designation would provide impetus for support from local governments.

## 1.3 Workshop Three—Next steps for a UNESCO Memory of the World application

During Workshop Three, the day's speakers gathered for a roundtable to discuss next steps toward a UNESCO application. The roundtable featured an interactive polling session to foster a discussion of six criteria for the application taken from the IPC Interest Survey.

Among the different issues addressed, the question of setting a timeframe garnered varying opinions: some members felt that only “classical” panoramas produced before 1930 should be included in the definition. For the purposes of the application, including only heritage panoramas would give the impression of a heritage form to be saved, while contemporary panoramas would still benefit by their association to this form. On the other hand, not including contemporary panoramas in the definition may give the impression that the panoramic form is outmoded.

Participants also discussed the importance of identifying “prototypical” examples to put forward in an application. Sarah Kenderdine suggested including expert endorsements and supporting statements from media historians as means of strengthening an IPC bid.

## 1.4 Keynote speech by Sarah Kenderdine

The day concluded with an opening keynote by Sarah Kenderdine, “Computational Museology: Six Themes of Transformation,” which presented the Laboratory for Experimental Museology's (eM+) curatorial research that marries big cultural data with state-of-the-art immersive visualization frameworks to innovate embodied experiences of

cultural heritage. She outlined projects underway at eM+, including the Digitization and Augmentation of the *Panorama of the Battle of Murten*.

Participants transferred to eM+ for an apéro, or Swiss standing buffet, and a tour of the projects outlined in Sarah Kenderdine's keynote, including the Augmented Murten Panorama inside the 360° immersive panoramic installation (Panorama+).

## 2 Day Two—Regular Conference

### 2.1 Session One—Recovering Panoramas, moderated by Leen Engelen (LUCA School of Arts, KU Leuven)

In “Impossible to Frame: Shifting scales in forgotten Cosmorama pictures,” Susanna S. Martin (Universidade NOVA) took participants into fashionable Cosmorama showrooms in European city centres to rediscover the panorama as a kind of “gigantic miniature.” Like the smaller Cosmorama, the panorama offered viewers a “borderless” image that reflected “shifting conceptions of historical time.”

Participants were then swept out of the city and into the nineteenth-century Northwestern European funfair. In “Broadening Horizons: The wayfaring scenes of fairground panoramas (1820–1910),” Bart G. Moens (Antwerp University) explored the “compact, touring panoramas that brought scenes of historical events and distant places to broader audiences in villages and towns.”

In “Mirroring the World: Techniques and perceptions of panoramas in the early nineteenth century,” Gabrielle Kohler (Jerusalem Panorama, Altötting, Germany) shared Scottish sentimental poet Thomas Campbell's description of his hilltop view over a Rhine Valley country village: “we looked down on the roofs of the houses as if we had been in one of Barker's panoramas.” Campbell's simile speaks to the influence of the panoramic medium on cultural ways of seeing.

Suzanne Wray (Independent Researcher) introduced listeners to a “novel, weird, and magnificent” panoramic exhibition that used a “battery of magic lanterns” to produce a cycloramic view in her talk, “Charles A. Chase and the Electric Cyclorama.”

### 2.2 Session Two—Panorama of the Battle of Murten, moderated by Melissa Wolfe (Saint Louis Art Museum)

For Tsz Kin Chau (Laboratory for Experimental Museology, EPFL), the Murten Panorama stands out as a richly detailed meeting point where visual informational elements coexist, converge, and evolve. His talk, “Unveiling Historical Depth: Semantic Annotation of the *Panorama of the Battle of Murten*,” presents a deep semantic annotation approach and mapping platform to support the identification, description, and

interpretation of historical iconographic sources, including geolocations, heraldic representations, historical characters, events, armaments, and costumes.

In “Unfurl the Banners! Flags as Artistic Elements and Military Markers in Battle Panoramas,” Jean-Claude Brunner (Independent Researcher) noted that Switzerland’s status as a “flag-rich” country is reflected in the Murten Panorama with its plethora of Swiss, allied, and Burgundian banners.

Daniel Jaquet discussed upcoming expositions at four Swiss museums in 2025 and 2026 in “The Terapixel Panorama: The Augmented *Panorama of the Battle of Murten*.” The Murten Panorama’s augmented “twin” will appear at Zurich’s Museum für Gestaltung, the Castle of Grandson, the Murten Museum, and the Bernisches Historisches Museum in a variety of viewing platforms, including the Laboratory for Experimental Museology’s (eM+) flagship 3D-360-degree display system, the Panorama+.

### **2.3 Session Three—Panoramas and Living Memory, moderated by Nicholas Lowe (School of the Art Institute of Chicago)**

This session explored the panorama through the lens of travel and the form’s transporitive effects. In “The Nova Tuskhut: A walk-in archive of ‘Arctic’ things,” Sara Velas and Ruby Carlson from the Velaslavasay Panorama, Los Angeles, discussed their plans for archiving their immersive and ephemeral Nova Tuskhut installation including scans of postcards sent by visitors and an article in the IPC Yearbook. The owner/artist-curator team will explore other archival methods before the installation is removed.

In her talk, “Beyond the Canvas: The essential conservation of ecological and cultural heritage on Kauō,” Jessica M. Smith (University of Iowa Museum of Natural History) discussed the ecological value of the Laysan Island (Kauō) Cyclorama, which functions like a time capsule, capturing a moment that predates current ecological destruction. The panorama resonates with research on pressing issues such as habitat restoration and the eradication of invasive species and serves as a meeting point fostering stakeholder engagement and cultural exchange.

In “Rotunda and the City: An intricate relationship,” Emile Mermillod (Association des Amis du *Panorama de Morat*) delves into the nineteenth-century rotunda-urban centre relationship through the analysis of 25 case studies from Europe. His analysis provides insights for future panorama development projects: rotundas should be constructed as minimal buildings near old towns and city centres.

Blagovesta Momchedjikova (New York University) presented her poem, “Outsourcing Memories: Remembering at urban panstereoramas (in the Age of AI),” which takes readers on a vivid and meandering journey through New York’s expansive urban vistas. Momchedjikova’s use of panoramic language captures her scenic immersion and points to a poetics of panoramic experience, also seen in Scottish poet Thomas Campbell’s nineteenth-century writing, referenced by Gabrielle Kohler in her talk.

## 2.4 Session Four—Restoration, moderated by Gabriele Koller (Jerusalem Panorama, Altötting, Germany)

In “The renewal of the “optical apparatus” in the Bourbaki Panorama, Lucerne (Switzerland),” Christian Marty (Bourbaki Panorama, Lucerne, Switzerland) showed a time-lapse film outlining the restoration of the Bourbaki Panorama’s optical apparatus which cost about 700,000CHF, the majority of which was used for the observation platform and the sun sail.

Ryszard Wójtowicz discussed the conservation ethics issue of restoring panoramas in accordance with their original form in “*The Panorama of Raclawice* and its two counterparts: Reconstruction in the process of panorama revitalization.”

The session ended with two roundtable discussions. The first dealt with issues regarding knowledge sharing and other restoration-related concerns and included insights from conservators and restorers. Participants included Christian Marty, Ryszard Wójtowicz, Patrick Deicher (Bourbaki Panorama Foundation, Lucerne, Switzerland), Adrienne Quarles van Ufford and Minke Schat (Museum Panorama Mesdag, The Hague, Netherlands), Jessica M. Smith (University of Iowa Museum of Natural History, Iowa City, United States), Beata Stragierowicz (Panorama Raclawicka, Poland), Sara Velas (The Velaslavasay Panorama, Los Angeles, United States), Melissa Wolfe (Saint Louis Art Museum, United States).

The second discussion presented the International Panorama Council Heritage Committee’s “Panorama Code of Ethics” project.

## 3 Day Three—Regular Conference

### 3.1 Session Five—Pano-Visions, moderated by Chiara Masiero Sgrinzatto (Independent Artist)

The session opened with “An Archeology of Time and Memory in Panoptic Media” by Rod Bantjes (St. Francis Xavier University), who outlined his experimental media archaeology method involving the physical reconstruction of historical optical apparatuses, described by Bantjes as “concretization of ideas”: “ideas are embedded in the objects that are sometimes not articulated in the texts,” and crafting apparatuses is a “powerful methodology” for refining theory via object-based articulations.

In “Chicago as Exhibition: Centering the city in interactive print,” Molly Briggs (University of Illinois at Urbana-Champaign) constructed a panoramic argument by contextualizing a close reading of two print artifacts—an 1870 advertising broadside that situates Chicago at the centre of a global steam and rail network alongside Adolph Wittemann’s 1886 accordion-fold Panorama of Chicago picturing a rooftop view of the city in 270 degrees—with period accounts of efforts to build two new rotundas in the

city. The paper points to the emerging theme of “panorama-cism”—the quality of a panoramic imagining of the world—and reveals how the panorama media form can be fruitfully mobilized as a conceptual frame to grasp contemporary developments in the making and representation of cultural landscapes. The panorama becomes a curatorial mode to demonstrate an underlying pano-vision informing the landscape-as-built and as-represented.

Nicholas Lowe (School of the Art Institute of Chicago) followed with “Crossing the Switzerland of America: Chicago’s global ambitions,” in which he closely read the *Grand Panoramic View of the Heart of Chicago* (1892) by George Melville, produced for the World’s Columbian Exposition of 1893, in conjunction with an earlier accordion-fold publication, the “Panoramic Map of the Great Overland Route from Occident to Orient” (Rand McNally). His reading reveals how, following the Great Fire of 1871, Chicago was rebuilt so as to embody its imagined status as the center point in a global panoramic design.

Ulrike Heydenreich (Artist) and Adrienne Quarles van Ufford (Museum Panorama Mesdag, Netherlands) followed with “Museum Panorama Mesdag: *Ulrike Heydenreich, Longing for the Distance*.” Quarles van Ufford, Head of Collection and Exhibitions, outlined the long history of art exhibitions at the museum, and presented her current exhibition featuring work by German visual artist Ulrike Heydenreich. Heydenreich took the floor to introduce her monumental drawings, collages, and inspired designs, including a folded panorama that marries a post-modern stitched assembly of twentieth-century photographic debris with conventional strategies of scale to envelope and transport visitors to imaginary landscapes, in the manner of the museum’s centerpiece *Panorama of Scheveningen* (1881).

In “The Memories of Objects: From lenses to panorama history,” Luca Vascon (VR artist, photographer, and video maker) described his collection of fisheye lenses and discussed how the fisheye apparatus encodes our desire for all-encompassing sight.

### **3.2 Session Six—*Panorama du Congo*, moderated by Daniel Jaquet (Laboratory for Experimental Museology, EPFL)**

Victor Flores (Lusófona University) and Leen Engelen (LUCA School of Arts / KU Leuven) opened the sixth session with “The Afterlife of the *Panorama du Congo* (1913): Decolonial curation of imperial panoramas.” They presented their use of VR technology to decolonize the *Panorama du Congo*’s original propagandistic and pro-colonial narrative in a recent critical VR exhibition at Belgium’s National Museum of Natural History and Science. In particular, the pair discussed how an evocative soundscape was used to score elements that are both depicted and not depicted in the painting as a means of evoking the implicit violence in the panorama’s sanitized and idealized depictions.

In “Congo VR: A panoptical dissidence,” Ana David Mendes (Lusófona University) discussed how Experimental Media Archaeology and Artistic Research methodologies guided the process of co-creation and co-curation with five artists from the Congolese diaspora whose performances, oral narratives, sculptures, installations, and videos critically augmented the VR *faux terrain*.

Chiara Masiero Sgrinzatto (Independent Artist) closed the session with her talk, “Illustrating a New Memory: Panorama key and virtual tour for the exhibition ‘Panorama of Congo.’” The artist elaborated her process to create the Congo VR Virtual Tour, which guides visitors through different environments and showcased content.

### 3.3 Session Seven—Immersive Media and Panoramas, moderated by Victor Flores (Lusófona University)

The session opened with Thiago Leitão de Souza (Universidade Federal do Rio de Janeiro)’s talk, “The *Panorama of Rio de Janeiro* by Victor Meirelles and Henri Langerock: Part 7—360° historical experiences of city memories by Game Engines,” in which he discussed how Unity Game Engine can be leveraged to recreate historical exhibitions of the *Panorama of Rio de Janeiro*. In the virtual framework, historical expositions in Brussels, Paris, and Rio de Janeiro can be recreated and comparatively studied, and insights into the panorama’s reception across time and space can be gleaned.

In “The Effects of *Panorama 25 December’s* Digital Spaces on Visitors,” Murat Dağ (Gaziantep Metropolitan Municipality, Turkey) outlined digital curation strategies used by the Gaziantep Metropolitan Municipality at the 25 December Gaziantep Defence Heroism Panorama and Museum. Strategies include the use of interactive exhibits in which visitors physically connect with represented historical events via their hands and heartbeats in a configuration of “heart[*felt*]” “unity.”

Lukas Piccolin (Independent Researcher) introduced the Swissorama, a former 360° projection system at the Swiss Museum of Transport and Communication in Lucerne, in his talk, “Ernst A. Heininger’s SWISSORAMA: The world’s first seamless 360° large format film system (70mm).” He outlined plans to create a digital version of the Swissorama’s signature show, “Impressions of Switzerland.”

In “Sacred Spaces of New England: Cultural heritage and the panorama,” Seth Thompson (American University of Sharjah) presented his new book, *Sacred Spaces of New England: Cultural Heritage and the Panorama*, which leverages 360-degree photography to document places of worship.

Karolina Wójtowicz (Visual and Architectural Designer) closed the session with a discussion of how photogrammetric models can foster in-depth research in her talk, “Unveiling the Past with Photogrammetry: A study of static and dynamic projects—*Panorama Raclawicka* and stave churches.”

### 3.4 General Assembly and Post-Conference Tour

The Conference ended with the IPC General Assembly, followed by a traditional fondue dinner at a local chalet restaurant. Registered participants were then invited for a weekend-long post-conference tour. Participants visited the Murten battlefield, in addition to Switzerland's three panoramas: the Bourbaki Panorama in Lucerne, followed by a visit to the nearby Diorama of the Alps; the Panorama of the Crucifixion of Christ in Einsiedeln; as well as the Thun Panorama, the world's oldest surviving historical panorama, just outside of Thun.

## 4 Principal Achievements of the Conference

More participants attended the 33rd conference than in previous years, with 52 registered participants, in addition to local attendees. An exceptional 43 people attended the much-acclaimed post-conference tour.

The Scientific Committee is pleased by the increasing quality of contributions over the years, and this year's conference evidenced yet another step in this positive trajectory. Such improvements are also seen in the publication of the proceedings of the IPC conferences, with the move of the journal to the De Gruyter Publishing House. Participants had the opportunity to discover the first volume of the *Panoramic and Immersive Media Studies Yearbook* at the conference.

The conference served as an important first step in gaining clarity about the UNESCO Memory of the World application. The conference also provided a meeting platform for all Swiss panorama owners and custodians, as well as five out of seven representatives from the Swiss UNESCO bureau, within the context of the Day One, Workshop Two, 'Swiss case' session. The Swiss case study provides a solid framework for further elaborating an internationally oriented application. Furthermore, the Swiss UNESCO bureau also offered to support the IPC's UNESCO Memory of the World application process by putting the IPC in contact with relevant regional and national committees. Finally, international attendees were made aware of the stakes surrounding a UNESCO Memory of the World application. They participated in discussions and voiced concerns about application criteria in a first step towards an internationally oriented bid.

## 5 Appendix—Conference Themes

This 33rd annual conference for the International Panorama Council in 2024, organized with the EPFL Laboratory for Experimental Museology, takes a media archeological approach to celebrate the panoramic form through time. The pioneering role of panoramas as the first immersive media can be assessed in the light of technological

developments from mechanical and analog, the experiments in media art using the panoramic form, through to digitally enabled presentations of the present-day.

Media archaeology is a discipline that explores the history of modern media by looking at antiquated, forgotten, or neglected media forms and practices. It's a way of understanding the evolution of media and communication throughout history. From a media archaeology perspective, painted panoramas are of significant importance for several reasons:

**Early Visual Media:** Painted panoramas represent one of the earliest forms of immersive visual media. They were often created to give viewers a comprehensive, 360-degree view of a scene, which might be considered an early attempt at virtual reality. By studying these, we can better understand the historical desire for immersion and realism in media, a concept that continues to shape the development of new technologies and forms of representation.

**Media Innovation:** The creation and exhibition of painted panoramas involved a host of technical, aesthetic, and logistical innovations. These include advancements in painting techniques to achieve realistic perspective and lighting effects, the design of special buildings and viewing apparatuses, and the development of transportable panoramas. These innovative aspects can provide valuable insights into the dynamics of media change and technological innovation.

**Narrative Techniques:** Painted panoramas often used unique narrative techniques to guide viewers' experiences. For example, they might have been used in combination with spoken narration, music, sound effects, or mechanical movement. These elements allow us to explore how multimodal storytelling has evolved and how our predecessors used available technology to create engaging narrative experiences. These narrative strategies were extended and explored by media artists starting in the early 1990s, setting a stage for new experiences to follow using digital technologies.

**Cultural Practices:** Panoramas were a popular form of entertainment in the eighteenth and nineteenth centuries and thus played a role in the development of cultural practices around media consumption. They were often exhibited in public places and were an event for social gatherings. Studying them can give us insights into the history of media use, public entertainment, and social behavior especially pertinent in the current quest for immersion and embodied experiences.

**Mass Media & Commercialization:** Panoramas were among the first forms of mass entertainment. They represent early examples of the commercialization of visual media, and studying them can offer insights into the economics of media production, distribution, and consumption, including the roles of advertising, ticket sales, and spectacle. The rise and fall of historic panoramas offer us insights into the business models of today.

By exploring painted panoramas from a media archaeology perspective, we gain a richer understanding of the historical trajectories of media technologies, aesthetics, and cultural practices, many of which continue to influence our media landscape today. We are also able to establish the basis for UNESCO Memory of the World listing by examining these pertinent issues.

## Author Biographies

**Daniel Jaquet** is a medievalist, with a background in literature, history of science and material culture of the early modern period. He received his PhD in history at the University of Geneva in 2013. He taught at the universities of Geneva, Lausanne, Bern and Neuchâtel (2008–23). He was a visiting scholar at the Max Planck Institute for History of Science (Berlin, 2015–16), and an associate researcher at the Renaissance Centre of the University of Tours (2016–17). His teaching and research specializations are martial culture, production, transmission and reception of martial knowledge in Europe (fifteenth–nineteenth centuries). He is the project manager and co-lead researcher for the Digitizing and Augmenting the *Panorama of the Battle of Murten* project at the Laboratory for Experimental Museology (EPFL, 2022–26). He is also a certified museologist (ICOM Switzerland 2021) with experience in state museums and has curated 5 exhibitions.

**Professor Sarah Kenderdine** researches at the forefront of interactive and immersive experiences for galleries, libraries, archives and museums. In widely exhibited installation works, she has amalgamated cultural heritage with new media art practice, especially in the realms of interactive cinema, augmented reality and embodied narrative. In addition to her exhibition work she conceives and designs large-scale immersive visualization systems for public audiences, industry and researchers. Since 1991, Sarah has authored numerous scholarly articles and six books. She has produced 80 exhibitions and installations for museums worldwide including a museum complex in India and has received a number of major international awards for this work. In 2017, Sarah was appointed Professor of Digital Museology at the École polytechnique fédérale de Lausanne (EPFL), Switzerland, where she has built a new Laboratory for Experimental Museology (eM+), exploring the convergence of aesthetic practice, visual analytics and cultural data. She is also Director and lead curator of EPFL's new art/science initiative, EPFL Pavilions.

**Tonia Ramogida** is a researcher in digital humanities at the EPFL Laboratory for Experimental Museology (eM+) in Lausanne, Switzerland. Her research focuses on olfactory, sonic, and narrative augmentation and interpretation for the Digitizing and Augmenting the *Panorama of the Battle of Murten* project. She is completing an interdisciplinary master's degree in digital humanities and English literature at the University of Lausanne, Switzerland, under the co-supervision of Sarah Kenderdine (eM+, EPFL) and Kirsten Stirling (English Department, University of Lausanne). Previously, she completed a BA Hons 1<sup>st</sup> in French literature at the University of British Columbia for which she won the 2014 Prize of the Ambassador of Switzerland; this was followed by several years with the federal public service. She is interested in digital synesthesia, multimodality, panaesthetics, poetics, and Word & Image.



Patrick Deicher

# Short History of the Swiss and International Panorama Initiatives and Ideas Regarding UNESCO

**Abstract:** Efforts to have the panorama phenomenon listed as a UNESCO World Heritage never moved beyond ideas and international declarations of intent. The most concrete results appeared in Belgium. At the 2008 session of the World Heritage Committee, it was decided to place the Waterloo Panorama on the tentative list for Belgium. This was done expressly as a particularly representative example of the “panorama phenomenon” with a view to the serial inscription of historic panoramas worldwide. According to the criteria of the largely unchanged ensemble (building, circular image, *faux terrain*, velum, toplights, etc.), only a few historical panoramas are eligible for a serial entry. The Innsbruck Panorama fails to meet criteria following a project in 2009 in which the circular painting was removed from the original building and relocated to a new museum. In Switzerland, the Bourbaki Panorama’s World Heritage bid was rejected in 2004. The Bourbaki has considerable problems with regard to its integrity in the context of the World Heritage rules: both the panorama itself and the building surrounding it have been heavily altered several times. There are also doubts about the formal possibility of a World Heritage candidacy, as only immovable properties, but not “mobile” panoramas, can be inscribed.

A World Heritage candidacy was abandoned by IPC in 2022. However, the UNESCO “Memory of the World” program has come into play again. The IPC General Assembly in Luxembourg in 2022 commissioned the Executive Board to carry out the relevant planning and clarifications. The results of the work to date were discussed with representatives of the Swiss UNESCO Commission at the IPC annual meeting in Lausanne/Switzerland in 2024 and the next steps were initiated.

**Keywords:** World heritage, Memory of the World, IPC, International Panorama Council

In the past, the International Panorama Council has repeatedly suggested and discussed the protection of historical panoramas and the panorama phenomenon as UNESCO World Heritage Sites. The motivation for such considerations stemmed from a cultural-historical interest but also from pragmatic marketing considerations on the part of the panorama museums. At the international level, these efforts never moved beyond ideas and declarations of intent. Although the IPC board has repeatedly dis-

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**Patrick Deicher**, President of the Foundation Bourbaki Panorama Lucerne, Bourbaki Panorama Lucerne, Lucerne, Switzerland

cussed this goal, efforts have failed due to lack of resources, lack of knowledge about the relevant processes and insufficient commitment on the part of some of the panoramas concerned.

## 1 Efforts to Achieve Unesco World Heritage Status

### 1.1 Panorama Waterloo on Belgian Tentative List for UNESCO “World Heritage”

The efforts of our Belgian colleagues to have the Waterloo Panorama listed as UNESCO World Heritage Site have been the most concrete and produced the best results to date. At the 2008 session of the World Heritage Committee in Quebec, it was decided to place the Waterloo Panorama (Fig. 1) on the tentative list for Belgium. As of October 13, 2024, the Glossary of UNESCO World Heritage Convention states “The first step a country must take is making an ‘inventory’ of its important natural and cultural heritage sites located within its boundaries. This ‘inventory’ is known as the Tentative List, and provides a forecast of the properties that a State Party may decide to submit for inscription in the next five to ten years and which may be updated at any time.”

The addition of Waterloo Panorama to the Belgian tentative list was made as a uniquely representative example of the “panorama phenomenon” with a view to the serial registration of historical panoramas worldwide. The country delegates from Switzerland, Germany, Canada and the Netherlands expressed their support for this approach in their statements.

### 1.2 Definition of a Panorama

When the Waterloo Panorama was listed, a definition of a panorama was also established at the same time:

A panorama consists of a series of devices, including a large cylindrical painting that encompasses the walls of a rotunda that the viewer can see from a platform erected in the center of the building. The 15 meter-high painting presented on the platform is mostly covered with a *faux terrain* to hide the bottom edge and enhance the illusion effect. Above the platform is a velum, a large piece of fabric that limits the viewer’s vertical viewing angle and conceals the upper edge of the canvas as well as the roof structure and the skylights that distribute daylight. A special access device cuts the audience off from their familiar reference points and allows for the separation of entrances and exits.

This definition of the scope of the concrete protection repeatedly posed a problem for most panoramas, as they cannot meet the definition. If one takes the criteria of a largely unchanged ensemble of devices (building, circular image, *faux terrain*, velum, toplights,



**Fig. 1:** Exterior view of the Rotunda of the Waterloo Panorama at Braine l'Alleud. Image, Patrick Deicher (2015).

etc.), the plans for a serial UNESCO inscription focused only on the Waterloo Panorama, the Altötting Panorama, the Mesdag Panorama, the Bourbaki Panorama and the Panorama in Innsbruck.

### 1.3 National Initiatives

The Innsbruck Panorama in particular lost the option ever to be listed as UNESCO World Heritage Site due to a project in 2009. The association “Fuer unser Panorama” was still trying to achieve inclusion on Austria’s tentative list (Letter from the association “Fuer unser Panorama” Innsbruck to the President of the Austrian Federal Monuments Office, HD Dr. Barbara Neubauer, November 19, 2008). Protest from local citizens’ groups, the IPC, an expert mission by the Council of Europe Parliamentary Assembly and the Austrian Federal Monuments Office arose. By decision of the State of Tyrol, the circular painting was unfortunately removed from the original building (Fig. 2), that mainly housed the panorama since 1906, and relocated to a new museum. The ensemble value was thus lost. In return, the Tyrol Panorama is now housed under better conservation conditions.



**Fig. 2:** Exterior view of the former Rotunda of the Innsbruck Panorama. Image Patrick Deicher, (2007).

The Bavarian State Office for Monument Preservation called on Panorama Altötting, Mesdag and Waterloo to each submit an application for transnational inscription as a UNESCO World Heritage Site. This followed a corresponding request from Panorama Altötting in 2009 (Correspondence between Dr. Gebhard Streicher, founder of the SPA Panorama Altötting and Prof. Dr. Egon Johannes Greipl, General Conservator of the Bavarian State Office for the Preservation of Monuments, July 2009), after which Panorama Mesdag signaled its support and repeated an earlier attempt from 2007 in the same year with a letter to the Ministry of Education, Culture and Science (Letter from the Panorama Mesdag Foundation The Hague to Dr. R.H.A. Plasterk, Minister of Education, Culture and Science, February 20, 2009). The repeated attempt came to nothing. During the same international exchange, the Cyclorama de Sainte-Anne-de-Beaupré signaled in response to IPC's request that they would not participate in efforts for transnational inscription. They would lack time and human resources and would not see any advantage of such an inscription. This honest and open answer symbolized the dilemma of several panoramas. The effort required for a World Heritage candidacy seemed daunting.

## 1.4 Swiss Efforts

The World Heritage candidacy of the Bourbaki Panorama in Lucerne, Switzerland (Fig. 3) was rejected in 2004 following a review by the Swiss Federal Office of Culture and the national UNESCO Commission (email from Oliver Martin, Swiss Federal Office of Culture to Patrick Deicher, Secretary General IPC, July 22, 2008). In the report on the tentative list, the Bourbaki Panorama was examined in connection with a possible World Heritage candidacy. The group of experts (and later the Swiss government) came to the conclusion that the panorama should not be included on the tentative list. The Lucerne panorama in particular has considerable problems with regard to its integrity in the context of the World Heritage rules:

Both the panorama itself and the building surrounding it have been heavily altered several times. There are also doubts about the formal possibility of a World Heritage candidacy: the World Heritage List only includes immovable properties, whereas the panoramas were originally intended as mobile works and are still “mobile” today. The panorama of Murten, for example, is currently stored in a depot (email from Oliver Martin, Swiss Federal Office of Culture to Patrick Deicher, Secretary General IPC, July 22, 2008).

The position of the Swiss Federal Office of Culture was confirmed once again in 2016 during a new inspection of the tentative list and in light of the inclusion of the Waterloo



**Fig. 3:** Bourbaki Panorama building in Lucerne with original rotunda (1889) and extension (2000). Image Julia Leijola (2005), rights with Foundation Bourbaki Panorama Lucerne.

panorama (Email from Oliver Martin, Swiss Federal Office of Culture to Patrick Deicher, Treasurer IPC, December 19, 2016; translation from German by Patrick Deicher).

## 2 New Focus—UNESCO “Memory of the World”

The discussion gained new momentum in 2020 when Gaston F. Maillard, then President of the Friends of the Murten Panorama Association, raised the issue again (e.g. in an email from Gaston F. Maillard to Arndt Schafter, Managing Director of the Bourbaki Panorama Lucerne Association dated July 3, 2020 and later with various persons within the IPC network). After discussions with the IPC board, a World Heritage candidacy was abandoned, but the inclusion under the UNESCO “Memory of the World” program was discussed. As of October 13, 2024, the Glossary of the UNESCO World Heritage Convention stated “The vision of the UNESCO Memory of the World Programme is that the world’s documentary heritage belongs to all, should be fully preserved and protected for all and, with due recognition of cultural mores and practicalities, should be permanently accessible to all without hindrance.”

At its meeting in Luxembourg in 2022, the IPC General Assembly instructed the Executive Board to make the necessary plans and clarifications on the process (International Panorama Council, General Assembly Meeting Minutes, September 16, 2022, p. 13). As a first step, a geographical boundary was chosen that ideally represents the panorama phenomenon but is also realistic and manageable: Switzerland with its 5 panoramas from the period 1814 to 1962.<sup>1</sup> The results of the work to date (e.g. a survey for panorama owners/custodians by IPC, invitation email dated April 7, 2024.) were discussed with representatives of the Swiss UNESCO Commission at the IPC annual meeting in Lausanne, Switzerland in 2024 and next steps were initiated. A working group will now draw up a list of the panoramas to be explicitly included in the future application. This list will be put up for discussion with the Executive Board and the General Assembly of IPC.

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<sup>1</sup> These are: Thun Panorama (1814); Bourbaki Panorama Lucerne (1881); Panorama of *Gornergrat and Matterhorn Mountain* at Alpineum Museum Lucerne (1900), *Panorama of the Battle of Murten* (1894; in storage); Panorama of *Jerusalem and the Crucifixion of Christ* in Einsiedeln (1962).

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## Author Biography

**Patrick Deicher** studied history and political science at the Universities of Berne and Bonn, non-profit management at the FHNW in Basel, municipal finance at the Lucerne University of Applied Sciences and Arts and digital administration at the ZHAW. He worked in museums for 20 years, most recently as a museum director.

Today, **Patrick** works as a consultant for public administrations and non-profit organizations. He has been with BDO Ltd. (Switzerland) since 2009. Patrick is Head of Non-Profit Organizations Central Switzerland. In addition to his professional activities, Patrick is also involved in voluntary work: he was a member of the city parliament of Lucerne. From 2011 to 2021, he was also a member of the Board of Trustees of the Panorama Altoetting Foundation, Germany.

**Patrick** is a former curator of Bourbaki Panorama in Lucerne, Switzerland. Since 2019 he is a member of the Board of Trustees and since 2022 the President of the Bourbaki Panorama Foundation. From 2003 to 2013 he acted as the Secretary-General and from 2013 to 2017 as the Treasurer to the International Panorama Council (IPC). Patrick is an active member of IPC's Advisory Group, IPC's auditor and Co-section editor of the *Panorama and Immersive Media Yearbook*.



Suzanne Wray

## Charles A. Chase and the Electric Cyclorama

**Abstract:** In the late nineteenth century, the popularity of the painted panorama was on the wane, despite attempts to add sound and lighting effects to the canvas. As the exhibitions became unprofitable, panorama rotundas were often converted for other uses. In late 1893, an advertisement in the *Chicago Tribune* announced the removal of the Chicago Fire Panorama, to be “replaced by one of the most novel, weird, and magnificent exhibitions ever conceived.” The following year, the “Electric Cyclorama” of Charles A. Chase was demonstrated in the rotunda. Continuous “cycloramic” views from photographs were projected from a battery of stereopticons (magic lanterns) arranged on a circular platform suspended from the ceiling. The reduced cost of producing an electric cyclorama, compared with a painted one, and the ease with which the views could be changed led to hopes that Chase’s invention might “bring panoramas into fashion again,” but it never gained the success predicted for it.

**Key Words:** Electric cyclorama, stereopticon panorama, electrical projection, projected panorama

By the late 1800s, the panorama was no longer the successful attraction it had been. In the United States, the Civil War battle panoramas that had been so popular (and often profitable) were being replaced by paintings that proved less successful, and some panorama rotundas were converted into skating rinks, bicycle tracks, and theaters. On May 9, 1896, the Champaign (Illinois) *Daily News* wrote that the panorama “has fallen into disuse, largely, no doubt, because it is too unwieldy, and involves too much time, money and labor, to be profitable. The new idea in panoramic or cycloramic art is exceedingly interesting, as showing the advance in methods on this line.” It was hoped that it would “bring panoramas into fashion again.” (“Chase’s Electric Cyclorama” 1896, 200).

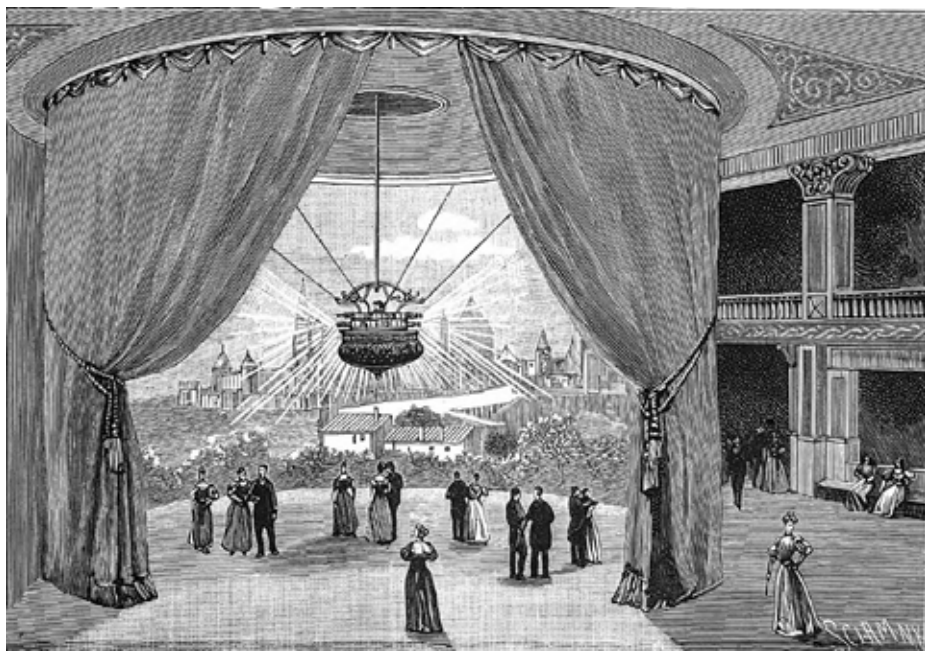
This “new idea” had been hinted at in the *Chicago Tribune* several years earlier in a September 17, 1893, advertisement for the *Chicago Fire Cyclorama*. A “great scene of realistic beauty”—the burning of Chicago in 1871—was to be removed on October 10 and replaced by “one of the most novel, weird, and magnificent exhibitions ever conceived.”

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**Suzanne Wray**, New York City, New York, United States



**Fig. 1:** General view of the Chase Electric Cyclorama. *Scientific American*, February 26, 1896. Image, HathiTrust, public domain, Google-digitized.

## 1 A Digression: Innovation

A study of the history of technology shows that there is rarely an unbroken, smooth road to success, although the progression is often portrayed as inevitable, with only the most commercially successful invention and its inventor remembered. Along the way, there may be many inventions, and some (to use a Darwinian analogy) become extinct. Early elevators were hydraulic or operated by steam or electricity. Early automobiles were powered by steam (the “Stanley Steamer”), electricity, or gasoline. The first building in New York City for recharging electric vehicles was erected in 1907: physically, it resembled a stable, but it was the first building to be called a “garage” rather than “automobile stable” (Miller 2020). The first automobile fatality on record occurred in New York City in 1899 when a man was struck by an electric vehicle, a taxi. We know which technology was the winner—the most widely accepted—in the case of the elevator and the automobile, but for a time several technologies coexisted.

Sometimes a better solution is possible: Isambard Kingdom Brunel’s broad gauge railroad tracks in England were probably safer and more stable than standard gauge track. But so much standard gauge track had already been laid that Brunel’s wider gauge was never widely adopted, and we still use standard gauge today. More efficient

arrangement of characters on typewriter keyboards have been proposed and tested, but our computer keyboards retain the QWERTY arrangement.

## 2 From Panorama to Moving Pictures

In 1874, the Colosseum opened on Broadway at 35th Street in New York City. In a circular iron building, viewers could see two old panoramas, “London by Day” and “Paris by Night.” Twenty years later, Edison’s “Vitascope” was first used to project moving pictures at Koster & Bial’s Music Hall, less than two blocks away from the Colosseum’s former location. The progression from static image to films with projected moving images is often portrayed as inevitable and inexorable. But, of course, it is not that simple. For example, it was once possible to purchase a machine that could show both glass slides and film: Lubin’s Stereopticon, “suitable for illustrated songs and stereopticon views.” (*New York Clipper*, 1898) The Lubin machine resembled both the magic lantern and a film projector: it is one invention that became extinct. Moreover, images had “moved” before movies existed: some of the tableaux in Daguerre’s diorama gave the illusion of motion. The moving panorama was literally a “moving picture”—a long painting scrolled from one roller to another—and the magic lantern could project moving images: dissolving views, slip slides, and chromatropes.

## 3 The Invention of Charles A. Chase

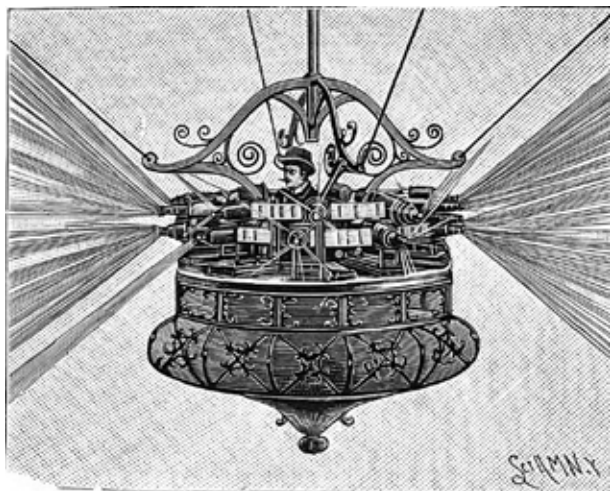
In August 1894, more information emerged about the replacement for the Fire Cyclorama. The new spectacle, invented by Charles A. Chase, was to be presented in the cyclorama rotunda the following week (Fig. 1). A battery of ten magic lanterns would project consecutive views of the 1893 World’s Fair onto a circular white canvas; the views could be “almost instantaneously” changed by an automated electric apparatus. The stereopticons used to project the views would be arranged on a chandelier-like platform that would also hold the single operator. Dissolving views could be used, and simulating the effects of electric light and moonlight was said to be possible.

Several previous, private demonstrations had shown that Chase’s idea was workable. The August demonstration was still experimental, a test of the idea, and on a much smaller scale than that which Chase ultimately planned. However, he reproduced and enlarged a continuous photograph 4 inches wide and 32 inches long to create a “cyclo-ramic picture” 160 feet in length and 15 feet high, and spectators were “surprised and delighted” (“Chase’s Electric Cyclorama” 1896, 201).

In March of the following year, the *Tribune* announced that the Electrical Cyclorama Company had been incorporated with \$100,000 capital to promote the invention. Since the demonstration in the cyclorama building, Chase had continued to invent pro-

jecting devices and had imported lenses from London: an electric light-arc light of 4,000 candle power would be placed behind each lens, and the colors of nature and moving figures could be introduced into the scenes. The new company was negotiating with the Field Museum of Chicago to present a perpetual panorama of the World's Fair, which would cost \$15,000, and foreign views were being taken for future exhibitions (*Chicago Tribune* 1895).

In August and September of 1895 Chase took out patents for a “stereopticon panorama machine”, and a “reproducing device” which would hold the lanterns in a spherical space. A “device” associated with each lantern would enable the blending or overlap of the edges of each picture to prevent light from escaping. This was critical to ensure that the image appeared continuous rather than a series of images (Department of the Interior 1897, 61). *The Photogram*, *Scientific American*, and *Western Electrician* were among the publications that printed detailed articles and illustrations of the “Stereopticon Cyclorama” (“The Stereopticon Cyclorama” 1896; “Chase’s Electric Cyclorama” 1896; “Chase Electric Cyclorama” 1895) Chase planned to use a spherical building, although he developed his idea using the cylindrical screen of the panorama rotunda. In the spherical structure, the screen would be from 20 to 50 feet high, and 50 to 100 feet in diameter. The operator’s platform would be suspended from the ceiling by an iron pipe (which also held the insulated electrical wires) and cable stay wires (Fig. 2). It would weigh about 800 pounds and be approximately 8 feet in diameter by 10 feet high. Eight lanterns would be used. Each dissolver would work independently of the others; the dissolvers and blending attachments would be set with screws. Scenes would be changed by an electric switch, and daylight, sunlight, and moonlight effects were possible. Mechanical effects, such moving boats and moving clouds could be achieved by “the



**Fig. 2:** The projection apparatus. *Scientific American*, February 26, 1896. Image, HathiTrust, public domain, Google-digitized.

old stereopticon method scientifically improved” or by the use of a kinetoscope (“Chase Electric Cyclorama” 1895, 235). There would be no elevated “viewing platform” for the spectators: as with the circular panorama, they would be able to move about to view the scene and feel a part of it but from the floor of the building.

A widely reprinted newspaper article portrayed Chase “as Edison’s rival” because his cyclorama would show “figures on canvas that walk and talk.” “Everything will be in motion as in life” (*Utica Observer* 1895). In addition to the circular projection, the kinetoscope would reproduce the movement of the crowds in the World’s Fair scenes, and the noise of the crowd and fireworks would be produced by a new phonograph attachment by Edison. However, I have found no evidence that either the kinetoscope or Edison’s device were ever used.

To photograph his slides, Chase used the Marcellus camera, which had been invented in 1891 or 1892 and captured 360-degree views. The photographic film was seven feet long and eight inches high and produced transparencies that could be projected to create a picture 300 feet in circumference and 35 feet high. According to a journalist, “the floor upon which the spectators stand runs right off into the scenes, and it is so real that it seems as if we could step right out into the country viewed” (“The Stereopticon Cyclorama” 1895, 91). This, of course, echoed one of the clichés about the circular painted panorama: it was almost impossible to tell where the foreground ended and the painting began.

One of the advantages of Chase’s electric cyclorama over painted panoramas was the cost. Commissioning a group of artists to paint one of the huge circular paintings was an expensive undertaking. In contrast, an ordinary panorama building could be converted to house an electric cyclorama merely by painting the back canvas white to serve as a screen and suspending an operators’ platform from the ceiling.

There were challenges to Chase’s claim to invention. Two months after Chase’s stereopticon cyclorama was described in the *Optical Magic Lantern Journal*, John Winter (1825–1906) a German artist in Syracuse, New York, published details of his version of the device (Hunter 2013, 6B). In Paris, inventor Colonel Moessard was said to have projected panoramic lantern slides on a semicircular canvas in March 1892—although a journalist wrote in 1896 that he had “suggested” rather than demonstrated the idea (“A Photographic Cyclorama” 1896, 508). Additionally, a patent was granted to a Joseph Train in August 1894 for a series of magic lanterns to be mounted on a stationary or revolving platform to throw scenes onto a polygonal or curved white screen (Train 1894; *Patents for Inventions* 1899).

By 1896, the Chase cyclorama was said to be “in a fair way of becoming an accomplished fact upon a large scale” (“The Stereopticon Cyclorama” 1896, 96) Two years later, Charles A. Chase became president of the new Chase Electric Sign Company of Chicago, organized to meet the demand for electrically illuminated signs and street advertising. The announcement stated that Chase “also has a taste for photography and electrical projection, being the inventor of the very interesting Chase electric cyclorama [. . .] which has attracted considerable attention at home and abroad” (“Trade News” 1898, 219).

## 4 Later Developments

Although Chase had turned his attention to electric signs, attempts to project an image onto a circular “screen” continued, as did the painting of traditional circular panoramas. In 1898, an “Electrorama,” resembling Chase’s invention, was presented in a panorama rotunda in London that had initially shown a painting of Niagara Falls. Touted as “probably the biggest lantern show that ever was attempted,” the Electrorama utilized ten lanterns to project a series of slides forming a complete circle measuring 400 by 40 feet (“From the British Side” 1898, 292). Viewers stood on a circular platform to view the display, which offered “far more variety than is possible with the ordinary painted panorama.” However, descriptions of the spectacle hinted at shortcomings: the lighting was “fairly even,” and some technical details could be improved (“The Electrorama” 1898, 234).

Also in 1898, an “electro-cyclorama” of the Battle of Manila Bay opened in Chicago. A circular painting, it had occupied eleven artists for five months at a cost of \$75,000. Electricity was used to create the illusion of motion and sound. On December 19 of that year, the *Chicago Tribune* reported that the light changed from dawn to forenoon, waves were simulated by “a cleverly arranged system of wires,” flashes of red appeared when shells exploded, and the sounds of guns were heard.

Other innovators continued to work at projecting images, still or moving, onto the inside wall of circular buildings. At the 1900 Paris World’s Fair, the Cinéorama used ten synchronized film projectors to project a simulated balloon journey. The viewing platform was a large balloon basket that could hold 200 spectators who viewed scenes from various European countries that had been filmed from ground level. However, this rested on the unventilated circular projection booth, and the heat generated by the projectors created a fire hazard: the attraction was reportedly closed by the police after a few days (Huhtamo 2015, 317–18).

Over a century later, in 2013, artist T. J. Wilcox exhibited his installation *In the Air* at New York’s Whitney Museum of American Art (Fig. 3). The museum described the work as “a remarkable new panoramic film installation [. . .] Here Wilcox revisits the ‘cinema-in-the-round’ that appeared at the dawn of film history in the late nineteenth century, bringing the concept up to date with state-of-the-art technology to create an immersive cinematic environment” (“T. J. Wilcox,” n.d.). The installation featured a panorama of Manhattan from sunrise to nightfall, shot from the artist’s penthouse studio above Union Square, and played back at an accelerated speed. Wilcox used GoPro cameras and switched from filming to shooting stills for better resolution. Sixty thousand of these stills, shot at a rate of one per second, were individually processed and then stitched together and sped up by a computer program to compress one day into 30 minutes. The result was shown on a translucent circular screen about 7 feet high and 35 feet in diameter. It was suspended from the ceiling, ending about 4 ½ feet above the floor; one reviewer called it “a giant lampshade” (Smith, 2013). Viewers were free to move about the installation, standing inside or outside the screen. From time to time, one of six



**Fig. 3:** T. J. Wilcox “In the Air.” Image, Fred R. Conrad/The New York Times/Redux.

historic films on a New York-related topic would be projected on a section of the screen. Another reviewer noted that both the intervening short films and the screen’s physical presence as a “sculptural object” negated the work’s immersive potential: “the screen is of limited height, never fully enveloping one’s visual field, and noticeably warped” (Dell’Aria 2014). Both reviewers made valid points, but as one who viewed the Wilcox work, I found it well worth seeing.

Although technology will change, artists and audiences are still fascinated by the panoramic format and its potential to create the illusion of immersion. Therefore, it seems safe to say that artists will continue to combine state-of-the-art technology with the panorama.

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## ***The Nova Tuskhut: A Walk-in Archive of “Arctic” Things***

**Abstract:** This paper provides an in-depth tour to the design and philosophical underpinnings of *The Nova Tuskhut* (2014–2025) a built-in diorama of the “Only Arctic Trading Post in the Lower 48 States,” an installation at the Velaslavasay Panorama (VP) in Los Angeles. Its debut was paired with two of the VP’s projects and works: *Effulgence of the North* (2007–2017), a major 360-degree painted panorama with sound and light cycle, and the lobby exhibit *Nancy Columbia and the Arctic Beyond* (2014–2018). Nancy Columbia, a famed Inuit film star, was born into the spectacle of “Eskimo Village,” an Arctic obsession at the 1893 Chicago Columbian Exhibition that imposed its colonial name on her. By birth, Nancy Columbia’s life was enveloped in an installation of stolen and simulated memory, displayed to shifting audiences who both admired and remembered her and jointly penned the world in which she lived.

As an immersion installation, *The Nova Tuskhut* relies on fleeting and fragmented vignettes of ephemera, specters of polar lifeways, and on the embodied experiences shared by the curators and the visiting public as the wooden hut manifests for over a decade. It features a well-stocked pantry, library, wood burning stove, bear pelt, picturesque window view, and a fireside cot. But as the hut’s de-installation and digitization near, its next manifestation in the digital ether renews the rumination of the gains and losses of these polar legacies that haunt preservation works and artist installations amid the process of conception-execution-reproduction. From a place within *The Nova Tuskhut*, we interrogate the possibilities and constraints of a material immersive medium and its digital counterparts as a tool and institution of memorialization.

**Keywords:** Ephemera, panorama, archival object, arctic, diorama, Nancy Columbia, speculative historiography

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# 1 Prelude

*I handled this amazing antiquity with the greatest possible tenderness, lest it should dissolve in my hands.*

Joseph Conrad, “Heart of Darkness,” in *Youth and Two Other Stories*, 1926  
 Garden City, N.J.: Doubleday, Page & Company  
 (A Selection from *The Nova Tuskhut Library*)



**Fig. 1:** A selection of books from *The Nova Tuskhut* library, including *Youth and Two Other Stories* by Joseph Conrad. 2020. Image, Velaslavasay Panorama.

*The Nova Tuskhut* (2014) at the Velaslavasay Panorama in Los Angeles proclaims to be “The Only Arctic Trading Post in the Lower 48 States” (Fig. 1). The wood-clad interior of the room is dimly lit by an electric oil lamp. A bookshelf full of tin cans, glass bottles, dirty saucers and tattered books sits across from a narrow ticking-stripe cot with a dangling bear pelt overhead. An empty bottle of Grant’s blended scotch whiskey lies next to an open book. A small window in the far corner looks out onto a painted panoramic landscape shifting from night to day, a Daguerrean-style diorama of the tundra (Fig. 2). Outside the heavy wooden door is a post box and postal station, awaiting missives from the half-mythic “uncharted” North. How long ago did the room’s inhabitant leave? The open book looks like it has just been abandoned, but the bottle of Pain Balm is dry and covered in a thin layer of dust. Visitors to *The Nova Tuskhut* are instructed to “look out the window,” to “make themselves at home, read a book” and to even “take a little nap

on the cot," as though they were entering into a dream as much as entering an installation, and becoming complicit in the total exhibition of an imaginary Arctic outpost in metropolitan Los Angeles.



**Fig. 2:** Velaslavasay Panorama. The Nova Tuskhut window painting. 30.5 × 40.6 cm (12 × 16 in). 2014. Two views depicting the changing front-lighting and back-lighting, part of a 12-minute loop. Image, Velaslavasay Panorama.

"Is *The Nova Tuskhut* real?" Visitors often wonder out loud. The concern of "realness" goes two ways: whether the room actually contains "real" Arctic archival objects from a hundred years ago, or whether it was built to showcase "authentic" Arctic life of a given period. While the question of "realness" and "authenticity" attempts to clear ambiguity, the Velaslavasay is more interested in what "is haunted by the possibilities of life" (Nead 2007, 1). It puts into museological practice a form of engaged speculative historiography.

Contrary to restorative iterations of a fixed past, the Velaslavasay dedicates its space and programs to choreographing historical connections between past and present that are submerged under the archive.

Through extensions of ephemera, the VP engages its visitors to build complex memories of distant time from inside the museum's garden walls and recognizes historical connections beyond the factual ones, in a spherical, translocal, spectral sense, and performs these unspoken links in carefully constructed programs of words, sounds, images, objects, and dramas. Immersed in theatrical acting, its visitors are asked to collectively, if asynchronously, redefine their relationship to both history and reality. In this essay, we take the "realness" question from the heart of Los Angeles all the way to the fabrication of the spheric world through colonial exploration and exhibition of the Arctic, bringing systemic acquisition of place to the level of artifice and leaving an absence of explanation in its wake.

Written on the verge of *The Nova Tuskhut*'s deinstallation and likely digitization, this essay ruminates on the haunting nostalgia of the colonial Arctic, which absorbs the panoramic and immersive media that are used to represent it, and inverts their co-opted intentions. What comes from this inversion is a regeneration of material and ephemeral history, prompting a re-examination of shared cultural phenomena. For a grassroots museum built for engaged speculative historiography like the Velaslavasay Panorama, the question of how to digitize is predicated on what can and cannot be digitally captured. Physical objects and space are available for scanning and photography, but what if the exhibit is created as part of an asynchronous, spontaneous, and multisited engagement that resists fixed remembering? How do you capture that?

## 2 The Room: A Suspended Location of Dreary Spaces

*The Nova Tuskhut* has deep-rooted memories etched within its walls, as opposed to being contextualized for visitors in a guidebook or traditional wall text. The exhibit presents a hut's façade with a roof jutting out overhead and a rudimentary wooden sign reading "Nova Tuskhut," above the front door (Fig. 3). The sign diverges from the functional museum label as a *sign* of its independent reality and its counter-presence from an historical artifact, and relocates *The Nova Tuskhut* to the slippery domain of Vladimir Nabokov's Nova Zembla (also, Novaya Zembla or Zemlya) in the novel *Pale Fire*—a land with a literary double (Nabokov 1994). The main character Charles Kinbote, an "exile" torn between two identities, uses Zembla as both his homeland and a territory to project fantasies—fictions with very real consequences. The peculiar presence of "-bla," at the end of Zembla, as in "blah blah," is likely a linguistic choice made by Nabokov, a lover of multilingual puns and Nabokov's repeated playful use of portmanteau is reflected in the compound word *Tuskhut*, there being a series of tusks and bones on display inside the hut. In linguistics, the relationship between the signifier and the sign may be arbitrary,

but a proper name lends resonance and character to a noun and can express a type of knowing that differs from what a didactic explanation can achieve. Nabokov's *Nova Zembla* brings *The Nova Tuskhut* to a place of pure imagination, to parody and homage. Like the nature of fiction in general, it is a collage of truth and invention and this fluidity allows for a non-identity to take hold as the acknowledgement of a false narrative is free to roam deeper into truth. This is the space of unspoken history and speculative historiography, as opposed to alternative history.



**Fig. 3:** Velaslavasay Panorama. *The Nova Tuskhut* front door façade. 2.13 × 2.74 × 3.7 m (7 × 9 × 12 feet). 2015. Image, Forest Casey.

More on the name and its relation to the nineteenth-century phenomenon of mythical worldbuilding; *Nova Zembla* is an Arctic archipelago that, in 1880, was the destination of the Willem Barents, a scientific expedition joined by Dutch painter Louis Apol

(1850–1936). In 1896, Apol created the Nova Zembla panorama to document his journey, remembering the prior centuries of Dutch exploration while affirming the Dutch fleet within the competitive canon of the Age of Exploration (Alting van Geusau 2021). In May 2013 researcher Sylvia Alting van Geusau gave a presentation on Apol's *Nova Zembla* panorama, giving the VP curators (Sara Velas and Ruby Carlson) historical data and imagery to pull from during the early stages of development of the walk-in diorama of the Arctic explorer's hut, adding an additional layer of memory to the name.

James Gleick, in *The Information* (2011), cites Russian psychologist Aleksandr Romanovich Luria's studies using Novaya Zembla in a logical syllogism to illustrate the disjunction between words, the speaker and reality "among illiterate peoples in remote Uzbekistan and Kyrgyzstan in Central Asia in the 1930s." The syllogism goes as follows: "in the Far North, where there is snow, all bears are white. / Novaya Zembla is in the Far North and there is always snow there. / What color are the bears?" Some of the interviewees replied: "To go by your words, they should all be white." Including the modifier "to go by your words," points to an incision, cutting through the domain of institutional logic and finding expression through Novaya Zembla. Gleick writes: "The information has been detached from any person, detached from the speaker's experience. Now it lives in the words, little life-support modules" (2011).

In the perpetual absence of museum labels in the Velaslavasay Panorama, the information is detached from the viewer and the institution, leaving *The Nova Tuskhut* suspended in a remote and—for some—an unnavigable location. William Safire (2000), in his *New York Times* column *On Language*, recounts: "Writers from Jonathan Swift and Alexander Pope to Jules Verne and Salman Rushdie have used Zembla's wastes north of Siberia as symbolic of what Charlotte Brontë called 'forlorn regions of dreary space.'" Likewise, the visitor to the Hut enters a suspension of specific time-space, a state of "zemblanity" for the "inexorable discovery" (Safire 2000) of uncharted relationships with history.

For the first few months of *The Nova Tuskhut*'s exhibition, guests could not enter the hut, but merely peer through a reversed peephole installed in the façade's wooden door (Fig. 4). Through it, the visitor looked onto a depression-era Works Progress Administration (WPA) diorama, presenting an "Arctic" scene of figures dressed in furs with a sled and dogs. The diorama was made in an ethnographic style emblematic of displays at museums around the world—such as the Field Museum in Chicago and the Natural History Museum of the University of Iowa—that make a tiny life out of the expansive conditions of human and natural development for the purpose of informative exhibition, while indexing the era of World Fairs' transitions "from education to attraction" (Nead 2007). The reverse peephole distorted the figures, making them appear smaller and further away from view, similar to how the style of the diorama itself receded from popular museology. The VP received the diorama from the Bowers Museum during one of the Bowers' phases of deaccessioning, and its distorted presentation lurks as a spectre of institutionalized knowledge.

In this initial phase (February to May 2014), *The Nova Tuskhut* drew parallels with Marcel Duchamp's *Étant donnés*: 1. *La chute d'eau*, 2. *Le gaz d'éclairage* (Given: 1. *The*



**Fig. 4:** Velaslavasay Panorama. *The Nova Tuskhut* front door façade. 2.13 × 2.74 × 3.7 m (7 × 9 × 12 feet). A view showing the experience of looking through the hut’s front door peephole. Image, Velaslavasay Panorama.

*Waterfall*, 2. *The Illuminating Gas*). Permanently installed at the Philadelphia Museum of Art since 1969, the installation is a wooden door with two holes looking onto a nude cast female body with the title etched on the body’s arm, laying among twigs, an oil lamp, painted backdrop, cotton-ball clouds and a little waterfall (Philadelphia Museum of Art n.d.). Duchamp (1887–1968) expanded the medium of the diorama from a simulated habitat made for “the museum to bring whole living sections of nature within its walls” (Shufeldt 1894) to a materialized metaphor for encompassing the world, while challenging the notion that a diorama was not a work of high art. As Giovanni Aioli states, when “situated in a contemporary art gallery, the diorama no longer ventriloquizes the rhetoric of natural history but becomes a tool through which this very rhetoric can be dismantled and appraised” (Aioli 2018). *The Nova Tuskhut* was created as an exhibition

of mythical space, following a lineage of dioramic, taxidermic and panoramic traditions while shifting the gaze away from subjects/objects within these mediums and onto the panorama phenomenon itself. For four months *The Nova Tuskhut* existed as a façade looking onto a distorted view of the Bowers' ethnographic diorama. Then, on May 9, 2014 attendees of the event "Glacial Garden Feast," witnessed a presentation on Nancy Columbia by Dr. Russell A. Potter and Kenn Harper and were invited to enter the mythical interior space of *The Nova Tuskhut*, to become transitory inhabitants of this singular and convoluted exhibition (Fig. 5).



**Fig. 5:** Velaslavasay Panorama. *Nancy Columbia and the Arctic Beyond*. Exhibition in the lobby of the Velaslavasay Panorama on view 2014–2018, Curated by Sara Velas, Ruby Carlson, Russell Potter and Kenn Harper. Image, Velaslavasay Panorama.

*The Nova Tuskhut* inverts the exterior and the interior, leading the visitor *into* the frontier/global and retrieving them *out* to the near/local (Augé 2023, xix). The visitor is invited to touch the objects and explore the uncanny familiarity of what Svetlana Boym calls a “surrogate home”—a museum exhibit that stands in as a temporary immersive homecoming refuge for those whose everyday life has been turned inside out into a living museum (Boym 2001, 318) (Fig. 6). This “surrogate home” both was and was not necessary for Columbia Eneutseak (1893–1959). Also remembered as Nancy Columbia and “Queen of the Paystreak,” the Inuit film star was born as a part of an “human ethnic exhibit,” otherwise known as “Eskimo Village” (or “Esquimaux Village”), at the 1893 World’s Columbian Exposition in Chicago, a key panorama moment<sup>1</sup> that will be discussed more in later sections of this paper. *The Nova Tuskhut* is the surrogate of a surrogate home, the latter a stand-in of the Labrador Inuit ancestral home that Nancy Columbia never set foot in. The Hut’s visitor is left alone “in the role of an amateur detective, memoirist, or allegorist” (Boym 1999) to speculate the Arctic memories that colonialism made into a traveling fiction and was itself turned into an object of world-building memory from the Arctic’s spheric vantage point.

The speculative modes of memory differentiate *The Nova Tuskhut* methodologically from two comparable types of special museological installation: the period room and the wonder room (also, cabinet of curiosities, or *Wunderkammer* in German). The period room, traditionally installed as if writing “love letters” to earlier ages (Harris 2012, 124), recreates authenticity and celebrates a high taste of a specific time period by combining furniture, decorative art, and architectural elements in a sitting room (Keeble 2006). Derived partially from the model rooms showcasing contemporary commercial furnitures in the late nineteenth century, period rooms are devoted to historical fantasies of European aristocracy (Migan 2021). In the case of the United States, period rooms evoke a nationalistic pride of American material culture, a nostalgia against perceived non-native hedonistic threats (Harris 2012), and a regurgitated exoticism of foreign or elitist decor, making the unapproachable accessible. Their original placement in history museums rather than art museums further discloses period rooms’ ideological function as a representational device of periodized history writing out of conservative “preservationist impulses” (Harris 2012, 124–126). In Southern California, period rooms of the Edward Dean Museum or Clark Library carry an overtone of kitsch playacting, as the colonial privilege of the East Coast loses steam across the vast expanse of the country as it traveled West and combined with the faux novelty of Hollywoodland.

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<sup>1</sup> The 1893 World’s Fair presented a number of panoramic attractions “to entertain and educate visitors, including a *Volcano of Kilauea Cyclorama* and *Panorama of Bernese Alps* on the Midway Plaisance.” The Arctic tableau sponsored by the US War Department was the most popular. In *The Magic City*, J. W. Buel described it as “a beautiful combination of model and painting that exhibited such an excellent reproduction of this memorable incident, that it drew immense crowds, who thronged in front of it almost continually, and whose interest and admiration was unbounded.”



**Fig. 6:** Velaslavasay Panorama. *The Nova Tuskhut* interior. 2.13 × 2.74 × 3.7 m (7 × 9 × 12 feet). 2022. Image, Forest Casey.

On the other hand, the wonder room brought to its audience encyclopedic repositories of rare objects that were yet to be scientifically categorized, provoking marvel and wonder from the sixteenth century onwards (Arellano 2010). Boosted by “colonial expropriation and appropriation” in the ensuing centuries, what Foucault called the “heteroclitite” collections of the wonder rooms constructed an “affective cartography,” through the felt, disorderly enchantment of the exotic, of the here vis-à-vis the “‘absolute elsewhere’ that is meant to be apprehended, conquered, and rendered visible” (Arellano 2010, 372; Foucault 2002, xix). The Museum of Jurassic Technology (MJT), a sister organization of the VP, is a critique and provocation of the wonder rooms of earlier centuries. The winding, circuitous path that visitors take through the MJT form a labyrinth of confusion and enlightenment as exhibits elicit the question of truth and artifice. For instance, the micromosaic floral arrangements made from butterfly wings by Henry Dalton (1829–1911), are so intricate and uncanny that the act of viewing them through a microscope can arouse a paranoia, leaving the viewer to question the integrity of the microscope as a machine, the virtue of the museum curator, and the logic of nineteenth-century pursuits and pastimes (Museum of Jurassic Technology n.d.).

*The Nova Tuskhut* refuses allegiance to systems of presentation that periodize history into a prescribed metanarrative, or proclamations of authenticity in reconstructing space, or to a colonial affection for the enchantments of faraway lands. It treats memory not as an already connected and fixed relationship, but as a medium through which the viewer of the room contemplates the juxtaposition of objects as

an ongoing, and palpable practice of making memory. It is a dream within forgotten dreams of history. In defining the boundaries of archiving, curators Velas and Carlson imagine *The Nova Tuskhut* asking itself: am I a period room, an art piece, an installation, a recreation? When I remember myself, how will I remind myself of what I was?

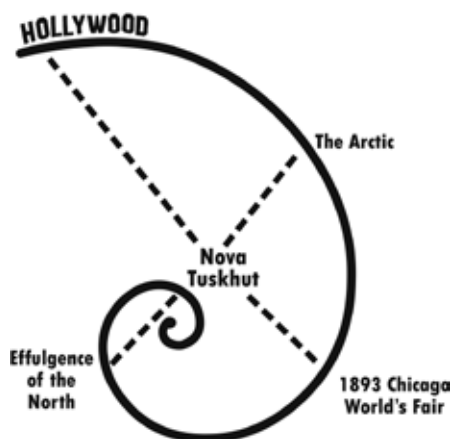
### 3 Backdrop for Out-of-Time Dreamers

Forlorn regions suspended between reality and literary hallucination characterize the foundational curatorial underpinning of *The Nova Tuskhut* (Fig. 7). The installation was instigated by the *Effulgence of the North* panorama that spirals towards a key moment of the Arctic panorama at the 1893 World’s Columbian Exposition in Chicago honoring the US military’s booming Arctic exploration (Cummings 2021). In his photographic chronicle of the World’s Fair, *The Dream City* (1893), the founding director of the St. Louis School and Museum of Fine Arts Halsey Cooley Ives described the public’s awe at the painting:

This white scene was perhaps the most striking of all the displays in the wonderful museum which the United States opened at the World’s Fair. The exhibit was built in the manner made familiar to residents of cities through what are called cycloramas, where lay figures and actual properties take stated positions before the painting, and become an inseparable portion of the scene (cited in Cummings 2021).

The World’s Fair offered a crucial site of showcasing colonial achievements and a laboratory to dream of the future of human habitats. It substantiated the perception of the world as a spheric entity by bringing a Navajo tribe from New Mexico, an Inuit tribe from Labrador and other Indigenous groups to the Jackson Park fairgrounds (Hinsley 2016). It commissioned Chicago as the world center by giving its architects and planners the authorship of fabricating an “authentic” ethnographic Other who “played” themselves in their “surrogate home” in front of the fairgoers. Nancy Columbia, the future Hollywood star and focal point of Velaslavasay Panorama projects, was still in Esther Eneutseak’s womb when Esther, just fifteen years of age, her mother Helena, father Abile, and 57 other Inuit individuals from the Labrador coast and surrounding areas were hired to inhabit the “human ethnic exhibit” (Harper and Potter 2010).

By inverting the domestic space outward to make public contact—the same way anthropology establishes its disciplinary position (Hinsley 2016)—the fair drew the Arctic to the scope of intimacy, domestication, and objectification. In this light, the creation of an Arctic-themed panorama, and then a total installation of a related story, in twenty-first century Los Angeles, would be challenged to grapple with the coloniality of museums of remote enchantment while not losing the lures of a dream accrued along the pipelines of panoramic and immersive media. As Beatriz Colomina describes the anomalous logic of capturing a built environment on film media: “Rather than represent reality, it produces a new reality” (Colomina 1987).



**Fig. 7:** *The Nova Tuskhut Spiral of Dreams*, showing the Los Angeles-based Hut as the fictional portal to the cumulative, gradually widening “dreams” of the Arctic by diverse dreamers, which also congregate at the Velaslavasay Panorama. Diagram created by the authors.

Exhibited at the Velaslavasay Panorama from 2007–2017 and painted by Sara Velas, *Effulgence of the North* was a romanticized illustration of the Arctic terrain by night with an aurora borealis lighting effect and a forty-minute soundscape. *Effulgence* was displayed following the original 1787 patent by Robert Barker (1739–1806) (with a few twenty-first-century enhancements): the entrance, dark corridor, cylindrical center staircase, observation platform, 360-degree circular canvas, three-dimensional *faux terrain* and trompe l’oeil textures on canvas (Fig. 8). Visual reference material included nineteenth-century engravings from Henry Aston Barker’s *The North Coast of Spitzbergen* Leicester Square panorama (1819) and those based on Elisha Kent Kane’s field drawings (1854), along with fanciful descriptions of “The North” in literary works like Mary Shelley’s *Frankenstein* (1818) (Potter 2007). Taking cues from fantastical science fiction, such as M.P. Shiel’s *The Purple Cloud* (1901), *Effulgence* embodies an uncanny Arctic of the imagination rather than proximal descriptions of the real. Velas had purposely selected a terrain she had never personally visited, to reinforce an imagined version of the Arctic, the dream inside which *The Nova Tuskhut* finds itself. The impetus, again, was a representation of imagined representations.

Looking beyond the near-monochrome surface of the canvas, *Effulgence* offers meditations on portrayals of the nineteenth-century depiction of remote regions and travel-bound otherness. As William Poundstone (2010) reminds us, *Effulgence* adds another dream to “the hallucinatory literature and art of the polar regions, initiated by Samuel Coleridge’s ‘The Rime of the Ancient Mariner’ (1789).” During the Age of Exploration, newspaper articles, engravings, magic lantern shows, illustrated lectures, fictional tales and rumors generated a cultural and material vision of the Arctic, for the purposes of consumption and entertainment. This desire to consume a particular ideal or fantasy of the North (and South) provided the imaginative space of the panorama



**Fig. 8:** Velaslavasay Panorama. *Effulgence of the North*. 360-degree painting with *faux terrain*. 2007. Image, Velaslavasay Panorama.

and a visual language encapsulated by a way of looking, a Victorian gaze upon strange landscapes and “Strange People,” or so described by *The Boston Globe* and referenced in Kenn Harper and Russell Potter’s insightful paper on Nancy Columbia and her mother Esther Eneutseak (Harper and Potter 2010).

The Velaslavasay Panorama’s exhibitions present the infiltration of media and its psychic reverberations into everyday life, or as Beatriz Colomina (1999, 337) puts it: “The media are what allows the private to be the site of public memory.” The incision point where private life becomes public memory opens the shutter on Nancy Columbia, “a girl born for the camera,” and the main subject of the Velaslavasay’s exhibit *Nancy Columbia and the Arctic Beyond* (2014), which debuted alongside *The Nova Tuskhut* and featured the archival work and artifacts of Kenn Harper and Russell Potter. To bring Nancy Columbia to the intimate space of *The Nova Tuskhut* and initiate the Polar Film Club (Fig. 9)—a six-part series of films on turn-of-the-century explorations of the North and South Poles, in collaboration with LA Filmforum—closes the *longue durée* circle of panorama-cinema-built folk-art environment between the Arctic, Chicago, and Los Angeles.

During the decade of *The Nova Tuskhut* exhibition, VP curators Velas and Carlson used film to compress the private and public dichotomy while shaping curatorial programming in both intentional and unintentional ways. The installation served as a backdrop for films by students from the nearby University of Southern California and for independent artists looking for a rustic, nineteenth-century interior with which to



**Fig. 9:** Velaslavasay Panorama. *Mush! To the Movies II*, Polar Film Club screening event on February 6, 2015. Image, Larry Underhill.

project their cinematic visions. These productions connected *The Nova Tuskhut* to huts of the silver screen and similarly constructed façades for twentieth-century genre films, some of which remain standing around California, such as Pioneertown and Paramount Ranch. In 2023, Sally Potter's 1983 film *The Gold Diggers* was programmed for three consecutive weeks as part of the VP's Film-In-Residence series. *The Gold Diggers* features multiple iterations of a hut, reminiscent of *The Nova Tuskhut*, and operates as a metaphor for the circuitous and pervasive allure of cinema, amongst other dreams of success, fame, esteem and idolatry. The image of a solitary hut, which repeated throughout the film, was then used to create a postcard emulating the commemorative *Nova Tuskhut* postcard that accompanied the exhibit since its inception and has spawned a series of recreated and reimagined hut-postcards (Fig. 10). The original *Nova Tuskhut* postcard was itself a recreation of a postcard for Heinold's First and Last Chance Saloon, located on the shores of Oakland, California since 1884, a self-described "(il)literary landmark" with an "abrasive atmosphere" and interior as "a montage of America's past" (Heinold's First and Last Chance n.d.). In the foyer of *The Nova Tuskhut* is a postal station and postal mail box made from the same deteriorated wood as the hut and visitors have been encouraged to "mail" their postcards from the "Arctic."

Sally Potter's film includes recreations and reproductions of scenes from cinematic history, predominantly Charlie Chaplin's 1925 film *The Gold Rush* (Fig. 11). Also screened as part of the VP's Film-in-Residence series in February 2025, programming both films mimics the call and response nature of the VP's projects, which consume and



**Fig. 10:** Velaslavasay Panorama. Four printed postcards—*Heinold's First & Last Chance Saloon* (n.d.), *The Nova Tuskhut* (2015), *Nova Tuskhut: The Gold Diggers* (2023), *Nova Tushhut: The Last Servants* (2024). Offset printing on cardstock, 8.23 × 14 cm (3.25 × 5.5 inch). Image, Velaslavasay Panorama.

reuse each other, like a recycled ouroboros. During the International Panorama Council's conference in Lausanne (October 2024), Velas and Carlson toured Chaplin's World and the period rooms of Chaplin's house museum in Vevey, Switzerland, which holds a dizzying display of real and wax visitors as an immersive technique while bringing visions from the silver screen into everyday life. Lucy Sante (2012) describes the act of watching *The Gold Rush* as a communal experience: “Watching along with you, spectrally, are most of a century's worth of people, in every corner of the globe, in opulent movie palaces and slum storefronts, on state-of-the-art equipment and sheets hung from trees.”

In 2020, during the COVID-19 pandemic and the mandated lockdowns that prohibited the VP from being open to the public, a postal project titled *Dispatches from The Nova Tuskhut* began, wherein people could order a postcard sent from *The Nova Tuskhut's* mailbox with a typewritten excerpt from a book from *The Nova Tuskhut's* library. Some people ordered postcards to be sent to themselves while many ordered postcards for others, with their exposed messages traversing the private-public domain as they moved between individuals and through the meandering national postal networks. As travel was prohibited during this uncanny period, the contingent object of the postcard dissolved its literal connotations—no longer was it a marker of a person commemorating real travel to a real place, it became a marker of virtual travel to an unreal or impossible location, “of escapes into wishful thinking” (Boym 1994, 155). Restrictions and dissolutions open a space for the type of travel inherent to the panorama



Fig. 11: Production still from Charlie Chaplin's film *The Gold Rush* (1925) Image © Roy Export Company Ltd.

and installations like *The Nova Tuskhut*. Svetlana Boym writes: “In the 1960s and early 1970s, when traveling abroad was nearly impossible, Soviet citizens engaged in ‘virtual travels’ through the popular television program ‘The Club of Cine-Travelers’ (a Soviet version of ‘National Geographic’), or through collecting foreign stamps and pictures of Western writers, artists, and intellectuals.” (Boym 1994, 155). One might add to this list a postcard or a visit to a house-museum or built environment of a displaced home, like Columbia’s *Esquimaux Village*, or Ilya Kabakov’s *Toilets* (1992).

In 1992, Ilya and Emilia Kabakov debuted *Toilets*, a reconstruction of a 1960s–70s era “soiled and neglected” public toilet, typical of Russian bus or train stations, yet placed within the domestic private space of a Soviet two-room apartment (Kabakov and Kabakov 2019). *Toilets* opened at Documenta IX at the Museum Fridericianum in Kassel, Germany and visitors entered into either the Men’s (the living room) or Women’s (the bedroom) section, with the revolting stains of the exposed toilets inches away from baby toys, cutlery and the cotton duvet. Entering the exhibit “is akin to trespassing into a foreign world that feels like home” (Boym 2001, 310), it is a place and a home out of time. Contemplating on the im/possibility of Kabakov “mak[ing] a home through art” at a time when art’s value plunged, Svetlana Boym questions: was it “a particular ethnography of memory or about global longing?”

Both Kabakov’s *Toilets* and *The Nova Tukshut* offer a transient “surrogate home” (Boym 2001, 318) that invites the visitor to walk into an unsanctioned archive of minor items reproduced from a lost world, soliciting infinite storytelling from its visitors. She is allowed to touch the objects, enjoy the solitude of being in the warm intimacy of memory, and most crucially, inhabit an empathetic experience of an “ambiguous nostalgic longing” (Boym 2001, 326). The open narratives emerge not from an attempt to return to an officially narrated past, but her tacit play with the ambivalent gap between her and the Othered self she now inhabits.



**Fig. 12:** Participants in the Polar Film Club have their Polar Passports stamped within *The Nova Tukshut* by Mary Jane Boltz. 2015. Image, Larry Underhill.

Exiled at the total installation of “home” is the Polar Other in one case, and the homo-sovieticus (Boym 2023) in the other; their passports as void as the nostalgic attempts to revisit old haunts. In 2015, the VP began a six-part Polar film series, “Mush! To the Movies!” with Herbert Ponting’s third revision of the documentary *90 Degrees South: With Scott to the Antarctic* (1933) and the “cinema version” of *Roald Amundsen’s South Pole Expedition* (1911). Attendees were given commemorative passports and admission was allowed only to those with a “validated” Polar Passport, acquired through an administrative stamping procedure inside *The Nova Tukshut* (Fig. 12). The screenings combined “polar classics” such as *Nanook of the North* (1922) and W.S. Van Dyke’s *Eskimo* (1933) with contemporary and experimental art films including Rebecca Barron’s *The Idea of North* (1995) and *The Journals of Knud Rasmussen* (2006), directed by

Zacharias Kunuk and Norman Cohn.<sup>2</sup> At the end of the series, those who attended all six screenings *and* received all six stamps were eligible to win a one-night “stay” in the hut. In the surrogate homeland, proper identity papers are a very serious joke designed as ephemeral material invested by the power of memory of the participant, rather than a political border zone, creating a space for us all to “play” our identities. Svetlana Boym wrote: “The border zone is a peculiar labyrinth, a spatial image of non-teleological time, a time of potentialities that transform a political border into a risky playground of the imagination” (Boym 2001, 270). Criss-crossing the domains of memory, homeland, art and imagination is the out-of-time dreamer who stumbles upon the “only Arctic Trading Post in the Lower 48 States” and is confused by the translocation of time and space and the competing narratives of the Arctic-Chicago-Los Angeles continuum in the history of the panorama medium.

## 4 Conclusion: The Innermost Layer of the Museum

The Velaslavasay Panorama features “rotating programs, focusing primarily on pre-cinematic traditions to tell little-known stories that add resonance to our central panoramic exhibit” (Velas n.d.). From these rotating programs derives a rhizomatic “panorama public” that grows new relations and memories out of each panoramic encounter that is the node of the enlarging network. As the network expands, the museum amasses an archive of things that holds and defines the boundaries, strung together by memories indexed by transmissible objects. Exhibits themselves, like *The Nova Tuskhut*, generate and amass their own archive: postcards, promotional leaflets, webpages, articles, photographs, videos, and papers such as this—all expansions from a source that is both real and imaginary.

The ethereal, yet materialistic expansion of *The Nova Tuskhut* was captured in November 2024, when a transmitter was installed onsite at the Velaslavasay Panorama with the curators of LOOKOUT.FM for the purposes of broadcasting, on 88.8 FM KVSF, the premiere of a radio play set in Antarctica. *The Last Servants*, composed by Nicolás Carcavilla and José Badía Berner and performed by the late Kenneth Welsh (1942–2022), tells the story of egoic failure, a futuristic aspiring dictator transfers his consciousness into a scouting robot in an attempt to expand his sovereignty but gets lost and “shipwrecked” among the icy terrain of the Antarctic. Alone and adrift, he transmits his forlorn tale via radiowaves to whomever may be listening, which for a three-month period were the visitors and inhabitants of the “Arctic”-based *Nova Tuskhut*, whose radio had been sitting dormant and idle for many years (Fig. 13). The haunting

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<sup>2</sup> This screening of *The Journals of Knud Rasmussen* (2006) was the Los Angeles premiere of this film, part of “The Fast Runner” trilogy, filmed in Inuktitut language with a majority Inuit cast, crew and creative team. <https://panoramaonview.org/events/mush-movies-vol-v>

presence of the North-South polar portal in Los Angeles disrupts geography as much as the recorded media of Kenneth Welsh, who passed shortly after performing the radio play, disturbs chronology.



**Fig. 13:** Interior of *The Nova Tuskhut* with radio, staged for The Last Servants Broadcast, transmitted on 88.8FM, KVSF. 2025. Image, Velaslavasay Panorama.

Returning to the opening question of digitization: after *Effulgence*, the *Polar Film Club*, the hut postcards and other Arctic-themed programs, how will digitizing *The Nova Tuskhut* do justice to all these memories of the contemporary and past dreams of the Arctic? This essay presented three nesting layers of the Velaslavasay Panorama's Arctic memories, from the exhibit programs on the outside to the core of the institution that recycles the fragments of memories from deinstalled exhibits and grafts new branches of public relationships and cross-pollination. These painted and built Arctic memories, carried by postcards and individual visitors, help distribute the spontaneous memory

growth of the Velaslavasay Panorama across Los Angeles and beyond. The haunting nostalgia of the colonial Arctic absorbs the panoramic and immersive media used to represent it over time and turns them into its own misremembered memory.

## Velaslavasay Panorama Projects Referenced

### *The Nova Tuskhut*

Wooden hut with cot, window with acrylic painting on translucent canvas with front-to-back lighting effect, 12 min. loop. 2.13 × 2.74 × 3.7 m (7 × 9 × 12 feet). Wood, fabric, pot belly, stove, books, candles, jars, tusks, bones, rug, oil lantern, bear pelt, antelope fur.

On view at Velaslavasay Panorama 2014–2025

Concept, Direction & Fabrication: Sara Velas, Ruby Carlson, Oswaldo Gonzalez

Dioramic Window Painting, Lighting Design & Programming: Sara Velas

### *Mush to the Movies: A Polar Film Club*

2015 Six Part Film Screening Series at the Velaslavasay Panorama

Curated by Sara Velas, Ruby Carlson (Velaslavasay Panorama) and Adam Hyman (LA Filmforum)

#### **Films in order of presentation:**

Roald Amundsen's *South Pole Expedition Film* (1912)—Directed by Roald Amundsen

*90 Degrees South: With Scott to the Antarctic* (1933)—Directed by Herbert Ponting

*Eskimo Hunters of Northwest Alaska* (1949)—Directed by W. K. Norton

*Das Eskimobaby* (1918)—Directed by Heinz Schall

*Untitled (Ross Ice Shelf Antarctica)* (2005)—Directed by Connie Samaras

*The Idea of North* (1995)—Directed by Rebecca Barron

*Nanook of North* (1922)—Directed by Robert Flaherty

*South* (1919)—Directed by Sir Ernest Shackleton and Frank Hurley

*Break* (2015)—Directed by Kate Lain

*In the Best of All Possible Worlds* (2011)—Directed by Steve Rowell

*The Journals of Knud Rasmussen* (2006)—Directed by Zacharias Kunuk and Norman Cohn

*Northern Lights Over Mount Halde* (2013)—Directed by Morten Skallerud

*Eskimo* (1933)—Directed by W. S. Van Dyke

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## Author Biographies

**Ruby Carlson** is a Curator, Writer and Director of Programs at the Velaslavasay Panorama. From 2015–2018 she served as the elected Secretary of the International Panorama Council. She studied literature and linguistics at George Washington University and is an award-winning cinematographer for media and fine art projects. Since 2010 she has participated in PLACE, a critical return to the discovery of Freud and its construction in the topology introduced by J. Lacan.

**Sara Velas** is the Founder, Co-Curator and Artistic Director of the Velaslavasay Panorama, a nonprofit museum and garden she established in the year 2000 to present experimental immersive experiences and variations of media popular before the invention of cinema. An artist, graphic designer, curator, gardener, and native Los Angeleno, she is active on the Heritage Committee and Advisory Board of the International Panorama Council. Ms. Velas is on the Speaker Committee of the Los Angeles Breakfast Club and is significantly involved in architectural preservation efforts throughout Los Angeles. Born in Panorama City, California she received her BFA from Washington University in 1999.

**Weiling Deng** is Assistant Professor of Interdisciplinary Studies and Digital Humanities at Champlain College in Burlington, Vermont. She received her Ph.D. in Social Sciences and Comparative Education from UCLA. Her research and teaching interests include Global Asias, archipelagic thinking, traveling theory, gender and race in technology, engaged pedagogy, and applied humanities. She has published in *South Asian Review*, *Verge: Studies in Global Asias*, *Los Angeles Review of Books*, and academic anthologies including *Postcolonial and Postsocialist Dialogues: Intersections, Opacities, Challenges in Feminist Theorizing and Practice*.

Rod Bantjes

# An Archaeology of Time and Memory in Panoptic Media

**Abstract:** In this paper I trace the thinking behind panoramic representation back to the seventeenth-century Dutch Golden Age. I argue that incipient within that thinking was a new constructivist paradigm of spatial perception that incorporated time, memory and the proprioceptive experience of the moving body. My method is experimental media archaeology which allows me to uncover “artisanal knowledge” embedded in the artefacts and not yet articulated by theorists.

I reconstructed Jan van der Heyden’s fixed-point apparatus for viewing wide-angle distortion in his painting of the Amsterdam *Stadhuis*. This and similar anamorphosis-rectifying devices like the Dutch perspective boxes have embedded within them a critique of the perspective model of representation/perception, particularly as it handles wide-angle seeing. That critique can also be seen in alternative spherical projections that abound in Dutch still lifes where shiny convex surfaces reflect full-surround views of the spaces they occupy. I reconstructed different variants of the missing viewing-box for Carel Fabritius’s painting *A View in Delft* to test whether it was intended for fixed-point viewing of an anamorphosis, or mobile viewing of a panorama. Evidence from this experiment, plus my consideration of two period panorama-drawing machines suggests that the makers of these devices were thinking of perception/representation in terms of time, memory and motion.

I also consider why the Fabritius and van der Heyden devices were “disappeared,” and apparatus-mediation of visual representation was relegated to fairground attractions until panoramas became fashionable in the early nineteenth century. When George Berkeley first articulated the new perceptual paradigm in 1709, he used its constructivist character to undermine faith in veridical sight. The idea of bodily-mediated, temporally constructed perception was anathema to many until the nineteenth century when the weight of evidence shifted in its favour. Apparatus-mediated representation proliferates in this period.

**Keywords:** Experimental media archaeology, panorama drawing machines, spherical projection, “curvilinear” perspective, celestial navigation, anamorphosis, Berkeleyan perceptual paradigm

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# 1 Introduction: Panoramic Imagination in Seventeenth-Century Dutch Art

In this paper I take an experimental media archaeology approach to the history of the panorama (Bantjes 2022). I am interested in two questions: 1) why were Dutch artists in the seventeenth century apparently so obsessed with panoramic thinking? and 2) why, with one possible exception, did they not build panoramas? The possible exception is Carel Fabritius, and his painting *A View of Delft* (1652) reputed to have been exhibited on a curved surface in a viewing box.

My evidence for Dutch artists' obsession with the panoramic idea comes in part from their paintings. These are filled with spherical projections like this one in a detail of Pieter Claesz's *Vanitas* of 1630 (Fig. 1). Within the narrow confines of a linear projection, he has inserted this all-round view. Note how the square grid of the window mullions is projected with bulging curves. See it again in the lid of the timepiece. Almost every curved reflective surface has this little acknowledgment of the wide-angle views that conventional perspective is unable to capture. Once you start to look, you see such projections everywhere in Dutch still-lives of this period, even in the glistening surfaces of fruit.



**Fig. 1:** Pieter Claesz, (Dutch, c. 1597–1660) *Vanitas* [detail], ca. 1630, oil on wood, 36 × 59 cm. Image, Germanisches Nationalmuseum.

There is some textual evidence of artists' thinking as well. Samuel Hoogstraten, writes in 1678: "...we see around us with our eyes, and for that reason no straight line can be drawn that is equally near to our eyes in all places; but well a curve, such as the outline of a circle, whose centre point is our eye (Wheelock 1977, 82)." My guess is that the inspiration for this way of understanding seeing was celestial navigation, the principles of which would have been familiar to technically educated people in a global trading nation such as Holland was in the seventeenth century (Schotte 2019). To orient oneself in space while on the deck of a ship in open ocean, one had to sight distant celestial bodies through a backstaff or quadrant. One understood the parameters of the world not from within a rectilinear grid, but rather in terms of angular measures from the centre of great circles. It is a paradigm of perception according to which the observing eye is at the centre of a visual sphere.

In the seventeenth century there were known ways in which spherical (or cylindrical) projections could be produced. One was by the use of a convex mirror, as its insertion in numerous seventeenth century paintings demonstrates. Gérard Lairesse, in 1738 explicitly recommends them for taking wide-angle views (464–5). The other was by the use of a rotating *camera obscura* invented by Johannes Kepler (1571–1630) in 1620. Kepler's device was a bit like a field *camera obscura* with the lens atop a conical tent enclosure, except that like a period windmill, the entire platform, artist and all, was able to rotate. A scroll of paper ran across the image-plate on which Kepler recorded a vertical slice of the scene. He then rotated the *camera* a few degrees, advanced the paper roll, recorded another slice and so on until he had completed a full panoramic sweep of landscape (Hockney 2006, 210). This is not seeing-at-a-glance as in conventional perspective, but rather seeing sequentially (as we do in fact naturally). The scroll of paper is a cybernetic memory that records a process of seeing over time.

## 2 Fabritius: Panoramic Curve?

I had always assumed that Fabritius's *A View of Delft* was a panorama, probably made with a rotating *camera obscura*. Other scholars agree that it was probably meant to be viewed on a curved surface, but not a panoramic surface, that is, with the eye at the centre of rotation. So, I made my device to test which view was correct. What you see in Fig. 2 is the painting displayed with the panoramic curve. If you pull the large lever, the back of the device moves forward, crushing the image into the tighter curve as recommended by Walter Liedtke (1945–2015) in his authoritative 1976 publication.

In my aesthetic re-imagining of the device, I have tried to invoke nineteenth-century panorama design: its circularity, its translucent dome for diffuse top-lighting. I invited people to compare how the different curvatures affected the image and to judge which appeared the least distorted. In Fig. 3 you see flat representations of a curved surface. They are far from accurate representations of what you experience when you



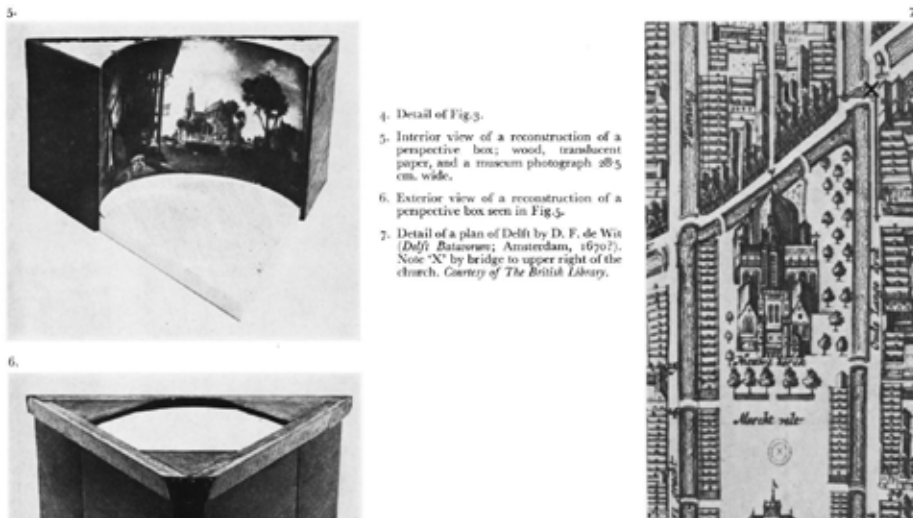
**Fig. 2:** Rod Bantjes, *The Fabritius Pantheon*, 2024. Image, the author.



**Fig. 3:** *Distortion Comparison: the Lute*. Image, the author.

look into the box. They do however give a rough idea of the degree of distortion. Of the twelve people I surveyed, the majority agreed that the panoramic curve is best. Liedtke places great weight on the distortion of the two musical instruments, arguing that his curve rectifies them. Here we are comparing his curve to the panoramic curve. It is hard to judge with respect to the viola da gamba, and few people now are familiar with the foreshortened shape of a lute. However, by comparison to a photograph of a lute in a similar disposition you can see that Liedtke's version is squeezed too thin. The panoramic view of the lute is better.

I was confident of the superiority of the panoramic curve except for one nagging doubt. Those who were able to compare by looking into the device found the tight curve more immersive. The space seemed to wrap around their field of vision, which was a particularly satisfying effect for the wall of the instrument-seller's stall on their left. As I wrestled with this anomaly, I went back to Liedtke's paper and there realized the error I had made. Liedtke's box has an angle-of-view of  $60^\circ$ , but his estimate of the angle-of-view of the painting is  $90^\circ$ . You can see that in his reproduction of a period map of the site (Fig. 4). I had set my panorama up for  $60^\circ$  of arc; if I remade it instead for  $90^\circ$  of arc, the viewer would gain more of that wrap-around experience that had been lacking. There was no way to fix the first device, so I built a new one (Fig. 5).



**Fig. 4:** The reproduction of a period map, with Liedtke's box, in the 1976 article "the 'View in Delft' by Carel Fabritius." *Burlington Magazine*, 118 (875): 61–73. Image, *Burlington Magazine*.

A wide-angle view of  $90^\circ$  cannot be perceived all-at-once in a glance. It was therefore impossible to use a peephole in the device. The eye, and the head must rotate, just as the recording *camera obscura* may have rotated. So, I designed a viewing apparatus that constrains the point of sight of one eye and allows the eye and the head to pivot around the centre of rotation of that eye. To my better satisfaction it does create the desired wrap-around experience. The musical instruments are less distorted than in Liedtke's version. However, one of the most powerful pieces of evidence in its favour is how the device resolves the anomalous shadows in the flat original. Liedtke has us note the shadows cast by the lute against the plaster wall and by the large tree on the houses behind it. They fall in different directions. If the sun were a lightbulb located just above the awning of the music seller's stall, then this would make sense. But the sun is not a proximate lightbulb, but rather a source of light so distant that it casts its shadows effectively parallel on the Earth.



**Fig. 5:** Bantjes, *Panoramic Motion Device*, 2024. Image, the author.

Liedtke argues that by curving the image his rendering brings these two shadows closer to parallel. However, they are still cast in directions far more divergent than we would expect parallel lines to do in an image. Only the panoramic approach fixes the problem. The solution is not just a question of finding the right curvature, but one in which the motion of the body is brought into play. Fig. 6 is a 90° iPhone panorama between two trees in my orchard. Note the shadows of their trunks: they diverge dramatically from parallel. At 90° I cannot see them simultaneously. To see them both, I must turn from one, slowly around to the other, and as my eyes, head and body turn, I know pre-consciously that the scene will appear to rotate and parallel lines will shift their apparent orientation. This bodily component of seeing-around is recapitulated by my rotating viewing device.



**Fig. 6:** Bantjes, *Panorama with Shadows*. Image, the author.

### 3 Anamorphosis vs. Panoramic Projection

Liedtke designed his box for fixed-forward viewing with an angle of  $60^\circ$ —a mistaken art-historical standard for what the eye can see without rotating.<sup>1</sup> To achieve this configuration, he had to move the peephole back from the painting, so it was no longer at the centre of the curve. With this configuration the painting cannot be a panorama; Liedtke believes that it is an anamorphosis. How Fabritius might have created such an anamorphosis is a problem that I want to consider by way of a detour to his contemporary Jan van der Heyden. Van der Heyden painted two views of the *Stadhuis*, or town hall of Amsterdam, one from 1665 was a conventional perspective rendering, the other from 1667 (Fig. 7) highlights the anamorphosis that can emerge on the edges of a wide-angle perspective view. Note the distortion of the cupola in the 1667 view. Van der Heyden is reputed to have attached a viewing-device at the lower right-hand corner of the painting. Fig. 8 illustrates my recreation of the lost viewing device. I achieve the relative position more precisely by rotating the painting either left-right or up-down.



**Fig. 7:** Jan van der Heyden, (Dutch, 1637–1712) *The Dam in Amsterdam*, oil on canvas, 85 × 92 cm, 1667. Image, Galleria degli Uffizi, Florence.

<sup>1</sup> John Ruskin (1837, 94), for example, makes this mistake when natural philosophers were already well aware that the fovea gives a range of distinct vision of only  $1$  or  $2^\circ$ .

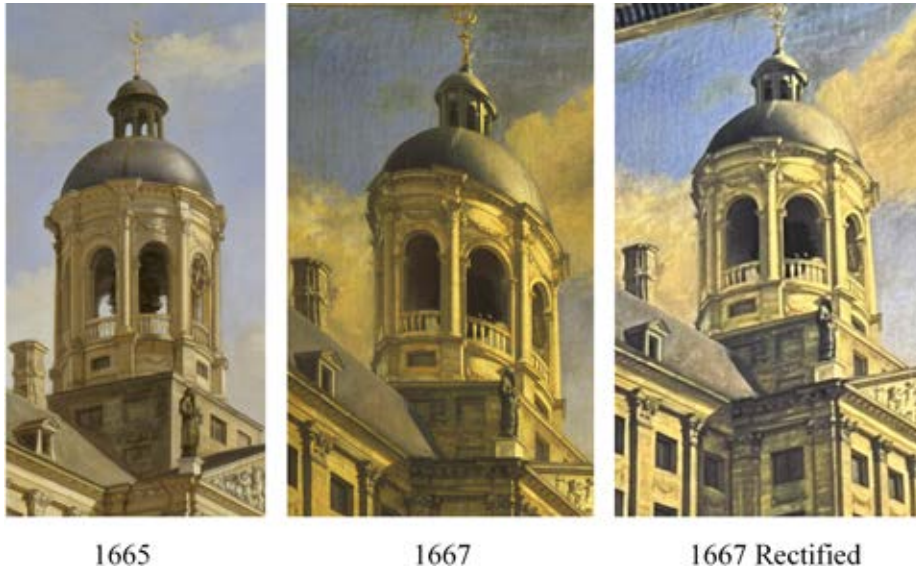


**Fig. 8:** Bantjes, *Van der Heyden Device*, 2024. Image, the author.

The observer is able to adjust the relative position until the perspective looks right. The middle image (Fig. 9) is what the cupola looks like if you look at the painting straight-on. The right-hand image is what it looks like when you tilt the painting back and rotate it clockwise. In other words, if you fix the point of sight at the lower right-hand corner, the anamorphosis disappears.

However, the tower on which the cupola sits tilts to the right. You can think of van der Heyden's painting as the left-hand half of a wide-angle view. If you added the missing right-hand half, the point-of-sight would be in the middle and perspective would distort both edges. If you rectified the distortion by tilting the canvas back, then buildings at both sides would tilt together just as they do in modern photographs where the camera has been tilted up to look at skyscrapers. I think in this experiment van der Heyden was interested both in understanding wide-angle views, but also in the phenomenon of upward converging vertical lines that become apparent when you extend a wide-angle view upwards. Vertical convergence was a valid phenomenon of perspective that painters refused to depict for reasons that I try to make sense of elsewhere (Bantjes 2014b).

We can now return to the question of how Fabritius produced the curved projection in *A View of Delft*. Liedtke thinks the image is an anamorphosis that is corrected from a fixed point of sight. There are a number of examples of "perspective boxes" made at this time by Dutch painters like Hoogstraten and Pieter Elinga. These have triangular or rectangular interiors with either the top or the side of the box open to admit light. Each angled surface has an anamorphic image projected on it. When viewed from outside



**Fig. 9:** *Stadhuis* Cupola Distortion. On the left is van der Heyden's 1665 version; the middle is the 1667 version and on the right is the 1667 cupola rectified by the viewing device. Image, the author.

the box through a peephole, the anamorphoses resolve into a single rectified image, typically (and somewhat mischievously) an interior space whose shape and orientation is different from the actual interior space of the box. If Leidtke is right, Fabritius's box would be the only one depicting a landscape and the only one projected on a curved inner surface. In principle it is possible to project an anamorphosis on any surface, no matter how complex. Some artists, Andrea Pozzo is a good example, had developed techniques for projecting them on curved surfaces such as vaulted ceilings.

Seventeenth-century techniques for producing anamorphoses are marvels of ingenuity, but they are complex and painstakingly difficult to achieve. Let me spare you the technical details and instead make two key points. First, you must produce a perspective rendering in order to use it as the model from which to project the anamorphosis. You can not project an anamorphosis onto a complex surface from life. Second, an anamorphosis is a non-intuitive foreshortening, and you need an apparatus to guide you in rendering it. Given that Fabritius is starting with a wide-angle view, the perspective rendering would *itself* be an anamorphosis like van der Heyden's wide-angle view of the *Stadhuis*, and he would need a further apparatus to render it. It is technically much easier to do a panoramic projection from life.

Kepler's rotating *camera* would allow the panoramic image to be projected directly onto the canvas. My initial experiments towards building such a device have shown that there are, however, constraints on the size of the image. The problem is that the artist has to get her head and hands between the lens above her and the image-plate which it projects down onto. With the simple biconvex lenses used at the time, that pro-

jects an image greater than 20 cm high. Fabritius's image is tiny: only about 16 cm high. There were hand-held *camera obscuras* available to Fabritius. These project the image up to a ground-glass plate. He might simply have set a camera of this design on the table of the instrument-seller's stall and rotated it over a pivot of some kind. He could then have inscribed the drawing slice-by-slice on a strip of translucent paper laid over the ground glass. There would have to have been an additional step, perhaps to overlay the paper strip on the canvas and transfer its form by pricking key points. Such a procedure would plausibly account for the small size.

There is another possible candidate for Fabritius's panoramic drawing machine. This one was designed by Baldassere Lanci and reported in a treatise by Vignola in 1583 (Liedtke 1976, 71). Lanci's machine consists of a linear sight that pivots around a center and is linked to a stylus that moves in parallel to it and inscribes the viewed scene on a semi-circular screen. This wonderful device would have allowed one to draw directly from the scene to the canvas and would have produced the projection in semi-automated fashion. It would work best on a small scale for a semi-circular rendering like Fabritius's. It also functions like the tools of celestial navigation—armillary sphere, quadrant and backstaff—in that it maps space by plotting angular measures on horizontal and vertical axes from a centre of rotation. However, it was likely not as well-known as the *camera obscura* or even Kepler's rotating version.

## 4 Discussion and Conclusion

I am not particularly committed to any of these speculations. What interests me is that all of them are machine-mediations of the process of perceiving and recording. They also demand machine mediation in exhibiting the resulting representations. I have highlighted this artificial, mechanical character in my designs for the panoramic exhibition devices and the van der Heyden viewing apparatus. By resurrecting these mediating devices, I have brought attention to Dutch artists' dissatisfaction with the model of seeing represented by linear perspective. Spherical projections within their paintings challenge the boundaries of its narrow rectangular frame and the rectilinear grid-model of the world of which it is an expression. Their playful experiments with anamorphosis in perspective boxes and in van der Heyden's device reveal how, when perspective reaches for the wide-angle view, it produces distortions, at least as troubling as those within a polished sphere. These artists were beginning to realize that no projection onto a two-dimensional surface fully captures our experience of space.

My first question was why Dutch artists in the seventeenth century were apparently so obsessed with panoramic thinking. In showing that Fabritius's painting was meant to be panoramic, I am offering further evidence *that* Dutch artists were obsessed with panoramic projections. As to why: in addition to my suggestion about celestial navigation, I am arguing that the artefacts have embedded within them not only a growing cri-

tique of linear perspective and the perceptual model to which it was linked, but also an incipient alternative model. The roll of paper in the rotating *camera obscura* introduces motion and recording over time, that is memory, into spatial perception. Within the perspectival model of seeing, visual experience was understood to be static and apprehended at-a-glance. The Fabritius machine, as I have resurrected it, also has embodied within it the tactile sensation of bodily motion. As the viewer scans successive impressions, their order (e.g. the orientation of the shadows in relation to one another) only makes coherent sense when re-constituted alongside the physical sensations of moving the head and body (exhibition here becomes a new technical problem that only the nineteenth-century panorama building solved). The body is implicitly measuring arcs of a circle to which slices of visual impressions correspond.

The philosopher and cleric George Berkeley (1685–1753) was in 1709 the first to articulate this new idea that our perception of space is irreducibly tactile and proprioceptive. He insisted that the pre-conscious correlations we make between series of visual and tactile impressions were merely “habitual” and lacked the certainty of math or logic (151). Since Berkeley’s aim was to undermine empiricists’ faith in the truth of sense-perception and human reason, his approach attracted widespread opposition throughout the eighteenth century.

The Berkeleian paradigm only began to be accepted in the nineteenth century as more evidence accumulated in its favour and strategies to counter Berkeleian scepticism were formulated. Not accidentally, this was also the period of the great panoramas. My second question was why Dutch artists didn’t build panoramas in the seventeenth century. I am suggesting that they would have announced a new paradigm before its time and made it concrete in obtrusive apparatuses of representation. Even in the nineteenth century the stigma attached to “mechanical” or apparatus-mediated art lingered.<sup>2</sup>

My experience with reconstructing Fabritius’ device has suggested a further possibility, however. Fabritius himself may have given up on it as a failure. His little *camera obscura* produced an image too small for the apparatus. His painting is smaller than my reproduction of it (15 cm as opposed to 21 cm high). Viewing it correctly would have brought the eye far too close to the canvas, revealing all its materiality and flaws.

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## Author Biography

**Rod Bantjes** is a Senior Research Professor at St. Francis Xavier University, Nova Scotia, Canada. He is author of two books and numerous journal articles on environmental social movements and state formation. In 2014 his interest shifted towards media archaeology and its application to understanding changing conceptions of space, perception and epistemology. This work has been published in *The History of Ideas, Art History, History of Photography, Technology and Culture, Early Popular Visual Culture*, and the *International Journal of Film and Media Arts*. In 2017 he began building and experimenting with optical devices and disseminating his research findings through interactive workshops in addition to traditional academic papers.

Ulrike Heydenreich

## ***Verlangen naar de verte / Longing for the Distance*—Reflections on My Solo Exhibition at Museum Panorama Mesdag in The Hague, 2023**

**Abstract:** *Verlangen Naar de Verte / Longing for the Distance* at Museum Panorama Mesdag offered a comprehensive overview of my practice as an artist. Curated by Adrienne Quarles van Ufford, the exhibition allowed me to revisit my evolving fascination with landscapes and panoramas, and to reflect on my artistic journey. Located in the historic Museum Panorama Mesdag, home to the iconic *Panorama van Scheveningen*, the setting offered a profound resonance with my own work, which explores the interplay between perspective, memory, and the sublime.

The exhibition traced my journey from my earliest piece to my most recent works both transforming historic panoramic prints into three-dimensional forms and reinterpreting traditional representations of landscapes to engage with new perspectives. By putting together a personal cabinet of curiosities I offered visitors an intimate glimpse into the sources of my inspiration, from early twentieth-century imagery to the timeless allure of pristine nature.

I also presented objects and methods that have shaped my practice, such as the *Panorama Drawing Device* that I built earlier in my career and which was a turning point in my focus from documenting real landscapes to imagining places of longing. Works such as *Panoramaring*s and *Gazebo* explore panoramic views in an unconventional way.

This exhibition was an opportunity to reflect on how we engage with landscapes—both real and imagined—and to explore the act of seeing and the role of perspective. It invited a dialogue on the historical ways landscapes have been viewed, the ways they shape our understanding of the world, and their fragility in the face of environmental change. By reimagining historical panoramas, I aim to preserve not only their beauty but also the profound sense of wonder they inspire, continuing my lifelong exploration of memory, perspective, and the sublime.

**Keywords:** Perspective, perception, nature, alpinism, memory, sublime

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**Acknowledgements:** I would like to thank Minke Schat, director of Museum Panorama Mesdag, for the kind invitation and the opportunity to exhibit in this extraordinary museum. My heartfelt thanks also go to Adrienne Quarles van Ufford, curator of the exhibition, for the wonderful collaboration and for considering my work as a whole, in all its diversity. I am also grateful to Petra Warrink, the exhibition designer, for her creative approach and for working closely with the curator to ensure that my work and collection in the studio translate beautifully into the museum setting.

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Ulrike Heydenreich, Düsseldorf, Germany

# 1 Introduction

*Longing for the Distance* at the Panorama Mesdag Museum was the first comprehensive overview exhibition of my practice as an artist (Fig. 1). Curated by Adrienne Quarles van Ufford, head of museum affairs, it brought together more than 20 years of my work in this most impressive setting. It was a rare and special opportunity for me to see all these works in one place, allowing me to reflect not only on the artworks themselves, but also on my artistic journey that they represent.



**Fig. 1:** *Verlangen naar de verte* (*Longing for the Distance*), Ulrike Heydenreich. 01.04.23–17.09.23, Exhibition poster for Museum Panorama Mesdag. 2023. Image, Museum Panorama Mesdag, The Hague, [www.panorama-mesdag.nl](http://www.panorama-mesdag.nl).

## 2 Museum Panorama Mesdag

As you approach the museum, its modest facade gives little hint of the vast, almost circular structure that houses Mesdag's iconic *Panorama van Scheveningen*. This 360-degree cylindrical panorama, the oldest surviving panorama in its original location, immerses visitors in a vivid seaside scene. A meticulously constructed foreground of *faux terrain* encloses the observation deck, hiding the base of the painting and adding to the illusion. Its monumental scale and disorienting realism continue to captivate audiences and embody the immersive appeal of this popular nineteenth-century spectacle.

Hendrik Willem Mesdag, a marine painter of the Hague School, created the panorama with the assistance of his wife, Sientje Mesdag-van Houten, and several student painters. Completed in 1881, the painting is over 14 meters high, 40 meters in diameter and 120 meters in circumference (Fig. 2). From the central viewing platform, the cylindrical perspective gives the impression of standing on a high sand dune, looking out over the sea, the beaches, and the village of Scheveningen as it appeared at the end of the nineteenth century, just before this stretch of coast was transformed by development. Mesdag understood this panoramic work to be documentary, a lasting record of a landscape in transition, destined to exist only in memory and in his artwork.



**Fig. 2:** Hendrik William Mesdag. *Panorama of Scheveningen*, 1881. 14.6 m × 114.5 m (16 × 125 yards) in circumference. Image, Museum Panorama Mesdag.

This kind of 360-degree panorama, also known as cyclorama, combines art and experience in a uniquely compelling way. Since I first encountered this fascinating phenomenon, it has been a profound source of inspiration, revealing what art can be and deepening my interest for the transformative power of immersive imagery and unusual perspectives.

The works we selected for my solo exhibition span different periods of my artistic practice and trace my ongoing exploration of themes, such as landscape depiction in

the form of drawings, panoramas and collages, textile work, and objects. While Mesdag's iconic panorama captures the immersive and illusionistic qualities of landscape representation, memory and the sublime in its historical context, my work extends this exploration through a contemporary lens, reinterpreting these qualities as well as the ways in which we navigate and perceive landscapes and specific perspectives.

### 3 Cabinet of Curiosities

My work was displayed in four exhibition galleries of the museum, the smallest of which invited visitors into the *Wunderkammer*—a cabinet of curiosities with artifacts that inform my creative process, offering the opportunity to immerse oneself in my small world of inspiration and materials from my studio (Fig. 3). This playful collection of objects, both found and made, offers a glimpse into the visual language that inspires my work. Among them are historic panoramas, vintage postcards, and early twentieth-century, black-and-white photographs characterized by deep blacks, soft tonal nuances, and the silky sheen of Baryt paper prints. My fascination with alpine



**Fig. 3:** Ulrike Heydenreich. *Wunderkammer*, 2023. 230 × 350 cm (90 in × 140 in). Artwork, by the author. Photo, Jan-Kees Steenman. Image, Museum Panorama Mesdag.

landscapes, a recurring motif in my work, emerges here, symbolizing for me the human longing for untouched nature and the remote unknown.

There were stacks of early and popular photo books of the Alps, panoramic images on postcards, and various viewing devices such as magnifying glasses. There were crystalline rocks and images of glaciers, postcards depicting the colorful light conditions of alpenglow, and small mirrored paper objects that create kaleidoscopic views of the image below, transforming the image into something entirely different, reminiscent of precious crystals. These were joined by compasses in various designs, glass lenses that distort landscape images, and photo findings with suggested routes for climbing impassable peaks that look like embroidery instructions (Fig. 4). A long, folded 360-degree panorama of Mount Pilatus, printed in 1888, was neatly folded into a book cover. Alongside it, in this small box, was a Myriorama card game—a whimsical artifact that allows you to arrange and rearrange cards to create endless variations of a panoramic landscape.



**Fig. 4:** Ulrike Heydenreich. *Wunderkammer (Details)*, 2023. Artwork and photo, the author.

Also on display in this room is the earliest piece in this show, which was inspired by that very card game: the *Panorama Box*, a small mechanical diorama that I made as a student in 1998, already then being fascinated with the never-ending panorama (Fig. 5).

The rotating narrative landscape within the small, illuminated cube, slowly passing by, is borrowed from this nineteenth-century Myriorama. This unassuming yet deeply personal piece reflects my earliest fascination with the endless vistas glimpsed from a train window and carries the seeds of what would become my ongoing exploration of panoramic imagery.



**Fig. 5:** Ulrike Heydenreich. *Panorama Box* 1989 / 2023. 13 × 13 × 13 cm (5.1 in × 5.1 in × 5.1 in). Artwork, the author. Photo, Markus J. Feger.

## 4 Historic Finds

The fascination with panoramas has remained a constant in my work and finds new expression in my most recent series, *Fundstücke* (Finds), several of which were included in the exhibition. In this series, I explore historical 360-degree panoramas, particularly of mountain peaks, which were popular in the late nineteenth and early twentieth centuries. The folded leporellos, often 3 to 4 meters long, were regularly published by alpine clubs in Switzerland, Germany, and Austria. These original artifacts are each unique in their color, texture of paper, and quality of printing. By modifying the expansive landscapes with additional folds and reconstructing them into a perfect circular

form, the pieces become an unusual and surprising visualization of a single-point perspective and a 360-degree view at the same time.

A particularly precious find is a slightly discolored panorama of the Pizzo Centrale from 1867 which I discovered in an antiquarian bookstore (Fig. 6). Carefully folded and mounted, it became a three-dimensional paper object that transcends its age and wear. In this particular work, the landscape is turned outward, creating the sensation of lying on the ground and looking up at the sky, surrounded by mountains. In other works, I reverse the orientation, positioning the sky outward, evoking a bird's-eye view, as if soaring above the peaks and looking down on the vast landscape below.



**Fig. 6:** Ulrike Heydenreich. *Fundstück 19 (Pizzo Centrale)*, 2022. 70 × 70 × 7 cm (27.6 × 27.6 × 2.8 in). Artwork, the author. Photo, Markus J. Feger.

Other works in this series feature multiple overlapping panoramas, layered to mimic the intricate contours of mountain ranges where peaks seem to nestle together. These layers add depth and complexity, with parts of the landscape partially obscured, much like the changing views of a natural mountain scene. One work in the series departs from the alpine theme and instead combines panoramas of Himalayan peaks. For another piece, I used two sets of unusually long panoramas divided into several seg-

ments. This work has a delicate, almost ethereal quality due to the thinness of the paper and the unusual mint coloring of the prints.

The *Fundstück* series is both an homage to these exquisite representations of natural beauty and a celebration of the craftsmanship of the original draftsmen and printers, as well as the seemingly forgotten artifacts found in antique shops (Fig. 7). At the same time, it becomes an exploration of perspective and illusion, perception and memory, and transformation. By manipulating these historical panoramic prints, I reinterpret their visual narratives and invite viewers to reconsider how we engage with landscapes—both as physical spaces and as representations shaped by time and memory.



**Fig. 7:** Ulrike Heydenreich. *Fundstück 11 (Himalaya)* (Detail), 2021. 73,5 × 73,5 × 5 cm (28.9 × 28.9 × 2 in). Artwork, the author. Photo, Markus J. Feger.

## 5 Capturing Views

Another piece in the exhibition that deals with the 360-degree panorama is the *Panorama Drawing Device*, a portable tool I built for myself in 2003 to capture the surrounding views of places I found myself in (Fig. 8). Included for display was a line drawing I

made with the device from the roof of my Brooklyn apartment that same year. Preparing for the exhibition, I discovered an intriguing parallel: the structure of the device resembles the tool Mesdag used to make the initial sketch for the *Panorama of Scheveningen* in 1880. This demonstrates our timeless fascination with panoramic perspectives and the simple, intuitive logic of capturing a surrounding view in its entirety—a technique that bridges centuries of artistic exploration.



**Fig. 8:** Ulrike Heydenreich. *Panorama Drawing Device*, 2003. 203 × 157 × 93 cm (79.9 × 61.8 × 36.7 in). Artwork, the author. Photo, Jan-Kees Steenman, Museum Panorama Mesdag.

## 6 Imaginary Panoramas

While initially focused on documenting real surroundings, my work with the *Panorama Drawing Device* soon evolved into creating views of imagined, non-existent places—places of longing. Alpine landscapes soon became my source material and a visual metaphor for distant realms and since have become central to my artistic practice. These

seemingly untouched landscapes, remote and close to the sky, symbolize humanity's enduring longing for the unknown and the sublime.

While similar in form to the drawings created with the *Panorama Drawing Device*, the *Panoramarings* (2010) were made at the drawing table using fragments of vintage alpine postcards as starting material. These were then translated into refined pencil renderings and framed as floor objects, presenting a bird's-eye view of interconnected peaks in 360 degrees. Although these panoramas initially seem seamless, closer inspection reveals subtle breaks and individual fragments, adding layers of complexity to the otherwise cohesive landscapes.

Another related work, *Gazebo* (2003), offers a different approach to panoramic viewing (Fig. 9). This circular structure, three meters in diameter, houses a panoramic pencil drawing of an imaginary landscape. Unlike traditional gazebos, this structure is intentionally inaccessible, requiring the viewer to view the landscape from the outside. This physical separation emphasizes the act of viewing itself, underscoring themes of distance, perspective, and longing—concepts that resonate throughout my broader exploration of landscape and perception.



**Fig. 9:** Ulrike Heydenreich. *Gazebo*, 2003. 236 × 271 × 271 cm (93 × 107 × 107 in). Artwork, the author. Photo, Jan-Kees Steenman, Museum Panorama Mesdag.

## 7 Aspect of Time

Many of the glaciers and views depicted in my collection of historic source material have melted, evoking a profound sense of transience and loss. These images serve as a reminder of a world that is gradually changing, their once-permanent landscapes now transformed by time. This aspect of time in my work is perhaps most evident in my collage series *Neuland* (New Territory), composed of enlarged and printed copies of the same photographic archive material I use for the pencil drawings. It feels particularly striking in these works, perhaps because of the presence of mountaineers in old-fashioned attire—figures who appear frozen in time yet seem to inhabit a world slowly fading away (Fig. 10).



**Fig. 10:** Ulrike Heydenreich. *Ausblick 01*, 2014. 68 × 51 × 7 cm (26.8 × 20.1 × 2.8 in). *Ausblick Panorama 07*, 2022. 24 × 83,5 × 6,5 cm (9.5 × 32.9 × 2.6 in). Artwork, the author. Photo, Jan-Kees Steenman, Museum Panorama Mesdag.

The collages are layered, with the landscape itself placed behind several veils of translucent paper. As a result, the image seems to disappear into the distance, similar to the view of a foggy mountain landscape. It oscillates between presence and absence, capturing both the image of a landscape and the fleeting memory of it. This exploration of time and its impermanence has become increasingly important to me and deeply informs my practice.

## 8 Moving on

Through the acts of folding, layering, collaging, and reimagining historic panoramas and landscape images, I explore new perspectives while reflecting on the ephemeral nature of both landscapes and memory. This process is not only an artistic endeavor but also a celebration of nature's beauty and a meditation on preservation. These landscapes invite viewers to connect with humanity's enduring longing—for nature and for the infinite distance that lies beyond immediate comprehension.

As glaciers retreat and the world these images capture fades into memory, my work becomes a dual narrative: an homage to the inspiring beauty of these places and a question about how we preserve not only their physical essence but also the profound wonder they inspire. Moving forward, I am committed to continuing this dialogue, creating works that honor what is past while embracing the discovery of new ways to see, experience, and remember the world around us.

## Author Biography

**Ulrike Heydenreich** is a Düsseldorf-based visual artist whose work explores themes of human navigation, longing, and our connection to remote landscapes. Inspired by the beauty of snow-covered mountains and artifacts from the history of alpinism, she creates fictional panoramas, semi-transparent paper collages, and paper objects. Her art weaves historical imagery, scale, and dimensionality to evoke a sense of the sublime and reflect on humanity's relationship with pristine nature.

**Heydenreich** studied at the Bauhaus University in Weimar, Germany, and the College of Art and Design in Minneapolis, United States, before receiving her MFA from the School of Visual Arts in New York in 2001. Heydenreich's work has been shown internationally, with exhibitions in Germany, the Netherlands, Belgium, Austria, Spain, the United States, and Japan. Her first survey exhibition, *Longing for the Distance*, was held at Museum Panorama Mesdag in The Hague from April 1, 2023, to November 19, 2023.

Chiara Masiero Sgrinzatto

# Illustrating a New Memory: Panorama Key and Virtual Tour for the exhibition *Panorama of Congo*

**Abstract:** Interpreting and reimagining artworks is a way to explore their essence, to reconsider them through a different lens, and also to preserve their memory. This essay presents two immersive illustrated works based on the *Panorama of Congo*, painted by A. Bastien and P. Mathieu, in 1913, that were developed for the research project Congo VR to be used in the panorama's first critical exhibition, held in 2024.

The Virtual Tour and the Panorama Key combine artistry and technology to take audiences on a captivating journey through history and imagination. The Virtual Tour accompanies visitors through the environments of the exhibition and showcases content, serving as a bridge between the past, present, and future. Its main goal is to transport the public to the exposition before its physical construction and to preserve the memory of the exhibition after its closing, allowing more people to enjoy it. The Panorama Key translates the panorama painting into a highly detailed and easily accessible graphic illustration, available as a large wall print or digital menu for the VR experience. Particular attention is given to the rendering of the scenes with people depicted in the foreground and the environments depicted in the background.

**Keywords:** Spherical drawing, panorama key, virtual tour, VR experience

## 1 Introduction

This essay presents two immersive illustrated works based on the *Panorama of Congo*, painted by Alfred Bastien and Paul Mathieu for the Belgian Colonial Exposition in 1913. The Panorama Key and Virtual Tour presented here were developed for the research project Congo VR and its first critical exhibition titled *Panorama of Congo: Unrolling the Past with Virtual Reality* at the National Museum of Natural History and Science in Lisbon, from February to June 2024 (Panorama do Congo n.d).

The project entails the integration of a heterogeneous assortment of media and technologies, each with its own distinctive modes of display and engagement. The painted panorama fosters a shared experience among visitors by providing an analog, large-

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Chiara Masiero Sgrinzatto, Venice, Italy

scale, and tangible artifact designed for collective viewing. Furthermore, the exhibition incorporates a virtual reality (VR) experience, which provides a digital and immersive encounter tailored for individual participants. In addition to these key elements, the exhibition incorporates various other components, including panels, projections, and installations, showcasing a variety of objects that enrich the narrative and visual complexity of the space. This interplay of media and technologies requires careful curation to create a cohesive and engaging environment.

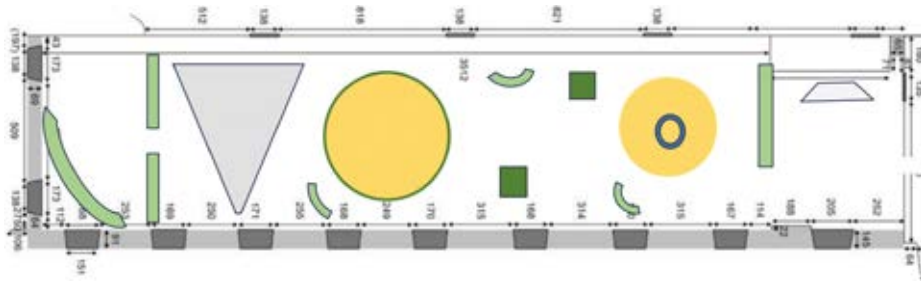
The challenge of illustrating a space that the author had never physically visited, and about which she had little information, was faced using a simple but artful drawing method. The process of creating this virtual tour is explained in detail, including the analysis of the available material to determine how each element could be incorporated into spherical illustrations. Digital handmade drawing and collage techniques were used to highlight the showcased content while subtly conveying the environment, ensuring a seamless user experience.

## 1.1 Desiderata and Challenges

Envisioning and representing an environment that exists purely in the conceptual realm is the focus of this project, the power of imagination is used as a leverage to emphasize and communicate the space. The Congo VR project's team made available a range of materials, including technical drawings, visual references, an exhibition floor-plan, project sketches, and photographs of the intended exhibition room that the author studied and combined in a way to suggest a context for the showcased items (Fig. 1). This imaginative approach is crucial to represent a complex project such as an exhibition that was still in the planning stage, allowing for creative freedom in conceptualizing the environment and its features.

One of the central challenges lies in integrating multiple elements that differ significantly in shape, size, and purpose. The exhibition combines a monumental painted panorama, a virtual reality experience, and other apparatuses of the exhibition, requiring special attention to communicate the spatial organization that ensures harmony between these distinct components.

The Virtual Tour aims to transport visitors into an immersive space that bridges past, present, and future. To achieve this, the author developed methods for imagining and rendering a staged ecosystem that illustrates how the exhibition is being organized and experienced, providing a comprehensive vision of its potential design, atmosphere, and accessibility. The creation of a (new) Panorama Key is a critical part of this project, serving as an interpretive guide to the painted panorama as well as a digital menu for the VR experience.



**Fig. 1:** Congo VR, The floorplan with measurements shared by the Congo VR Team explaining the exhibition apparatuses. In yellow we can see on the left side the rotunda and on the right side the VR installation; in light green the information panels; in grey the projections; in dark green the exhibit's other installations. Image, © Congo VR.

## 2 The Virtual Tour

The virtual tour combines the immersive potential of 360° spherical drawings and interactive navigation to create a comprehensive multi-platform exploration tool. A 360° drawing is able to illustrate the entire visible environment from a single point of view. It is sketched on a flat surface using spherical perspective techniques. Such drawings can be created on paper or digital canvas and later converted into immersive VR panoramas, allowing viewers to interact with the depicted space in an engaging way.

Virtual tours are created by combining multiple 360° images with interactive hotspots that allow users to explore complex spaces, such as exhibitions or buildings. These hotspots enrich the user experience by providing access to additional multimedia content, including sound, images, video, text, and attachments, enriching the user experience. In complex environments, navigation through a map can enhance spatial understanding, while customized user interfaces, tailored to the graphic image of the event, facilitate interaction and access to content.

Virtual tours are digital constructs that can be made available in html5 format on a website and can be accessed with a variety of devices, ranging from computers to smartphones and tablets to VR headsets. The experience can vary depending on the navigation device: on a computer, users can move the panoramas and interact via mouse or touch; on a smart device, they can tap or use the unit's gyroscope; on a VR headset, they are completely immersed in the depicted space (Fig. 2).



**Fig. 2:** Chiara Masiero Sgrinzatto (Italian, 1982), A mockup visualization of the Virtual Tour on multiple devices. Image, © Chiara Masiero Sgrinzatto.

## 2.1 Style

In the case of the virtual tour of the *Panorama of Congo* (Masiero Sgrinzatto, n.d.a), the spherical perspectives were created by converting technical drawings into points and lines in three-dimensional space, then translating the main points into polar coordinates and gradually completing the sketch. The photographic documentation of the previous exhibition that took place in the museum's hall inspired the mood and atmosphere of the resulting visuals (Fig. 3).

The five handcrafted spherical drawings that compose the virtual tour were designed to highlight the content being presented while subtly conveying the environment. To achieve this, the backgrounds were deliberately kept simple, using a limited palette of grays to outline the features of the space. A combination of digital brushes gives filled areas a slightly blurred effect that evokes space without distracting the eye from the content. The white color was used to draw and highlight the structure of the rotunda that contains the panorama, the VR installation, and the other exhibition apparatuses, such as information panels and tablets with multimedia content. The digital collage technique was used to highlight the painting, allowing users to enjoy it virtually while navigating the virtual tour. The use of silhouettes helps to give the space human proportions and make the environment more understandable.



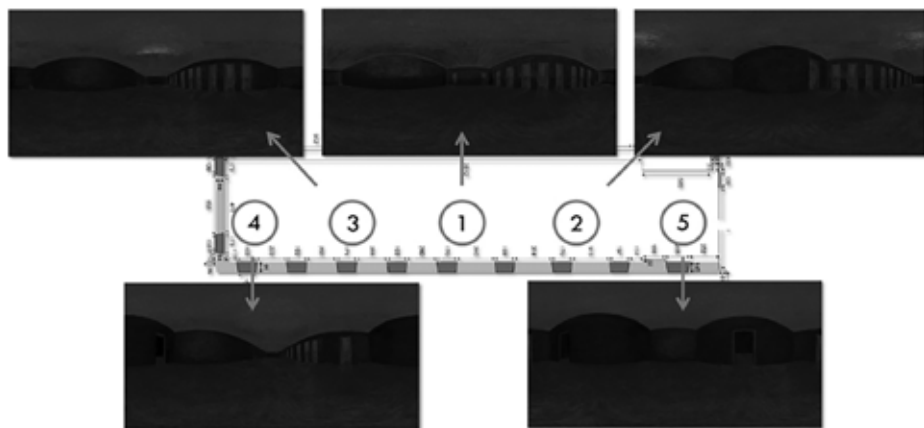
**Fig. 3:** Chiara Masiero Sgrinzatto (Italian, 1982), *The style of the panoramas: background style (left), the digital collage of the Panorama (center), VR experience and other exhibition elements (left, center, right) and human proportions (center, right)*. Image, © Chiara Masiero Sgrinzatto.

## 2.2 Virtual Tour Drawing Process

The five spherical drawings were created on a digital canvas using Adobe Fresco on the iPad Pro with Apple Pencil. Compared to drawing on paper, digital drawing allows for greater flexibility in the sketching process itself, as well as further adjustments and/or enhancements to the composition or style. The panoramas were sketched in equirectangular projection, a spherical map projection that is widely used for 360° imaging. (A Technical Note, located at the end of this article, provides a framework for interpreting this type of image.)

In composing the panoramas, the primary objective was to ensure a seamless user experience by maintaining consistency between the views. This is a detail that may appear trivial for the majority of virtual tours that capture an existing scene, such as photographic virtual tours. However, in the case of an illustrated virtual tour, the consistency between the panoramas is of paramount importance and must be carefully designed. Without this crucial consistency, the navigation between one scene and the next could not be aligned, resulting in a poor perception of the space by the audience. To achieve this result, the first scene was drawn by converting the floor plan, while all the other panoramas were derived from the first one (Fig. 4) using a simple step-by-step method, which is explained in detail in the following paragraphs.

Figure 5 shows the setting of the central scene (Fig. 5). The composition is symmetrical, and we can see the windows on the right side of the panorama dividing the space. Figure 5 bottom sketch shows the illustration completed with the digital collage, the silhouette, and the other exhibition apparatus. We are in the center of the rotunda and can see the panorama of the Congo from inside. In front of us we can see the VR installation, while at the back we can see the panels at the entrance. Figure 6 shows the process of obtaining the second scene from the first (Fig. 6). The second panorama is located at 2/3 of the length of the hall.



**Fig. 4:** Chiara Masiero Sgrinzatto (Italian, 1982), The five spherical scenes that make up the virtual tour are displayed in sequence. Image, © Chiara Masiero Sgrinzatto.

Figure 6 top sketch highlights the structure of the first drawing, Fig. 6 middle sketch shows how the wall in front of us was virtually pushed towards us and the wall behind us was pulled towards us. The rhythm of the windows on the right helped to determine the extent of this wall movement by drawing. Figure 6 bottom sketch shows the structure of the second panorama. The composition is still symmetrical, but the point of view is closer to the wall in front of us. Figure 7 top sketch shows the resulting illustration after the transformation, and Figure 7 bottom sketch shows the VR installation at the front, multimedia tablet installations at the sides, and a view back into the rotunda (Fig. 7).

The third scene is located at 1/3 of the length of the hall. Figure 9 bottom sketch shows the rotunda at the front, a projection on the left and the information panels at the back (Fig. 9). Figure 8 shows the structure of the second scene, which was used as a starting point for editing the image in Photoshop (Fig. 8). The transformation process is carried out by flipping the image on the vertical axis and then applying the offset filter, which wraps the panorama around the vertical axis by 180° seen in Fig. 8 middle sketch, virtually pulling the wall in front of us far away. Figure 8 bottom sketch shows the structure of the third panorama. The composition is again symmetrical, the point of view is far from the wall in front of us and closer to the entrance. Figure 9 top sketch shows the panorama after the transformation.

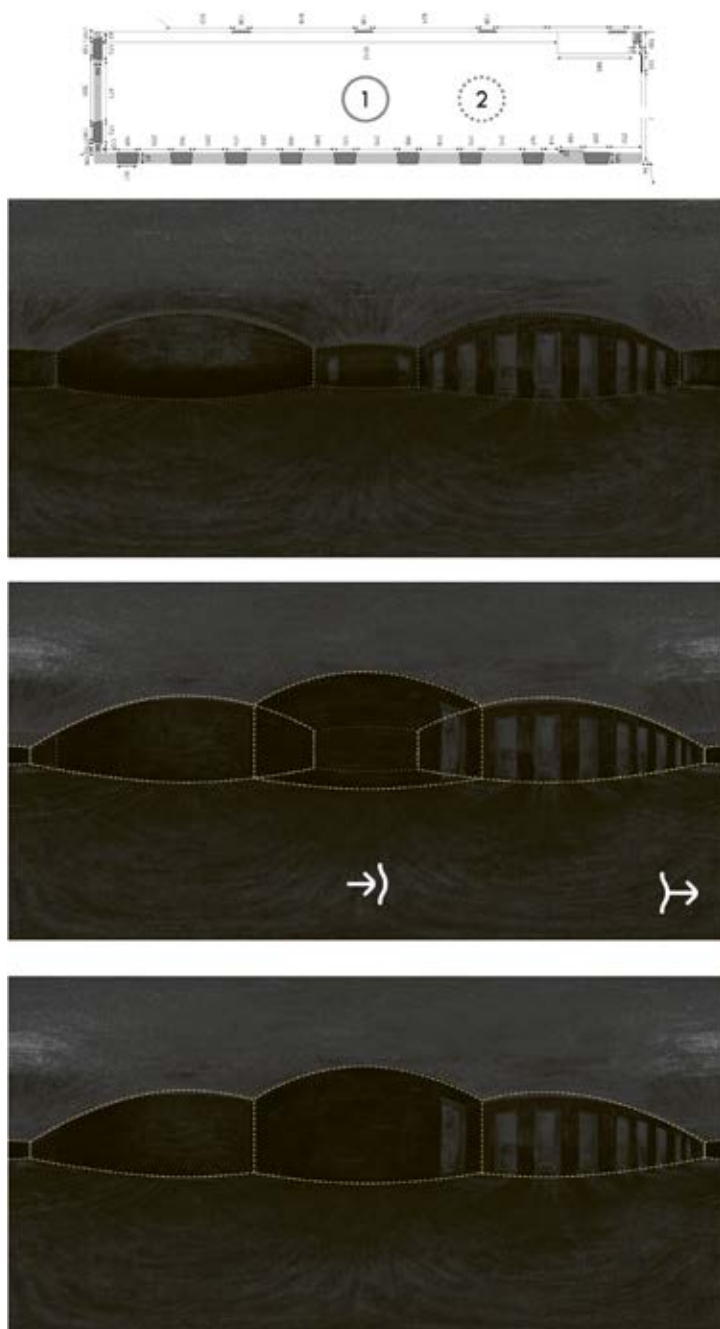
The fourth scene is also derived from the second one, and to obtain that a similar transformation was applied. Figure 11 bottom sketch shows the introductory space and its information panels, but we can see the rotunda in the background in front of us (Fig. 11). Again, Fig. 10 top sketch highlights the structure of the second scene (Fig. 10). In Fig. 10 middle sketch, the panorama was mirrored and a 180° offset filter was



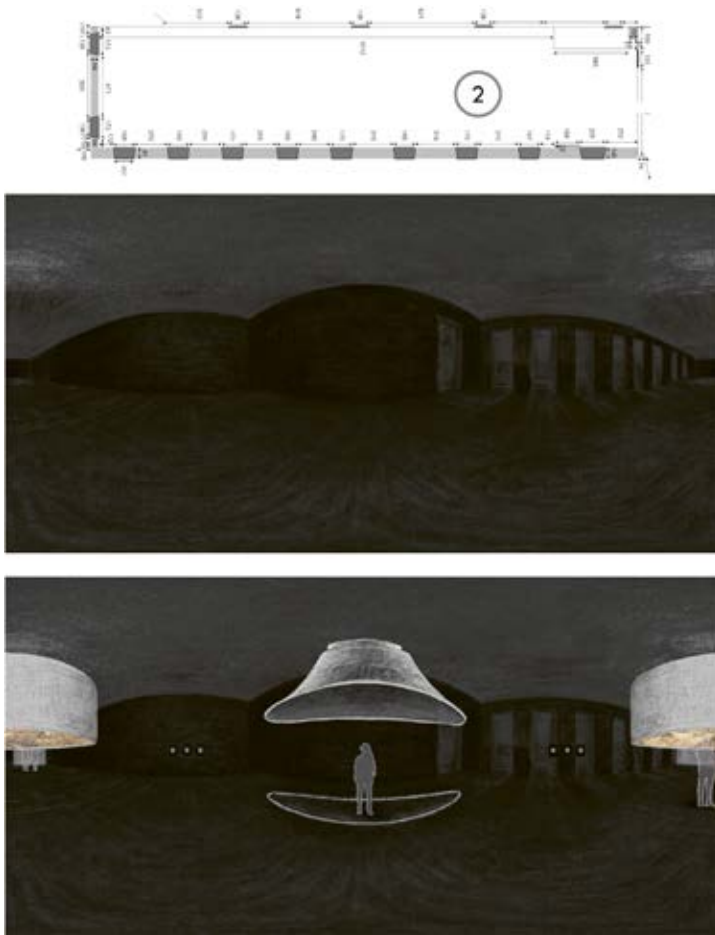
**Fig. 5:** Chiara Masiero Sgrinzatto (Italian, 1982), Drawing process, first scene. Image, © Chiara Masiero Sgrinzatto.

applied, bringing the wall in front of us far away. Figure 10 bottom sketch highlights the structure of the fourth panorama. To place the point of view of the spherical image at the right position, at the beginning of the hall, the wall in front of us was virtually pushed of a small amount. The windows on the right side helped to determine how much. Figure 11 top sketch shows the resulting image after the transformation.

Figure 13 shows the fifth scene, located at the end of the hall, which hosts the video projection of the digitization of the Panorama (Fig. 13). To obtain it, 90° offset was applied to the fourth scene in Photoshop (Fig. 12), then the left half of the image was duplicated, mirrored and placed on the right side. This series of transformations made it possible to obtain a rectangular environment enclosed by four walls.



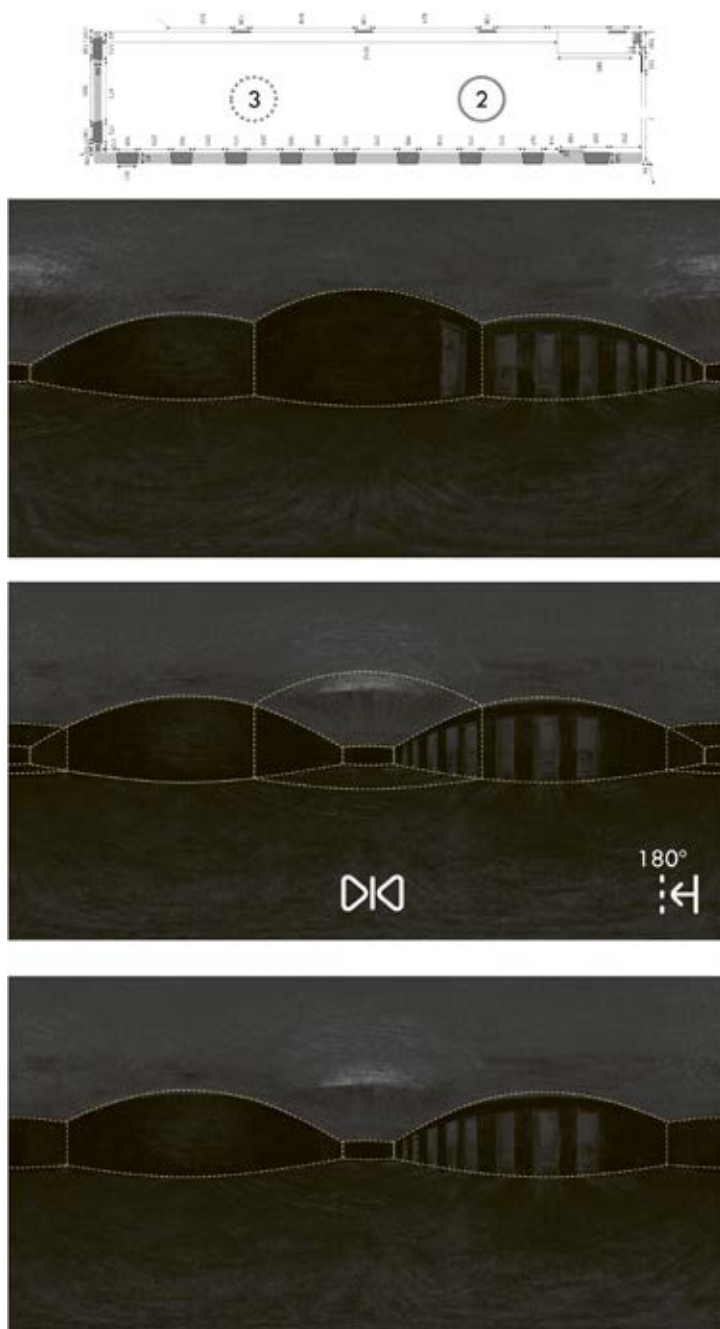
**Fig. 6:** Chiara Masiero Sgrinzatto (Italian, 1982), Drawing process, second scene, derived from the first. Image, © Chiara Masiero Sgrinzatto.



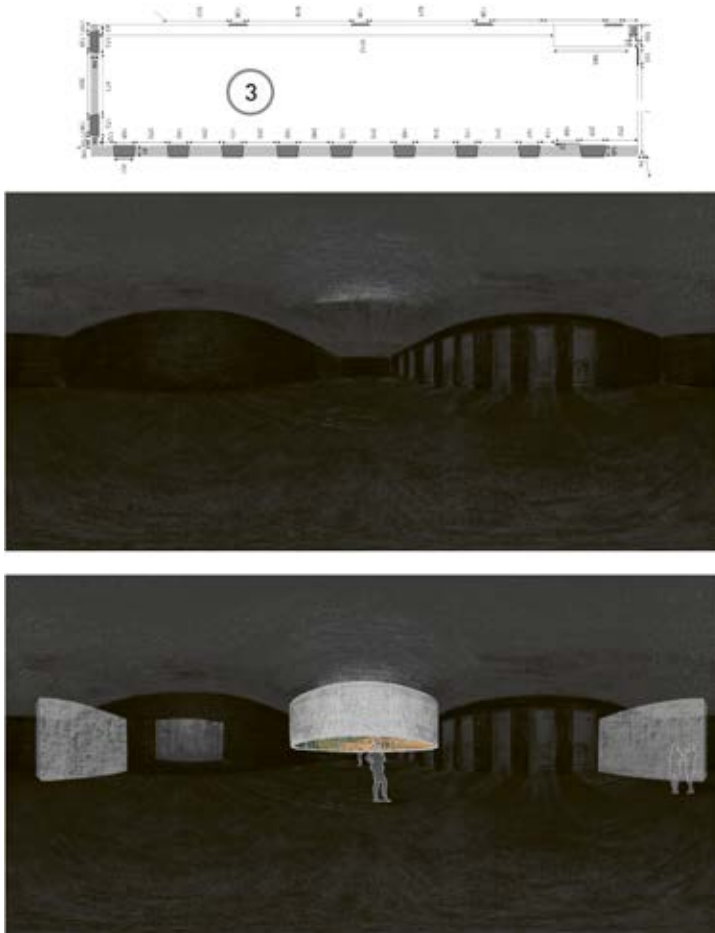
**Fig. 7:** Chiara Masiero Sgrinzatto (Italian, 1982), Drawing process, second scene. Image, © Chiara Masiero Sgrinzatto.

### 3 The Panorama Key

The Panorama Key (Fig. 14) is a traced version of the original painting, designed to emulate the graphic style of an etching. Presented in a stereographic projection, this graphic version transforms the panorama into a visually striking and versatile format. It allows for both micro and macro applications, allowing the viewer to explore intricate details or appreciate the work as a whole. The graphics are accompanied by descriptive texts in Portuguese (PT) or English (EN), providing context and enhancing the interpretive experience of the scenes depicted.



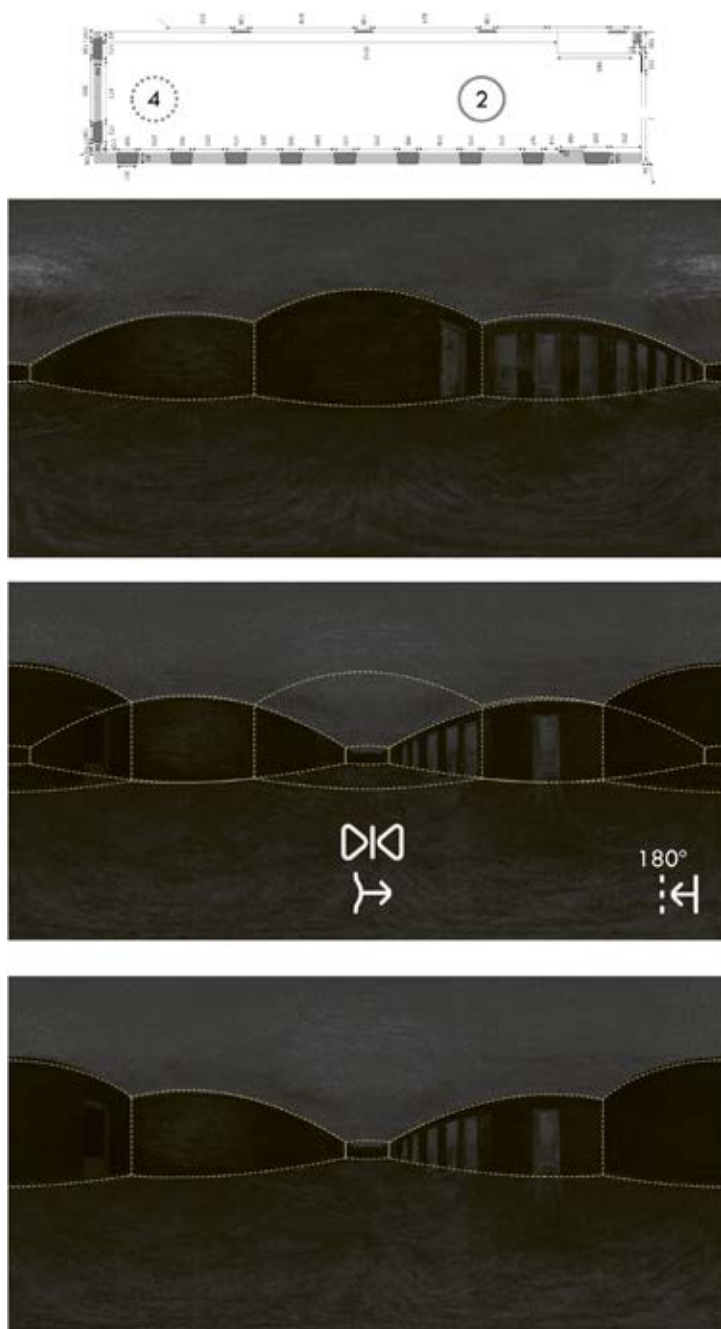
**Fig. 8:** Chiara Masiero Sgrinzatto (Italian, 1982), Drawing process, third scene, derived from the second. Image, © Chiara Masiero Sgrinzatto.



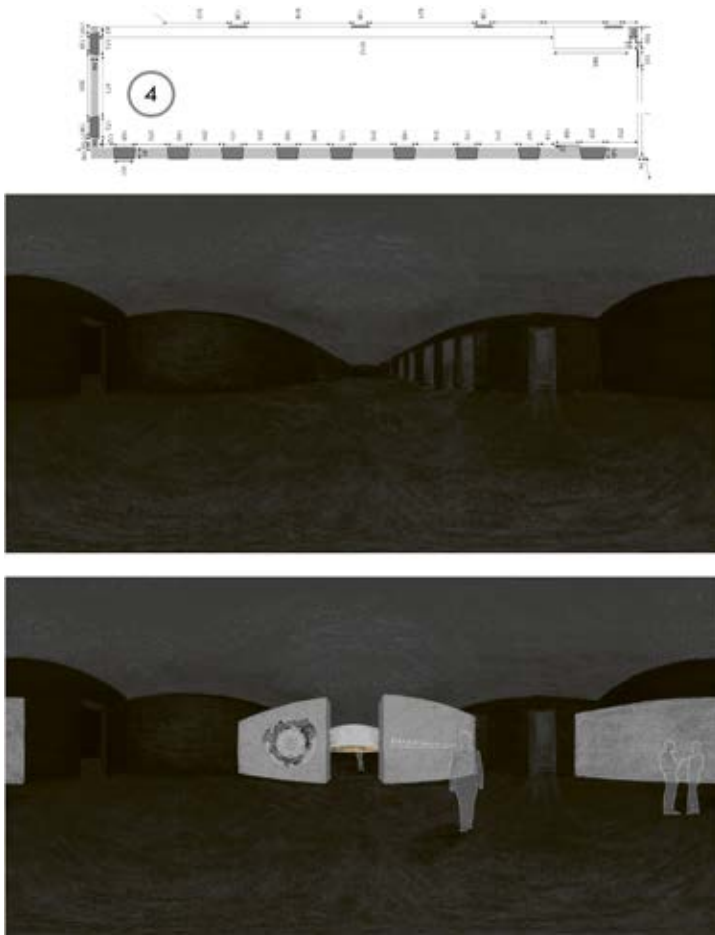
**Fig. 9:** Chiara Masiero Sgrinzatto (Italian, 1982), Drawing process, third scene. Image, © Chiara Masiero Sgrinzatto.

### 3.1 Panorama Key Tracing Process

The tracing process of the Panorama Key involved retracing the original painting to achieve a distinct graphic effect that emphasizes its structural and visual elements. Although the digitized version of the *Panorama of the Congo* is a gigapixel resolution image, a reduced version of 8192 pixels wide was used. This choice was made because the full-size reproduction would have too much detail and would be impractical for the purposes of this image and the limitations of the Adobe Fresco application. Digital vector brushes were used in this redrawing process (Fig. 15) as they offer greater ver-

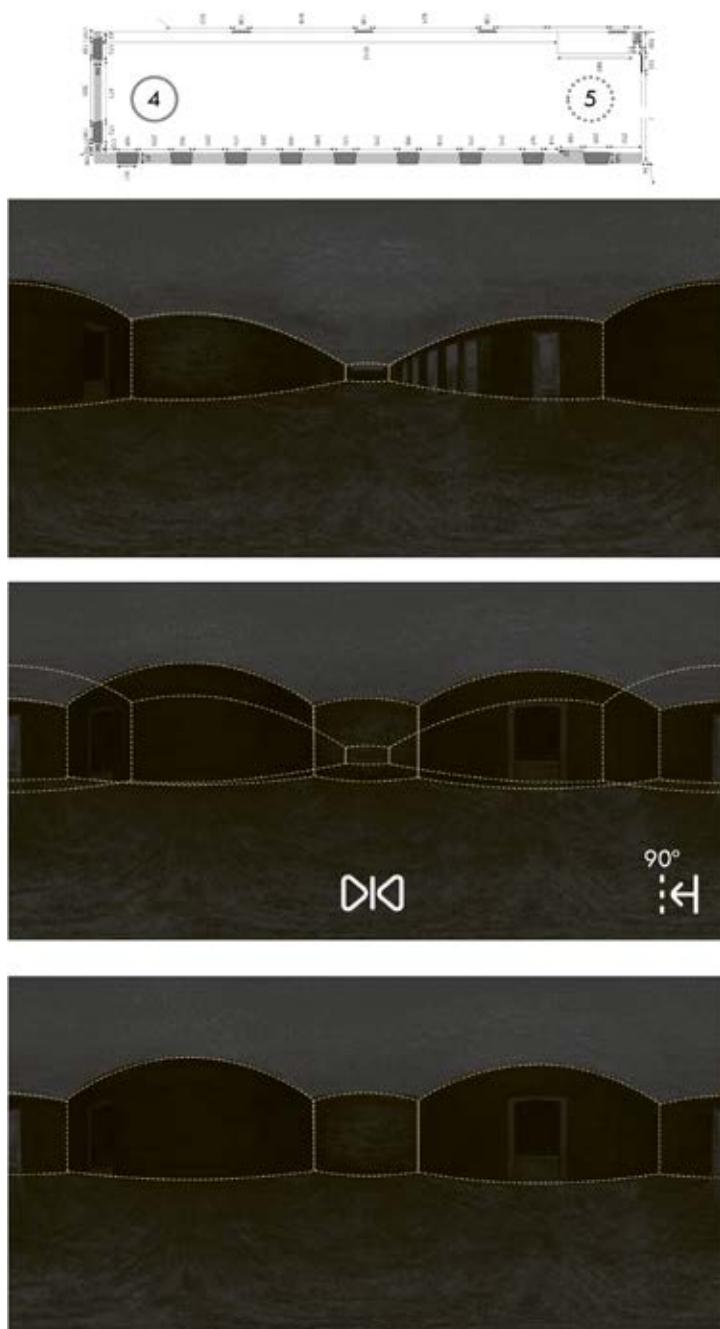


**Fig. 10:** Chiara Masiero Sgrinzatto (Italian, 1982), Drawing process, fourth scene, derived from the second. Image, © Chiara Masiero Sgrinzatto.

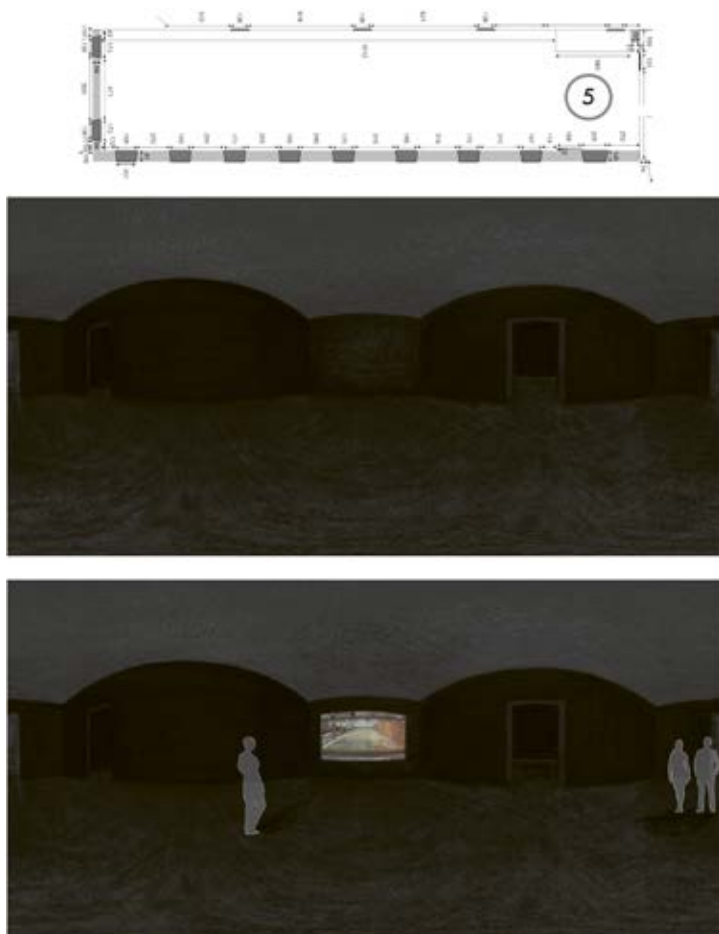


**Fig. 11:** Chiara Masiero Sgrinzatto (Italian, 1982), Drawing process, fourth scene. Image, © Chiara Masiero Sgrinzatto.

satility and precision in rendering lines and details at different resolutions. In addition, areas filled with light gray were strategically used to create a sense of depth, enhancing the overall dimensionality and richness of the final graphic representation (Masiero Sgrinzatto, n.d.b).



**Fig. 12:** Chiara Masiero Sgrinzatto (Italian, 1982), Drawing process, fifth scene, derived from the fourth. Image, © Chiara Masiero Sgrinzatto.



**Fig. 13:** Chiara Masiero Sgrinzatto (Italian, 1982), Drawing process, fifth scene. Image, © Chiara Masiero Sgrinzatto.

### 3.2 Projection Conversion

Once the entire painting had been traced and the tones of the elements in the background had been adjusted to emphasize the scenes in the foreground, the image was ready to be transformed into a key. This required a process of projection conversion, in which the original image in cylindrical projection was transformed into an image in stereographic projection. This conversion was done in Adobe Illustrator to keep the artwork in a vector format to ensure versatility in different applications. Texts and labels accompanying the graphic were optimized for both large format printing and digital formats, while maintaining the vector format to ensure clarity, scalability, and adaptability to different presentation needs.



**Fig. 14:** Chiara Masiero Sgrinzatto (Italian, 1982), The Panorama Key drawn for the exhibition ‘*Panorama of Congo.*’ *Unrolling the Past with Virtual Reality.* Image, © Chiara Masiero Sgrinzatto.



**Fig. 15:** Chiara Masiero Sgrinzatto (Italian, 1982), The transition between the painting and the graphic version of a portion of the Panorama of Congo. Image, © Chiara Masiero Sgrinzatto.

## 4 Access to the Virtual Experiences

The Virtual Tour of the exhibition is not available to the public at the moment, but it is possible to experience it on computer, smart devices, HDMs at the following link: [https://superkiro.s3.eu-west-3.amazonaws.com/test/2311\\_panocongo/index.html](https://superkiro.s3.eu-west-3.amazonaws.com/test/2311_panocongo/index.html). The Panorama Key is visible on the first panorama. The digital version of the retracing of the key is available at the following link: [https://superkiro.s3.eu-west-3.amazonaws.com/test/2311\\_panocongo/vtourkey/index.html](https://superkiro.s3.eu-west-3.amazonaws.com/test/2311_panocongo/vtourkey/index.html)

## 5 Conclusions

Interpreting and reimagining peculiar works of art such as the *Panorama of the Congo* provides a means of delving into their essence, viewing them from new perspectives, and preserving their memory for future audiences. The two immersive illustrated works developed for the Congo VR research project—the Virtual Tour and the Panorama Key—demonstrate the potential of combining immersive visualization techniques with creative storytelling to enhance both digital and physical experiences.

The Virtual Tour serves as an interactive guide that immerses visitors in the exhibition's environments and content, while bridging the past, present, and future. Designed for publication on the project's website, it provides an interactive platform that not only allows users to explore the exhibition remotely but could also host additional multimedia content to enrich the virtual visit. It is also adaptable to promote future exhibitions, offering flexibility for customization and expansion.

The Panorama Key reinterprets the original painting as a high-quality, lossless vector illustration, creating a versatile graphic that could be used for both digital applications and large-scale prints. The etching-like effect emphasizes the detailed depiction of people in the foreground and the surrounding environment in the background, making the artwork understandable, accessible, and appealing in a variety of formats.

Together, the Virtual Tour and Panorama Key exemplify the innovative integration of immersive media and creative design. They reimagine historic artworks by preserving their cultural significance and creating meaningful interactions with diverse audiences.

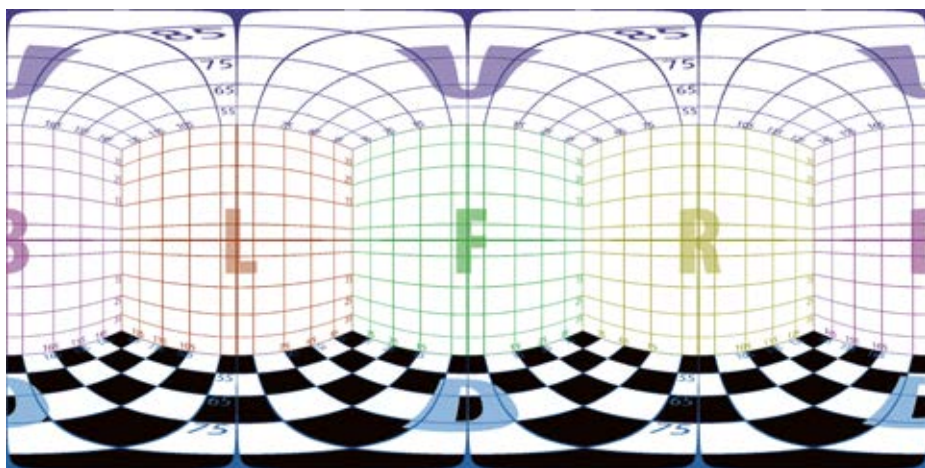
## 6 Technical Note: How to Read an Image in Equirectangular Format

A spherical image is an omnidirectional representation from a given point of view. The equirectangular projection is a geometric projection that shows the development of a

sphere on a flat rectangular surface, with a field of view of  $360^\circ$  on the horizontal axis and  $180^\circ$  on the vertical axis. Thus, the aspect ratio of the image is 2:1, and the left and right edges represent the same vertical line on the sphere.

Equirectangular projection allows us to see the entire displayed space at a glance. It flattens a spherical image by mapping latitude and longitude coordinates directly onto a grid on a rectangular plane. The most common representation that uses the equirectangular projection is the world map. Compared to other spherical projections (e.g., cubic, stereographic, azimuthal equidistant, and others), the equirectangular is superior in readability and ease of use. It is the standard projection used in interactive panoramic viewers and VR applications.

In the equirectangular projection, the vertical lines remain vertical and parallel, the distortion is minimal along the horizon/equator line and becomes maximal at the poles when we reach the top and bottom lines of the image. These 2 lines are actually 2 points: the poles, the zenith ( $+90^\circ$  on the vertical axis) and the nadir ( $-90^\circ$  on the vertical axis). The severe distortion of these regions of the image is normalized when they are re-projected onto a three-dimensional digital environment.



**Fig. 16:** Chiara Masiero Sgrinzatto (Italian, 1982), Equirectangular projection grid. Image, © Chiara Masiero Sgrinzatto.

To correctly read a spherical panorama in equirectangular projection, we can use the grid in Figure 16 (Fig. 16). Starting from the center of the image ( $0^\circ$  on both the horizontal and vertical axes), this schematic representation shows the part in front of us (F, in green). If we virtually turn our head to the left (L, in red) or to the right (R, in yellow), we can see two other parts of the image. The center of the L and R portions is at  $0^\circ$  on the vertical axis and  $\pm 90^\circ$  on the horizontal axis, respectively. If we turn our head  $180^\circ$  from the center of the image, we see the back part (B). In this projection, this part of the image is split, but it is wrapped around us when we see it in VR. If we move our head on

the vertical axis, we can reach the poles, from the ground (D, in blue) to the sky (U, in purple). The area between  $-/+45^\circ$  and  $-/+90^\circ$  appears most distorted.

By understanding these principles, we can appreciate the equirectangular projection as a flat representation of a spherical space. The same image can be viewed and enjoyed interactively with a variety of devices, such as computers, smart devices, and VR headsets.

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## Author Biography

**Chiara** is a visual designer based in Venice, Italy. An architect specializing in Visual Arts, her work is focused on the representation of environments through immersive hand-made drawing. She has been working in the VR industry for over a decade, creating photo, video, and illustrated 360° content for clients and institutions worldwide. She also collaborates with panoramic photography manufacturers on equipment beta-testing and with specialized software houses on the design of immersive interfaces. She is a Ph.D. student in Digital Media Arts at the University of Algarve and Aberta University, and a collaborator with the Centre for Research in Arts and Communication (CIAC), Lisbon, Portugal. <https://www.chiaramasierosgrinzatto.com>



Karolina Wójtowicz

# Redefining Perception of Cultural Heritage: Extending Reality with 3D Models, VR, AI, and Gaming Technology

**Abstract:** This article examines how modern digital technologies, including virtual reality (VR), artificial intelligence (AI), and 3D modeling, are revolutionizing the accessibility, preservation, and engagement of cultural heritage landmarks. It highlights the transformative role of utility, connecting these advancements to the historical precedent of panoramic paintings, such as the *Panorama of the Battle of Raclawice*. These nineteenth-century immersive works laid the foundation for today's digital experiences, demonstrating the enduring power of narrative-driven, large-scale art in preserving cultural heritage.

The article identifies three pillars of utility in digital heritage projects: availability, capability, and innovation. Availability ensures that cultural landmarks are accessible to a global audience, transcending barriers like geographic location, physical disabilities, and mobility limitations. Through tools like virtual tours, 3D models, tactile maps, technology democratizes access to cultural sites, catering to diverse audiences, including those with visual or physical impairments. Capability is showcased in the creation of digital archives, 3D models, and immersive VR experiences that enhance educational potential. Projects like the virtual tour of Norway's Stave Churches and interactive experiences at Świdnica's Church of Peace illustrate how 3D and VR tools foster deeper, more engaging explorations of history. Innovation leverages augmented reality (AR), AI-driven characters representing historical figures, QR codes, and AI-driven environments to introduce dynamic ways of interacting with cultural heritage. These advancements expand on the panoramic tradition of immersive storytelling, enabling users to experience history in more creative and interactive formats. In conclusion, the article argues that panoramic paintings were precursors to today's immersive technologies. By addressing availability, capability, and innovation, modern tools provide sustainable, inclusive solutions to preserve and share cultural landmarks, ensuring their continued relevance for future generations.

**Keywords:** Cultural heritage, immersive experiences, virtual reality, 3D modelling, AI

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# 1 Introduction

Vitruvius (Marcus Vitruvius Pollio), the esteemed first century (BCE) Roman architect, wrote in *de Architectura*<sup>1</sup> the fundamental triad of architectural principles: “Architecture consists of three principles: stability, utility and beauty.” In these words, he straightforwardly outlines the key principles for designing excellent architecture. *Firmitas* (firmness, durability)—buildings should be well-constructed, able to withstand various forces, and durable over time. *Utilitas* (commodity, utility)—a well-designed structure should fulfill its intended purpose efficiently and cater to the needs of its occupants. *Venustas* (delight, beauty)—buildings should not only serve their utilitarian purposes but also possess an aesthetic appeal, bringing joy and inspiration to those who interact with or observe them. Because digital and virtual projects can’t directly align with these principles, I’ve adapted these principles specifically for digital cultural heritage projects, where nuances arise that require a subtle rephrasing to convey the essence of each facet:

1. *Beauty*: This is a component that we cannot change; a constant, unalterable component, intrinsically compelling and rooted in the past.
2. *Stability*: This is a component entrusted to the custodianship of art conservators. Stability safeguards the beauty, preserving it for posterity.
3. *Utility*: This is a component we (designers) are responsible for. This aspect can be divided further to fully demonstrate what is at stake:
  - a) *Availability*: This is a component designed to be widely accessible, addressing barriers to inclusion and providing access to people with diverse needs, including those with disabilities and individuals worldwide.
  - b) *Capability*: Focused on multifaceted functions, such as generating economic value, fostering community, supporting public well-being (for example, during global crises like the recent Covid-19 pandemic), and ensuring the survival and resilience of cultural heritage landmarks. The survival of cultural heritage landmarks goes beyond preserving physical structures; it involves maintaining the historical and cultural narratives embedded within them. Ensuring resilience for these landmarks means protecting them against the risks of deterioration, neglect, and external challenges, so that future generations can continue to connect with their legacy.
  - c) *Innovation*: Convey a story, for example by articulating narratives in a new way, ensuring resonance across age groups; teaching or educating, providing fresh solutions, eschewing stagnation.

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<sup>1</sup> *De Architectura*, often referred to as The Ten Books on Architecture, is a treatise written by the Roman architect and engineer Vitruvius around 30-15 BCE. It is the only surviving major work on architecture from classical antiquity and has had a profound influence on Western architecture for centuries.

In adapting Vitruvius's timeless architectural principles to the digital and virtual realm, I aimed to harmonize the values of beauty, stability, and utility within a dynamic, evolving context. These adapted principles led me to explore how virtual technologies can preserve and enhance cultural heritage through a series of experimental projects. The goal was not only to create digital twins of monuments but also to capture their spirit, history, and the people behind them, ensuring that these landmarks are not lost to time.

## 2 Panorama as an Inspiration

Born in Wrocław, Poland, I have always had a deep connection to cultural heritage, especially to the city's *Panorama of the Battle of Raclawice*. Painted between 1893 and 1894, this monumental piece depicts the Battle of Raclawice from the Kościuszko Uprising of 1794. Created by Polish artists Jan Styka (1858–1925) and Wojciech Kossak (1856–1942) (Nowak 2011), it is housed in a specially designed rotunda, providing visitors with a unique immersive experience. This panoramic painting has become one of the most significant tourist attractions in Poland, and its historical and artistic significance has deeply influenced my own appreciation for cultural preservation.

Recently, the addition of a new, smaller rotunda, featuring interactive exhibits and 3D modeling, has further inspired me. These modern technologies, which include animations projected onto a physical model of the battlefield, animated 3D models of the soldiers which took part in the battle (projected on a panoramic screen) provide a deeper understanding of the Battle of Raclawice and its historical context. This blend of history, art, and technology exemplifies the potential of digital tools in cultural heritage preservation, a field that has shaped my career and continues to influence my work.

Hungary holds a special place in my cultural journey, marked by my initial encounter with the Feszty Panorama titled *Arrival of the Hungarians*. The Feszty Panorama, unveiled in 1894, is a monumental artistic depiction of the arrival of the Hungarians in the Carpathian Basin in the ninth century. Created by Hungarian painter Árpád Feszty (1856–1914) and his team of artists, this panoramic composition spans over 15 meters in height and 120 meters in length (Wójtowicz 1993). Its historical significance and artistic grandeur continue to captivate audiences,<sup>2</sup> fostering a deep appreciation for Hungary's rich cultural heritage. This panoramic masterpiece was part of my earliest memories and connection with such immersive art forms. In contemplative moments spent strolling around the panorama, I struggled to grasp its inherent magnificence, expansive scale, and overarching vision. This experience not only aroused inspiration within me but also founded my admiration for the dedicated work of art conservators who contribute significantly to the preservation of such invaluable cultural assets.

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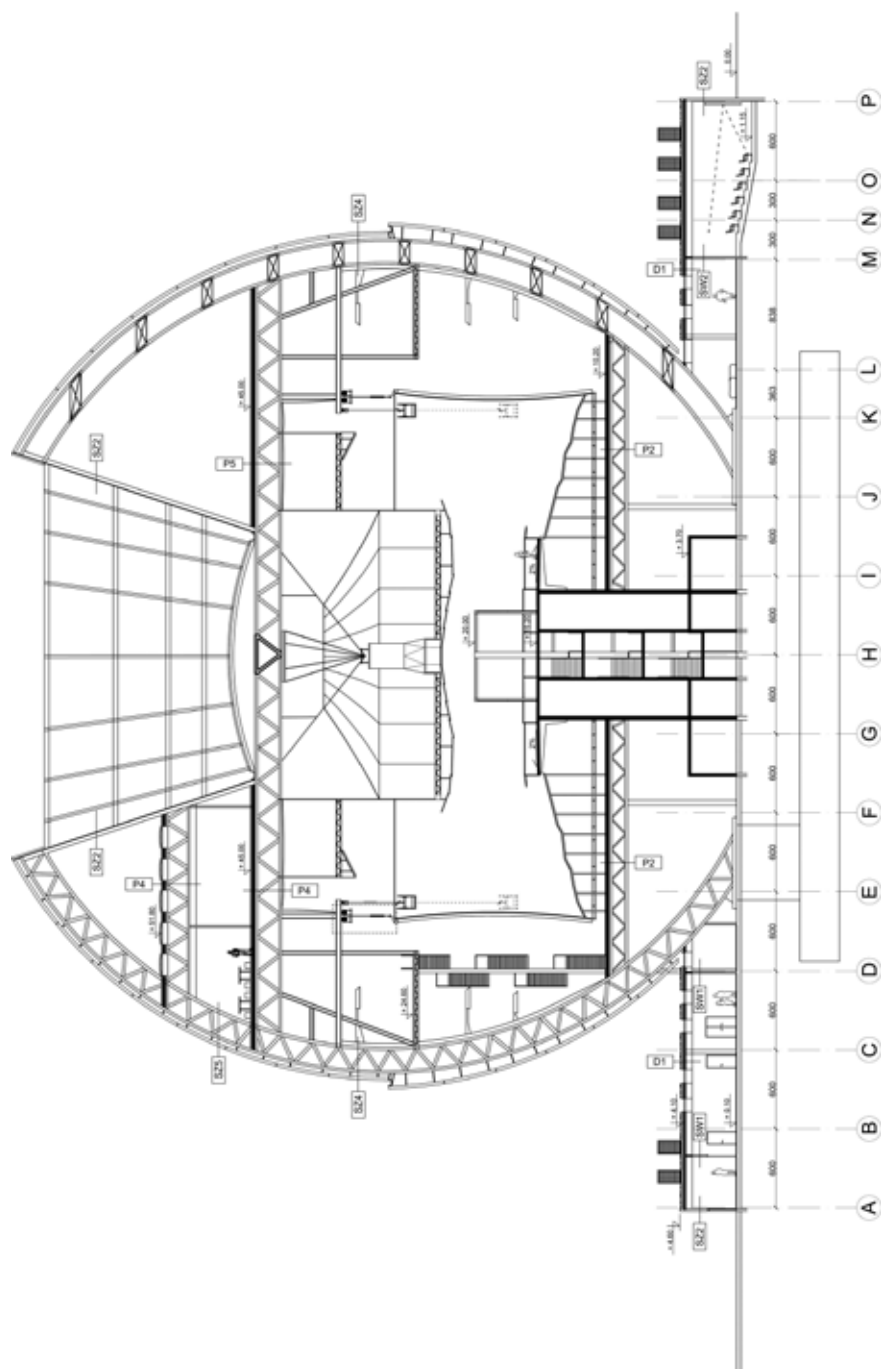
<sup>2</sup> For more information on the historical significance and artistic grandeur of Árpád Feszty's work, please refer to the official website of the Ópusztaszer National Heritage Park ([www.opusztaszer.hu](http://www.opusztaszer.hu)).

### 3 Diploma Project: First Project with Panorama Phenomenon

With these influences in mind, in 2011, for my diploma project as an Architecture and Urban Planning major at Wrocław University of Science and Technology, I strategically chose to write about the *Panorama of the Battle of Morat* (Panorama of the Battle of Murten). This compelling panoramic painting, depicting the Battle of Morat as it unfolded in 1476, is a historical and artistic treasure. Created by a group of painters in the years 1893–1894, it offers a vivid portrayal of the clash between Burgundian and Swiss forces, inviting viewers to immerse themselves in a pivotal moment of Swiss history. This monumental work had been in storage since Expo.02, the Swiss National Exposition of 2002, where it was featured in Jean Nouvel's pavilion. His design used a cube structure built in the middle of Lake Morat to immerse visitors in the nineteenth-century painting, blending historical narrative with modern architectural elements. The visitors were taken by boat during the Expo to the cubic building to explore the panoramic painting.



**Fig. 1:** A 3D view of the spherical construction of the designed building, Diploma Project, Wrocław University of Science and Technology, 2010. Image, the author. Private Collection.



**Fig. 2:** A section plan of the designed building, Diploma Project, Wrocław University of Science and Technology, 2010. Image, the author. Private Collection.



**Fig. 3:** A 3D visualization of the designed building, frontal view, Diploma Project, Wrocław University of Science and Technology, 2010. Image, the author. Private Collection.

Fascinated by the idea of Jean Nouvel I chose to design as my final University project a new building for the painting, reimagining its surroundings to enhance the accessibility and overall experience for visitors. Envisioning a comprehensive cultural space, I aimed not only to showcase the panoramic masterpiece but also to integrate practical amenities such as parking facilities, a welcoming lobby with entertainment options, movie theaters, and a restaurant situated on the uppermost floors opened to the view where the battle took place. It also aimed to deviate from the traditional rotunda shape associated with panoramas, putting forth an alternative form of the sphere (Fig. 1)—one that leans towards an ideal cube yet aligns more precisely with the immersive concept (Fig. 2) (Fig. 3). Just as VR transports users to a different reality, the project envisions a space that transports visitors into the narrative of the 1476 battle, while integrating modern amenities to elevate engagement.

## 4 Widening Panoramic Experience

During my research on panoramas around the world, I realized that while many panoramic paintings incorporate sound, they often don't provide the fully immersive and engaging experience I envisioned. For my next project, I aimed to go beyond this traditional approach and create a more expansive experience—one that would broaden the narrative, attract a wider audience, and evoke a greater range of emotions from viewers. Similarly, I wanted to intensify the experience of a panorama by integrating 3D modeling, a scripted narrative, and community involvement—whether it's a painting

or a historical landmark. This combination of elements elevates the panorama into the realm of virtual reality, creating a richer, more interactive environment for the viewer.

## 4.1 Virtual Tours: Static Projects Approach

During my participation in the iPortunus Grant, organized by the Creative Europe Program and the Goethe-Institut in Germany, I aimed to explore the potential of digital technologies to enhance the experience of the beautiful Stave Churches around Oslo, Norway. The grant provided funding for artists and creators to develop innovative projects, allowing me to experiment with new approaches to the digital representation and preservation of cultural heritage. This opportunity enabled me to dive deeper into how digital tools could bring new dimensions to iconic landmarks, expanding on traditional methods of showcasing historical sites.

Stave churches are traditional wooden structures found in Norway, renowned for their distinctive medieval architecture (Lange 2015). Built primarily during the twelfth and thirteenth centuries, they feature steep, pitched roofs and intricate carvings that combine Christian and Norse design elements. Originally serving as centers for Christian worship, these churches hold immense cultural and historical value, with Urnes designated as UNESCO World Heritage Sites.

Despite their beauty and significance, however, these architectural wonders face a paradox: they hold limited appeal for tourists, especially during the off-season from October to April/May. This results in reduced visitation, leaving the full cultural potential of these landmarks underutilized. To maximize their touristic and educational value, especially during the less-visited months, it is crucial to find ways to engage a wider audience, making these historic gems more accessible and attractive to visitors year-round. For eight Stave Churches in Norway and one Stave Church in Karpacz, Poland, I've created a small virtual tour that operates on Kuula online platform.<sup>3</sup> Each tour consists of three or four spherical viewpoints based on 360-degree photos (Fig. 4), information points containing floor plans and construction information, moving photogrammetry models of the fonts and drone movies from the exterior which I took on site to show the breathtaking surroundings. Every Church owner received all the materials and tours for online usage.

While experimenting with how digital technology can enhance visibility and increase visitorship for landmarks, I also wanted to assist Polish cultural sites. One such landmark I came across is Kamieniec Żąbkowicki, home to the Roman Catholic Parish of the Assumption of the Blessed Virgin Mary (Rzymskokatolicka Parafia pw. Wniebowzię-

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<sup>3</sup> *Kuula* is a platform for creating, viewing, and sharing 360° virtual tours and panoramas. It allows users to upload, edit, and display interactive images with features like hotspots and annotations, often used for virtual tours of landmarks, real estate, and museums.



**Fig. 4:** *An Interior of the Hoyord Stave Church, 360° View, Oslo, Norway.* Image, the author. Private Collection.

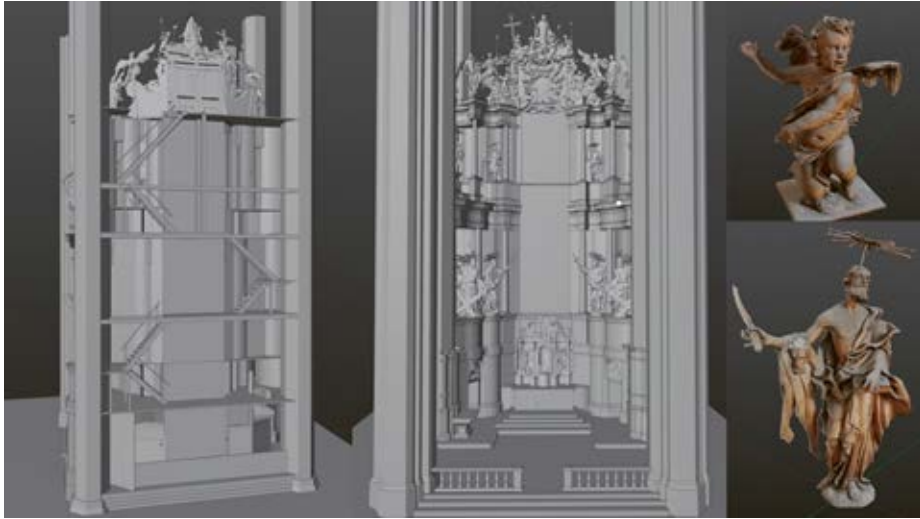
cia NMP), a bastion of cultural and religious heritage. This parish church, originally built in the seventeenth century, is renowned for its baroque style and rich history. At the heart of the church lies a stunning baroque wooden altar, almost 23 meters high, which is a true masterpiece of craftsmanship and an iconic feature of the church. Despite the undeniable religious, historical, and artistic significance of this masterpiece, its full potential as a tourist attraction remains unrealized due to financial constraints. The church continues to face the challenge of limited accessibility to tourists, which hinders its ability to generate the revenue needed for its upkeep and preservation. To address this, a more substantial grant is required to implement advanced monitoring systems, deploy protective technologies, and enhance the overall visitor experience, all of which would attract more visitors and contribute to the church's long-term sustainability.

I created a project—a comprehensive 3D model—which was designed to provide a detailed overview of the altars's structure, helping to better prepare for future financing rounds. This model showcases the intricate construction of the altar and highlights the areas in need of restoration to make it accessible to the public. I developed the model using a combination of methods, including hand modeling the main structure in Blender software,<sup>4</sup> where I integrated baroque elements such as figures of saints, floral motifs, and angel sculptures (Fig. 5). Additionally, I employed photo-

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<sup>4</sup> *Blender* is a powerful and open-source 3D creation suite used for a variety of applications in digital modeling, animation, visual effects, and rendering. Blender allows users to create 3D models from scratch or manipulate existing models using tools for sculpting, texturing, and shading.

grammetry<sup>5</sup> to capture these elements from photographs taken with both a camera and drone (McCarthy 2014). The 3D model also reveals the hidden staircase behind the altar, which leads to the upper floor, further adding depth to the understanding of the church's design. This project serves as a crucial step in securing support for preserving this historical landmark.



**Fig. 5:** A 3D model of the Altar—360° View Without Texturing, back view (left), front view (center) and Photogrammetry Models of Architectural Details with Texturing (right). Image, the author. Private Collection.

By leveraging photogrammetry, drone footage, historic documents, and spherical images, we can construct “static projects” that invite users to explore landmarks in a structured, immersive way. Unlike interactive gaming engines or AI-driven tools, these virtual tours guide users point-to-point, revealing unique aspects of each site’s history and architecture without relying on live interaction. My recent projects illustrate this approach well: a photogrammetry model of the Kamieniec Ząbkowicki Ołtarz and virtual tours of Norway’s Stave Churches. These projects harness detailed interior shots, spherical photos, architectural plans, and Riksantikvaren archives from Oslo. For the stave churches, aerial drone footage offers context by capturing the surroundings, while photogrammetry models bring intricate fonts to life within each church. These methods allow us to compare these remarkable structures, evoking a sense of time and place that resonates with the panorama tradition by blending realism with immersive historical context. In doing so, these projects create a bridge between past and present,

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<sup>5</sup> Photogrammetry is a technique used to create 3D models from photographs. It involves taking multiple images of an object, building, or scene from different angles, and then using specialized software to process those images into a detailed 3D representation.

offering a deeper, layered understanding of cultural heritage through a digital panorama-like experience.

## 4.2 Virtual Tours and AI—Dynamic Projects Approach

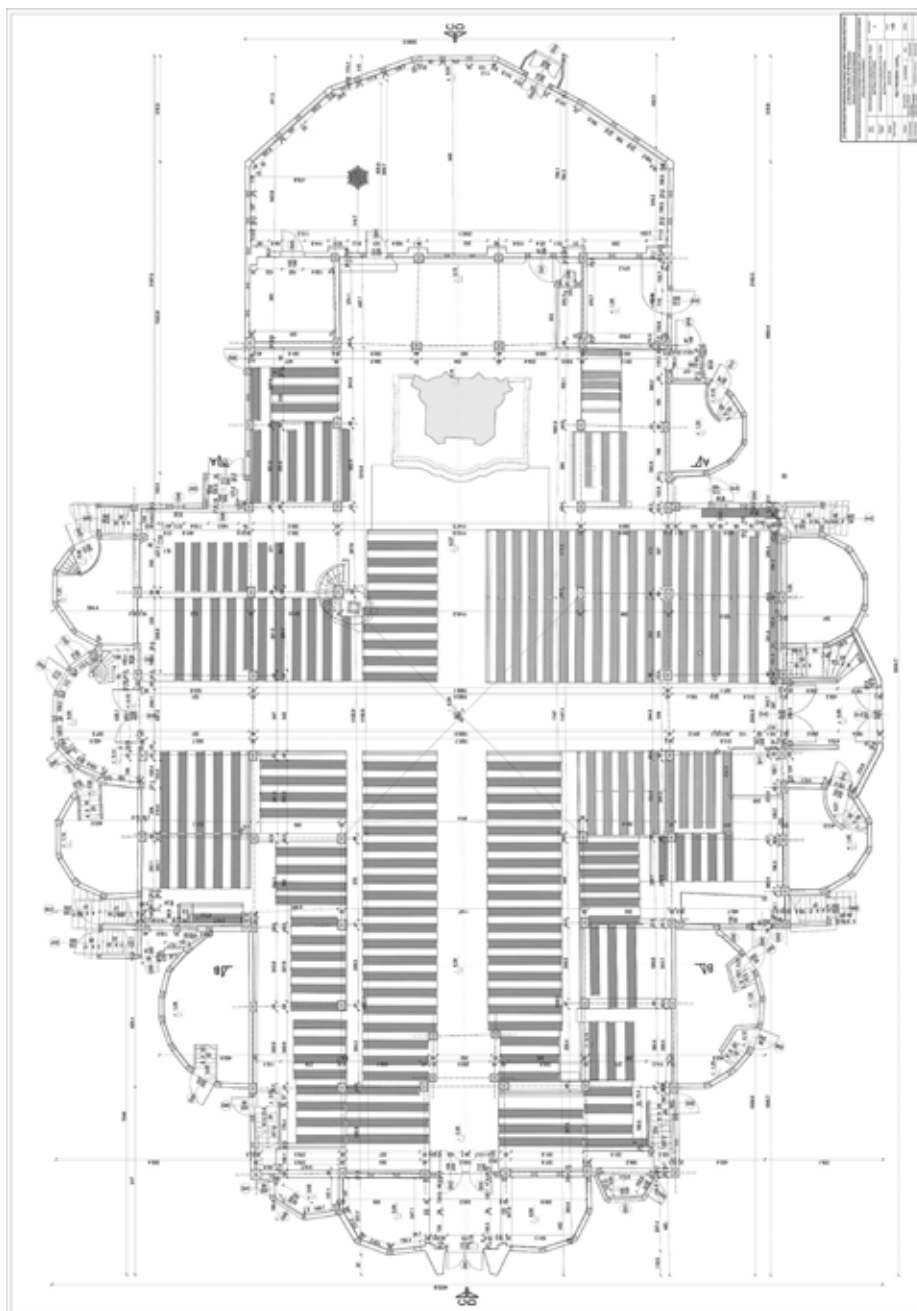
### 4.2.1 Virtual Project of the Church of Peace in Świdnica

In 2018, the Virtual Project of the Church of Peace in Świdnica, Poland was initiated as a part of the request for the execution of conservation works on the interior elements of the Church of Peace, dedicated to the Holy Trinity in Świdnica, as part of the project titled *Conservation and Renovation of the Wooden UNESCO Heritage Site—Church of Peace in Świdnica, to Protect Cultural Heritage*<sup>6</sup> to seamlessly integrate proven methods and delve deeper into immersive experiences. Designated as a UNESCO World Heritage Site, the church is recognized as an extraordinary example of Baroque wooden architecture. Constructed in the seventeenth century, this architectural marvel stands as a testament to the ingenuity and resilience of the local community. It is one of the largest timber-framed religious buildings in Europe, measuring approximately 43 meters in length, 14 meters in width, and reaching a height of around 15 meters (Augustyn 2017). The key challenges addressed (identified by me with collaboration with the Church owners at the beginning of the project) were to expand access to areas not yet accessible to tourists, present before-and-after projections to showcase the meticulous work of art conservators, and introduce both the architectural significance of the building and the guiding presence of Pastor Waldemar Pytel, who graciously accompanies virtually visitors on tour.

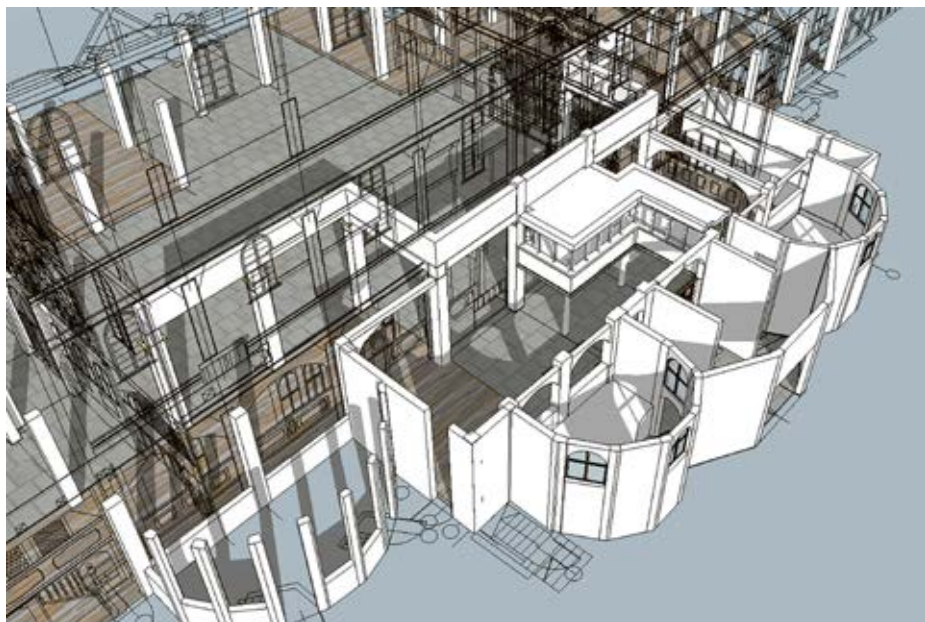
The comprehensive project that was created by me and a small team of specialists incorporated an architectural survey (Fig. 6), generating a detailed 3D model of the entire baroque interior (Fig. 7), along with intricate 3D models of architectural elements (Fig. 8). This effort culminated in compelling visualizations, immersive 360 panoramas, and a Virtual Tour hosted on the Meta Quest platform (Fig. 10), featuring projections showcasing the before-and-after stages of restoration (Fig. 9). Each phase contributes unique and invaluable material for the benefit of both the building and its owners. Additionally, we created the tactile map of the floorplan of the Church designed to be used by individuals with visual impairments, allowing them to perceive geographic information through touch. It was milled in Corian<sup>7</sup> (Fig. 11) and printed on 3D printer as a second option. We've also created the 3D printed elements of the interior as font

<sup>6</sup> The subject order was financed under the project *Conservation and Renovation of the Wooden UNESCO Heritage Site—Church of Peace in Świdnica, to Protect Cultural Heritage*, co-financed by the *European Regional Development Fund* under the *Operational Programme Infrastructure and Environment 2014-2020*.

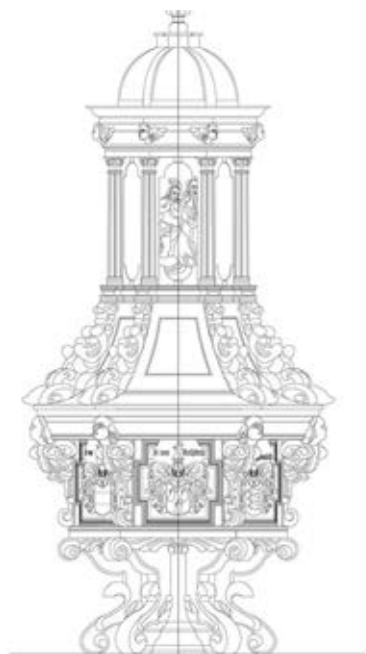
<sup>7</sup> *Corian* is a brand name for a type of solid surface material developed by DuPont. It is primarily made from a combination of natural minerals (about 66% aluminum trihydrate) and acrylic polymer (about 33%), which makes it non-porous, durable, and versatile.



**Fig. 6:** *A computer Survey of a Ground Floor, Church of Peace, Świdnica, Poland.* Image, the author. Private Collection.



**Fig. 7:** *Creation of 3D Model in SketchUp Software, Church of Peace, Świdnica, Poland. Image, the author. Private Collection.*



**Fig. 8:** *2D View of the Font (Left) and Photogrammetry Model of the Font (Right), Church of Peace, Świdnica, Poland. Image, the author. Private Collection.*

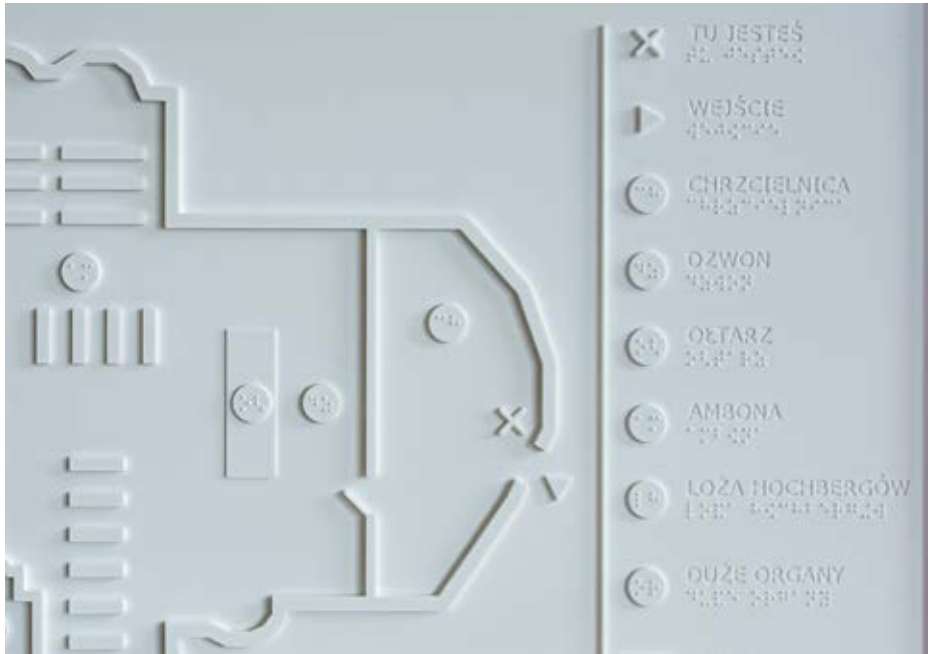


**Fig. 9:** *A Comparison Visualization of the Church Interior (Central Point)—Before and After Conservation Process, Church of Peace, Świdnica, Poland. Image, the author. Private Collection.*



**Fig. 10:** *Pastor Waldemar Pytel Showing at the Beginning of the Virtual Tour, Church of Peace, Świdnica, Poland. Image, the author. Private Collection.*

and Christ figures in smaller scale (Fig. 12) as a proposition to expand souvenir shop offerings. All of these components can be used to showcase the project to wider public as for example on Technology Days organized with collaboration with Church of Peace in Świdnica in 2023 (Fig. 13).



**Fig. 11:** *Tactile map of the floorplan of the Church of Peace milled in Corian, Świdnica, Poland. Image, the author. Private Collection.*



**Fig. 12:** *3D printed models of the interior elements of the Church of Peace, Świdnica, Poland. Image, the author. Private Collection.*



**Fig. 13:** *Presentation on the Technology Days in Church of Peace, Świdnica, Poland. Image, the author. Private Collection.*

The computer survey offers indispensable support for future construction changes, while the 3D model affords a distinctive perspective on the church's creation and impressive scale. The Virtual Tour, accessible as both a computer application and a stand-alone game compatible with Meta Quest VR headsets, not only enriches the visitor experience but also extends the opportunity to explore areas currently inaccessible. This innovative approach ensures that people worldwide can marvel at the beauty of this historic building, transcending geographical boundaries. This is just a base for future actions like creating the 3D interior model's library, further games, video mapping or full educational platform etc.

#### **4.2.2 AI MetaHuman Project for Panorama of the Battle of Raclawice**

In an era defined by rapid advancements in virtual reality (VR) and artificial intelligence (AI), I embarked on a personal project that blends these technologies to create an interactive experience with the monumental *Panorama of the Battle of Raclawice* painting and its principal creators. Through Unreal Engine and a photogrammetric model of the painting created by Wojciech Drzewiński in 2013, I developed AI representations of Wojciech Kossak and Jan Styka—two pivotal figures of painters behind this historic work. These virtual personalities allow us to engage directly with the artists, posing questions about their work on the *Panorama of the Battle of Raclawice* and other panoramas all over the world.

Wojciech Kossak (1856–1942) was a distinguished Polish painter hailing from a family of artists; his father, Juliusz Kossak, was also a prominent painter. At the age of 36, Kossak contributed his talent for military scenes to the *Panorama of the Battle of Racławice*. Meanwhile, Jan Styka (1858–1925), originally from Lwów (now Lviv, Ukraine), was renowned for his expansive historical and religious panoramas. Styka, age 38 during the project, brought his expertise in large-scale compositions, helping guide the immersive quality that defines the Panorama. In 1893, Kossak and Styka joined forces, blending Kossak's detailed military realism with Styka's panoramic skill, and together, they led a team of artists to create this monumental work.

The character of Wojciech Kossak was crafted using Unreal Engine's *MetaHuman* plugin,<sup>8</sup> allowing for a highly realistic digital likeness, complete with authentic facial expressions, gestures, and historically accurate attire. Photographs of Kossak served as references to build his appearance. Meanwhile MetaHuman allows for realistic 3D modeling, integrating ConvAI technology enabled Kossak's digital persona to be programmed with knowledge and insight into his life and work.<sup>9</sup>

To bring the character to life, I crafted a backstory for the AI in the second person to instill a sense of identity and narrative depth. Here's an excerpt:

You are Wojciech Kossak, born into a family of artists in Paris in 1856, with your father, Juliusz Kossak, a renowned painter of battle scenes. Growing up in Poland, you were deeply influenced by both art and military tradition. Torn between these two passions, you studied at the Kraków School of Fine Arts and later refined your skills in Munich and Paris, blending Western techniques with a deep passion for Polish history. Your fame spread across Europe through your vivid portrayals of Polish cavalry and battles, embodying the heroism and spirit of your homeland. Though you painted for royal courts, you always returned to Poland, where your work became a symbol of national pride. Together with Jan Styka, you co-created the *Panorama of the Battle of Racławice* in Wrocław, Poland—an impressive work measuring 120 by 15 meters, depicting the 1794 Battle of Racławice. It remains one of the few preserved examples of nineteenth-century panoramic art and is Poland's oldest of its kind.”

With additional parameters like voice, personality, and temperament, we can fine-tune the character to reflect Kossak's personality closely. The Knowledge Bank, which allows the AI to expand its knowledge through uploaded text files, is essential for adding depth to his responses and was filled with multiple text files describing the panorama phenomenon all over the world. Unreal Engine<sup>10</sup> serves as the platform where the photogrammetry model of the Panorama, the MetaHuman character, and the AI converge (Fig. 14). This synergy creates a dynamic experience that offers users the chance to

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<sup>8</sup> *MetaHuman* is a plugin by Epic Games for Unreal Engine that enables the creation of realistic digital human characters.

<sup>9</sup> *ConvAI* is a plugin that integrates conversational AI capabilities within Unreal Engine, allowing creators to develop interactive, dialogue-driven characters.

<sup>10</sup> *Unreal Engine* is a powerful real-time 3D creation tool developed by Epic Games, widely used in game development, film production, VR, and interactive experiences.

interact personally with Kossak, allowing him to share insights about panoramic paintings and his artistic journey. This dynamic project allows users to explore the Panorama through the eyes of one of its creators, transforming it into an engaging narrative-driven experience.

This technology offers diverse possibilities for enhancing cultural engagement, including interactive lessons in educational settings, immersive exhibits within museums, and game-based experiences within landmark sites that support online gatherings and discussions. It can even serve as a stand-alone virtual reality experience via platforms like SteamVR, offering users a chance to explore landmarks like the *Panorama of the Battle of Racławice*, either for no charge or as a paid option.



Fig. 14: MetaHuman character of Wojciech Kossak. Image, the author. Private Collection.

## 5 Modern Solutions for Landmarks

It is important to demonstrate that with modern technologies, it is possible to overcome barriers and reach every audience. This includes engaging school-age youth in historical education through the Virtual Tour (Meta Quest) or interactions with AI characters and providing meaningful experiences also for older individuals, Ukrainian citizens affected by war (hosted by Church of Peace in Świdnica), and those with mobility or vision impairments via 3D printing and tactile maps. Additionally, outdoor games incorporating QR codes and augmented reality (AR) contribute to this inclusive approach.

There are six key pillars to the care and preservation of any landmark:

1. **Architectural Survey:** This step is crucial for any future restoration or renovation work. Many buildings lack detailed architectural plans, and a survey helps to create accurate documentation that can guide future changes.
2. **3D Model:** detailed 3D models of the building, including its architectural elements. These models can serve as a foundation for future architectural projects and provide a digital archive of the building's design.
3. **Virtual Tours:** A virtual tour can be made available as an online app, accessible through websites, pre-programmed VR headsets, or the SteamVR platform. This allows global access to the landmark, enhancing the visitor experience remotely.
4. **3D Model Base:** Developing an online database of 3D models, which can be used for future projects, educational purposes, or virtual exploration. This base can be updated as new elements are added or restored.
5. **3D Printed Models:** To enrich the gift shop offerings, 3D printed models of the landmark's interior and exterior can be created. Additionally, production of tactile 3D maps of the building, will allow visitors with visual impairments to better understand the structure.
6. **Educational Portal and Events:** The portal can hosts the virtual tour, 3D model library, historical and educational videos, and online forms to facilitate the on-site virtual tour experience. Furthermore, educational events and gatherings can be organized to engage visitors of all ages, teaching them about the landmark's history and the technologies used in its preservation.

These efforts will ensure the landmark thrives and remains accessible, not just for today, but for future generations. Beyond these core services, there are numerous possibilities for further expansion, such as offering experiences and communities via SteamVR, creating educational games, developing video mapping projects or AI responsive environments and characters.

## 6 How Can Digital Creators Answer the Three Utility Principles?

*Availability* is a crucial part of the process and can be achieved by creating tactile maps and 3D models specifically designed for visually impaired and blind individuals, as well as designing barrier-free environments for wheelchair users through architectural surveys and 3D models. These measures facilitate easy movement around monuments, making them more accessible to all. Additionally, offering virtual tours on websites and gaming platforms ensures that individuals worldwide—especially those unable to travel—can explore and learn about these cultural treasures from the comfort of their own homes. Focusing on *capability*, we can introduce a “Virtual Ticket” system

for VR platforms, enabling users to experience heritage sites remotely, whether onsite or online. This extends accessibility beyond physical boundaries, allowing audiences to immerse themselves in the experience. To complement this, 3D-printed models can be offered in gift shops as tangible and memorable souvenirs, further connecting visitors to the sites. Multilingual translation services can also be implemented to broaden accessibility and inclusivity for global audiences, ensuring cultural heritage is celebrated and understood by diverse communities. The *innovation* factor can be addressed through initiatives that inspire engagement and learning. Organizing interactive events in schools encourages younger generations to connect with cultural heritage, while hosting community-wide events fosters involvement and appreciation among people of all ages. To further enhance educational opportunities, a comprehensive platform can be established, featuring teaching animations, a rich database of 3D models, QR code-guided walks, and VR tours. This platform provides diverse, creative, and interactive learning experiences, ensuring cultural heritage is not only preserved but actively shared and celebrated in new and meaningful ways.

## 7 Conclusion

In an era where digital technology is reshaping our interaction with cultural heritage, I aim to advance a vision of virtual and extended reality that goes beyond replication. By capturing the spirit, history, and human stories embedded within these landmarks, the tools we use, such as 3D modeling, virtual tours, augmented reality, and AI-driven environments, make these sites accessible, meaningful, and engaging to a diverse, global audience. This approach not only preserves the physical forms of these monuments but also offers an in-depth exploration of their cultural narratives, fostering a connection that transcends distance and time (Theodoropoulos and Anastesios 2022).

The panoramic painting itself serves as the central character in this vision, and I see it as a precursor to contemporary immersive technologies. For example, the popular TV series *The Mandalorian* (2019) uses a groundbreaking technology called “Stagecraft,” which involves a large, curved LED screen that serves as a backdrop for the actors, instead of the traditional green screen. This setup allows the actors to perform in front of a realistic environment, with the lighting and reflections on the actors matching the virtual background, which greatly enhances the sense of immersion. This is a departure from the usual green screen method, where the actors perform in front of a blank screen and the background is added digitally in post-production. Stagecraft simulates a physical environment, eliminating the need for shooting on location or constructing large sets. This method not only makes the actors’ performances feel more authentic but also enables more seamless integration of the virtual world with the real one. This approach is a natural extension of the vision behind nineteenth-century panoramic paintings, which were originally created as large-scale, all-encompassing experiences.

Just as these paintings aimed to fully immerse viewers in vivid depictions of historical moments, today's digital tools enhance that vision, allowing audiences to engage with the landmarks in dynamic and interactive ways. The need for a richer, more engaging experience—where individuals can not only observe but actively interact with history—reflects the evolution of how we connect with monumental art, making it more relevant and accessible to contemporary audiences.

A key component in designing these projects is the utility factor, which ensures that these digital heritage initiatives serve a meaningful purpose. The accessibility of these projects is paramount, aiming to reach people with diverse needs, including those with disabilities or those unable to travel. By enhancing accessibility, we remove barriers to cultural participation, providing new opportunities for engagement across geographic and social divides. These digital reconstructions also fulfil multiple functions, such as supporting community and economic growth, promoting well-being, and aiding the survival and resilience of heritage sites. As demonstrated during the COVID-19 pandemic, digital platforms can provide an alternative means to experience cultural sites when physical access is limited, ensuring these landmarks continue to be appreciated and supported. Preserving these sites digitally also protects the historical and cultural narratives they represent, helping to shield them from risks like neglect or deterioration, so they endure as sources of inspiration and knowledge for future generations.

Finally, innovation is essential. Virtual and AI projects show how new technologies can make cultural heritage accessible and engaging, telling stories in modern ways that resonate with all age groups. These projects are tailored to the unique needs of each landmark, breathing life into their history while fostering education, appreciation, and cultural continuity. Ultimately, this immersive approach ensures that these monuments remain vibrant and relevant in our collective consciousness, not only preserving their form but enabling their stories to be lived, shared, and cherished well into the future.

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## Author Biography

M.Sc. Engineer in Architecture, Karolina Wójtowicz is a Visual and Architectural Designer with a degree in Architecture and Urban Planning from the University of Technology in Wrocław, Poland. For her diploma project, she designed a new building to complement the *Panorama of the Battle of Murten*. With extensive experience in architectural studios and international companies, they have developed expertise in design, 3D, and 2D graphics. After several years of running her own interior design company, Wójtowicz had the opportunity in 2017 to create a Virtual Project of the Church of Peace in Świdnica, Poland. This project included a detailed computer survey, a full 3D model, and a Virtual Tour for the Meta Quest platform. Following this, she worked for nearly two years at the University of Technology, where she designed 3D-printed tactile maps to aid visually impaired students, improving their campus mobility and establishing standardized tactile map protocols for all universities. In addition, Wójtowicz was granted funding to study Norway's stave churches, aiming to digitally capture and preserve their cultural and architectural significance. Currently, Karolina Wójtowicz is a freelance designer, specializing in branding and creating 3D, VR, AI projects and environments for landmarks.

# Conference Program



33<sup>nd</sup> International Panorama Council (IPC) Conference

**Panorama as Memory of the World**

Hosted by the Swiss Federal Institute of Technology (EPFL)

Lausanne, Switzerland | October 02–06, 2024

*Shown in local time, Lausanne, Switzerland*



The IPC Conference is made possible in part by support from our 2024 Institutional Members, whose missions help shape our mission.

## DAY 1 | WEDNESDAY, OCTOBER 2

09.00	Registration
10.00–10.30	<b>Panorama as Memory of the World</b> Presentation of IPC's Survey by IPC Commission for UNESCO Recognition Sarah Kenderdine, EPFL, Switzerland Daniel Jaquet, EPFL, Switzerland Dominique Hanson, IPC, Belgium
10.30–11.30	<b>Workshop 1—Inscription Process and Successful Applications</b> Insights from the Swiss Commission for UNESCO Christof Bareiss, Swiss Commission for UNESCO, Switzerland Bibliotheca Bodmeriana Nicolas Ducimetière, Fondation Bodmer, Switzerland
11.30	Lunch

(continued)

13.00–14.30	<b>Workshop 2—Swiss Case</b>
	Short History of the Swiss Panorama Initiatives and Ideas Regarding UNESCO Patrick Deicher, Bourbaki Panorama, Switzerland
	Roundtable for Swiss Panorama Owners/Custodians <i>Moderator: Daniel Jaquet, EPFL, Switzerland</i>
	Patrick Deicher, President, Bourbaki Panorama Foundation, Switzerland Christiane Feldmann, Foundation for the Panorama of the Battle of Murten, Switzerland Helen Hirsch, Thun Panorama, Thun, Switzerland
14.30–15.45	<b>Workshop 3—Next Steps</b>
	Roundtable with the Presenters of the Day and Opening to the Floor <i>Moderator: Daniel Jaquet, EPFL, Switzerland</i>
15.45	Coffee/tea
16.30	<b>Welcome Speeches</b>
	President of the International Panorama Council Molly Briggs
	IPC Secretary General Thiago Leitão de Souza
	Local Hosts Sarah Kenderdine and Daniel Jaquet
16.50–17.50	<b>Plenary Lecture</b>
	Omnidirectional Space of Representation Sarah Kenderdine, eM+, EPFL, Switzerland
18.00	Transfer to the Laboratory for Experimental Museology
18.30–21.00	Guided visit to the Laboratory of Experimental Museology and standing buffet
21.00	Transfer to hotel

## DAY 2 | THURSDAY, OCTOBER 3

08.00	Registration
08.30–10.40	<b>Session 1: Recovering Panoramas</b>
	<i>Moderator: Leen Engelen, LUCA School of Arts / KU Leuven, Belgium</i> Impossible to Frame: Shifting Scales in Forgotten Cosmorama Pictures Susana S. Martins, Universidade NOVA, Lisbon, Portugal
	Broadening Horizons: The wayfaring scenes of fairground panoramas (1820–1910) Bart G. Moens, Antwerp University, Belgium

(continued)

	Mirroring the World: Techniques and Perceptions of Panoramas in the Early Nineteenth Century Gabriele Koller, Jerusalem Panorama, Altötting, Germany
	Thrown Back on the Sketches: Reconstruction of the Destroyed Panorama The Battle of Wörth on 6 August 1870 (1882–1905) by Otto von Faber du Faur Christian Bunnenberg, Ruhr-University Bochum, Germany
	Charles A. Chase and the Electric Cyclorama Suzanne Wray, Independent Researcher, New York City, United States
10.40	Coffee/tea
11.10–12.30	<b>Session 2: Panorama of the Battle of Murten</b> <i>Moderator: Melissa Wolfe, Saint Louis Art Museum, United States</i>
	Unveiling Historical Depth: Semantic annotation of the <i>Panorama of the Battle of Murten</i> Tsz Kin Chau, Daniel Jaquet and Sarah Kenderdine, EPFL, Switzerland
	Unfurl the Banners! Flags as Artistic Elements and Military Markers in Battle Panoramas Jean-Claude Brunner, Independent Researcher, Austria
	The Terapixel Panorama: The augmented <i>Panorama of the Battle of Murten</i> Daniel Jaquet and Sarah Kenderdine, EPFL, Switzerland
12.30	Lunch
14.00–15.45	<b>Session 3: Panoramas and Living Memory</b> <i>Moderator: Nicholas Lowe, The School of the Art Institute of Chicago, United States</i>
	The Nova Tuskhut: A Walk-in Archive of “Arctic” Things Sara Velas and Ruby Carlson, Velaslavasay Panorama, Los Angeles, United States, and Weiling Deng and Jonathan Banfill, Champlain College, Vermont, United States
	Beyond the Canvas: The Essential Conservation of Ecological and Cultural Heritage on Kauō Jessica M. Smith, University of Iowa Museum of Natural History, United States
	Rotunda and the City: An Intricate Relationship Emile Mermillod, Association des Amis du Panorama de Morat, Switzerland
	Outsourcing Memories: Remembering at Urban Panstereoramas (in the Age of AI) Blagovesta Momchedjikova, New York University, United States
15.45	Coffee/tea
16.15–18.00	<b>Session 4: Round Tables</b>
	Discussion 1: Restoration (60 mins) <i>Moderator: Gabriele Koller, Jerusalem Panorama, Altötting, Germany</i>
	The renewal of the “optical apparatus” in the Bourbaki Panorama, Lucerne (Switzerland) Christian Marty, Bourbaki Panorama, Lucerne, Switzerland

(continued)

	The <i>Panorama of Racławice</i> and its two counterparts: Reconstruction in the process of panorama revitalization Ryszard Wójtowicz, Drabik i Wójtowicz Conservation and Restoration of Monuments, Wrocław, Poland
	Roundtable Participants: Patrick Deicher, President, Bourbaki Panorama Foundation, Lucerne, Switzerland
	Adrienne Quarles van Ufford, Curator, Museum Panorama Mesdag, The Hague, Netherlands
	Minke Schat, Director, Museum Panorama Mesdag, The Hague, Netherlands
	Jessica M. Smith, Curator, University of Iowa Museum of Natural History, Iowa City, Iowa, United States
	Beata Stragierowicz, Curator, Panorama Racławicka, Wrocław, Poland
	Sara Velas, Director, The Velaslavasay Panorama, Los Angeles, California, United States
	Melissa Wolfe, Curator, Saint Louis Art Museum, St. Louis, Missouri, United States
	Discussion 2: Panorama Code of Ethics (30 mins) Moderated by the IPC Heritage Committee: Gabriele Koller (Chair) Sara Velas Minke Schat
18.30–20.30	Tour of EPFL Pavilions Exhibition on View: <i>Musica ex Machina: Machines Thinking Musically</i>
	Standing buffet
20.30	Transfer to hotel

## DAY 3 | FRIDAY, OCTOBER 4

08.00	Registration, Coffee/tea
08.30–10.40	<b>Session 5: Pano-Visions</b> <i>Moderator: Chiara Masiero Sgrinzatto, independent artist, Venice, Italy</i>
	An Archeology of Time and Memory in Panoptic Media Rod Bantjes, St. Francis Xavier University, Nova Scotia, Canada
	Chicago-as-Exhibition: Centering the City in Interactive Print Molly Briggs, University Of Illinois At Urbana-Champaign, United States
	Crossing the Switzerland of America: Chicago's Global Ambitions Nicholas Lowe, The School of the Art Institute of Chicago, United States
	Museum Panorama Mesdag: Ulrike Heydenreich, <i>Longing for the Distance</i> Ulrike Heydenreich, Artist, Düsseldorf, Germany, and Adrienne Quarles Van Ufford, Museum Panorama Mesdag, Netherlands

(continued)

	The Memories Of Objects: From Lenses to Panorama History Luca Vascon, VR Artist, Photographer, and Video Maker, Venice, Italy
10.40	Coffee/tea
11.10–12.30	<b>Session 6: Panorama du Congo</b> <i>Moderator: Daniel Jaquet, EPFL, Switzerland</i>
	The Afterlife of the Panorama du Congo (1913): Decolonial Curation of Imperial Panoramas Victor Flores, Lusófona University, Lisbon, Portugal, and Leen Engelen, LUCA School of Arts / KU Leuven, Belgium
	Congo VR: A Panoptical Dissidence Ana David Mendes, Lusófona University, Lisbon, Portugal
	Illustrating a New Memory: Panorama Key and Virtual Tour for the Exhibition “Panorama of Congo” Chiara Masiero Sgrinzatto, independent artist, Venice, Italy
12.30	Lunch
14.00–16.10	<b>Session 7: Immersive Media and Panoramas</b> <i>Moderator: Victor Flores, Lusófona University, Lisbon</i>
	<i>The Panorama of Rio de Janeiro</i> by Victor Meirelles and Henri Langerock: Part 7—360° Historical Experiences of City Memories by <i>Game Engines</i> Thiago Leitão de Souza, Universidade Federal do Rio de Janeiro, Brazil
	Ernst A. Heiniger’s SWISSORAMA: The World’s First Seamless 360° Large-format Film System Lukas Piccolin, independent researchers, Zürich, Switzerland
	The Effects of Panorama 25 December’s Digital Spaces on Visitors Murat Dağ and Hüseyin Ateş, Gaziantep Metropolitan Municipality, Turkey
	Sacred Spaces of New England: Cultural Heritage and the Panorama Seth Thompson, American University of Sharjah, United Arab Emirates
	Unveiling the Past with Photogrammetry: A Study of Static and Dynamic projects— <i>Panorama Raclawicka</i> and stave churches Karolina Wójtowicz, visual and architectural designer, Wrocław, Poland
16.10	Coffee/tea
16.40–18.40	IPC General Assembly & Updates
19.10	Bus transfer
19.30	Farewell Group Dinner (Chalet Suisse)
22.00	Transfer to hotel

## DAY 4 | SATURDAY, OCTOBER 5

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### *First day of optional two-day post-conference tour*

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08.15	Departure from Conference Venue (Pav B)
09.45	Rest break Murten
10.15	Murten battlefield, Murten
11.30	Standing lunch with wine tasting
13.00	Transfer to Einsiedeln
15.45	Einsiedeln Panorama, guided tour
17.15	Transfer to Lucerne
18.30	Arrival at Hotel Ibis Kriens, Lucerne (Gr. 2 check-in)
18.50	Arrival at Hotel Ibis Styles, Lucerne (Gr. 1 check-in)
19.15	Bus transfer from Hotel Ibis Kriens to Restaurant (Gr. 2)
19.20	Short walk from Hotel to Restaurant (Gr.1)
19.30	Dinner at Hofgarten Restaurant, Luzern

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## DAY 5, SATURDAY, OCTOBER 6

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### *Second day of optional two-day post-conference tour*

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08.10	Departure from Ibis Kriens (Gr. 2)
08.30	Loading of luggages at Hotel Ibis Styles (Gr.1)
08.35	Short walk from Hotel Ibis Styles to the Alpineum Museum
08.45	Visit of the Alpineum Museum with the large diorama Gornergrat and Matterhorn Mountain
09.30	Bourbaki Panorama, Lucerne, guided tour (in front and behind the scenes)
10.45	Toilet break
11.00	Transfer to Thun
12.15	Lunch at the Strandhotel, Iseltwald
13.15	Departure
14.15	Thun-Panorama (Woche Panorama)
15.15	Transfer to Bern
16.00	Bern main station (train connection to airport of Zürich)
16.15	Transfer to Conference Venue (St-Sulpice)
18.15	Arrival in St-Sulpice

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## Presentation Abstracts & Author Biographies



The IPC Conference is made possible in part by support from our 2024 Institutional Members, whose missions help shape our mission.

### Opening | Panorama as Memory of the World

#### Presentation of IPC's Survey Results

Daniel Jaquet and Sarah Kenderdine, EPFL, Switzerland and Dominique Hanson, IPC, Belgium

**Abstract:** The International Panorama Council nominated the commission for panorama recognition by the UNESCO program Memory of the World (General Assembly, 2023). The commission is tasked with the following objectives for the initial project (2023–2026): (1) Present IPC members with the details of the process for an application for recognition, (2) Define the criteria for participating in the application for recognition, (3) Carry out an interest survey among IPC members and collect the information needed for the preparation of the application, (4) Establish the necessary networks with each regional or national authority for the submission of applications (based on the MoW regional or national committees), (5) Support the members in drafting the documentation required for the application. The survey was conducted in 2024, sent to IPC members and non-IPC members panorama owners or custodians, worldwide. The result of the survey presented during the workshop will allow for a discussion regarding the suggested criteria (workshops 1–3). Following the conference, these criteria will be reviewed by a scientific committee before presentation to the IPC Executive Committee.

**Keywords:** UNESCO Memory of the World, media archaeology, panorama

**Biographies:** Professor Sarah Kenderdine researches at the forefront of interactive and immersive experiences for galleries, libraries, archives and museums. In widely exhibited installation works, she has amalgamated cultural heritage with new media art practice, especially in the realms of interactive cinema, augmented reality and embodied narrative. In addition to her exhibition work she conceives and designs large-scale immersive visualization systems for public audiences, industry and researchers. Since 1991, Sarah

had authored numerous scholarly articles and six books. She has produced 80 exhibitions and installations for museums worldwide including a museum complex in India and has received a number of major international awards for this work. In 2017, Sarah was appointed Professor of Digital Museology at the École polytechnique fédérale de Lausanne (EPFL), Switzerland where she has built a new Laboratory for Experimental Museology (eM+), exploring the convergence of aesthetic practice, visual analytics and cultural data. She is also Director and lead curator of EPFL's new art/science initiative, EPFL Pavillons. Email, sarah.kenderdine@epfl.ch

Daniel Jaquet is a medievalist, with a background in literature, history of science and material culture of the early modern period. He received his PhD in history at the University of Geneva in 2013. He taught at the universities of Geneva, Lausanne, Bern and Neuchâtel (2008–2023). He was a visiting scholar at the Max Planck Institute for History of Science (Berlin, 2015–2016), and an associate researcher at the Renaissance Centre of the University of Tours (2016–2017). His teaching and research specializations are martial culture, production, transmission and reception of martial knowledge in Europe (fifteenth–nineteenth centuries). He is the project manager and co-lead researcher of the project Digitizing and Augmenting the Panorama of the Battle of Murten at the Laboratory for Experimental Museology (EPFL, 2022–2026). He is also a certified museologist (ICOM Switzerland 2021) with experience in state museums and has curated 5 exhibitions. Email, daniel.jaquet@epfl.ch

Dominique Hanson is the IPC Treasurer since 2017. He was a Commissariat Commémoration première Guerre mondiale. And former Director General Musée Royale de l'Armée et d'Histoire Militaire Brussels, Belgium (Retired). Email, dh180309@gmail.com

## Workshop I | Inscription Process and Successful Applications

### Insights from the Swiss Commission for UNESCO

Christof Bareiss, Swiss Commission for UNESCO, Switzerland

**Abstract:** “Memory of the World” (MOW) is a UNESCO programme aimed at raising awareness of the importance of documentary heritage and encouraging its preservation and accessibility. The programme’s flagship activity is the management of its International Register, which lists, on the proposal of UNESCO Member States, items of documentary heritage deemed to be of global significance. These range from centuries-old manuscripts to groundbreaking cinema, encompassing a broad spectrum of human knowledge and creativity. Every two years, two nominations per UNESCO Member State may be submitted for inclusion in the Register. The validation authority for Swiss nominations is the Swiss Commission for UNESCO, which has set up a group of experts to help with this task. Nominations submitted by more than one Member State are not subject to any numerical restrictions. Nominations must be prepared by individuals, institutions, or groups familiar with the materials. These applications must provide a comprehensive dossier detailing the documentary heritage’s significance, historical context, and condition, as well as current measures for its preservation and access. The nominating bodies must also demonstrate the universal value of the documents, showing how they contribute uniquely to global history, culture, or science.

Once submitted to UNESCO, nominations undergo an evaluation process in accordance with the defined selection criteria, until the final decision taken by the Executive Board. Inclusion in the Register brings greater recognition to the inscribed items, but it also entails obligations in terms of access, protection and promotion of the importance of documentary heritage. Obtaining the UNESCO label should therefore never be considered an end in itself.

**Keywords:** UNESCO Memory of the World, documentary heritage

### **Bibliotheca Bodmeriana**

Nicolas Ducimetière, Foundation Bodmer, Switzerland

**Abstract:** The Martin Bodmer Foundation, the fruit of sixty years of bibliophilic passion, was created by the great Zurich collector (who was also vice-president of the ICRC) in March 1971, shortly before his death. Its purpose was to continue his work, to protect and make available to researchers one of the largest private libraries in the world, containing the oldest Gospel of John (3rd century, on papyrus), 300 Western medieval manuscripts, 200 Oriental manuscripts, 350 incunabula, a copy of the Gutenberg Bible and thousands of autograph manuscripts and first editions. With the aim of providing a comprehensive overview of “Weltliteratur” (the Goethean concept for the greatest written texts of humanity since Antiquity, in the fields of literature, religion, politics, science, etc.), the Bodmer collection has been made accessible to the public through an underground museum opened in 2003. Combining research, conservation and museum presentation, the Foundation was selected in 2013 as a candidate for the “Memory of the World” programme. At the end of a two-year process, its universal profile and the uniqueness of this one-man collection, in addition to the preciousness and nature of the texts preserved, led to its inclusion on the Register in 2015.

**Keywords:** UNESCO Memory of the World, documentary heritage, Bodmer Foundation

## **Workshop II | The Swiss Case**

### **A Short History of the Swiss Panorama Initiatives and Ideas Regarding UNESCO**

Patrick Deicher, Bourbaki Panorama, Switzerland

**Abstract:** Efforts to have the panorama phenomenon listed as a UNESCO World Heritage never really got beyond ideas and declarations of intent internationally. The most concrete results were in Belgium. At the 2008 session of the World Heritage Committee, it was decided to place the Waterloo Panorama on the tentative list for Belgium. This was done expressly as a particularly representative example of the “panorama phenomenon” with a view to the serial inscription of historic panoramas worldwide.

According to the criterion of the largely unchanged ensemble (building, circular image, *faux terrain*, velum, skylights, etc.), only a few historical panoramas are eligible for a serial entry. The Innsbruck Panorama lost this option following a project in 2009 in which the circular painting was removed from the original building and relocated to a new museum. In Switzerland, the Bourbaki Panorama's World Heritage bid was rejected back in 2004. The Bourbaki has considerable problems with regard to its integrity in the context of the World Heritage rules: both the panorama itself and the building surrounding it have been heavily altered several times. There are also doubts about the formal possibility of a World Heritage candidacy, as only immovable properties, but not "mobile" panoramas, can be inscribed. A World Heritage candidacy was abandoned by IPC in 2022. However, the UNESCO "Memories of the World" program has come into play again. The IPC General Assembly in Luxembourg in 2022 commissioned the Executive Board to carry out the relevant planning and clarifications. As a first step, a geographical boundary was chosen that ideally represents the panorama phenomenon but is also realistic and manageable: Switzerland with its 5 panoramic panoramas from the period 1814 to 1964

**Keywords:** UNESCO, Switzerland, panorama, Bourbaki Panorama

**Biography:** Patrick Deicher studied history and political science at the Universities of Berne and Bonn (M.A. in History), non-profit management at the FHNW in Basel (MAS NPO Management), municipal finance at the Lucerne University of Applied Sciences and Arts and digital administration at the ZHAW (CAS Digital Administration). He worked in museums for 20 years, most recently as a museum director.

Today, Patrick is a consultant for public administrations and non-profit organizations. He has been with BDO Ltd. (Switzerland) since 2009. Patrick is Head of Non-Profit Organizations Central Switzerland and is responsible for the further development of BDO Switzerland's internal customer relationship management system. Throughout Switzerland, he is primarily responsible for projects on organization, municipal management and authority organization, NPO governance and municipal mergers as well as inter-municipal cooperation.

In addition to his professional activities, Patrick is also involved in voluntary work: he is a former member of the Lucerne City Parliament and the Lucerne Naturalization Commission. He also managed the Foundation Luzern hilft. He is currently involved as a member of the regional civil protection commission of the cities of Lucerne and Kriens and the municipality of Horw. Patrick is a former curator of Bourbaki Panorama in Lucerne, Switzerland. Since 2019 he is a member of the Board of Trustees and since 2022 the President of the Bourbaki Panorama Foundation. From 2003 to 2013 he acted as the Secretary-General and from 2013 to 2017 as the Treasurer to the International Panorama Council (IPC). Patrick is an active member of IPC's Advisory Group and Co-section-editor of the Panorama and Immersive Media Yearbook. He is the former director of the Bruder Klaus Museum in Sachseln and was a member of the city parliament of Lucerne. From 2011 to 2021, he was also a member of the Board of Trustees of the Panorama Altoetting Foundation, Germany.

## Workshop III | Next steps

### Roundtable for Swiss Panorama Owners/Custodians

Moderator: Daniel Jaquet

Participants: Patrick Deicher, Bourbaki Panorama Foundation, Lucerne, Switzerland; Christiane Feldmann, Chairwoman, Foundation for the Panorama of the Battle of Murten, Murten, Switzerland; Helen Hirsch, Thun Panorama, Thun, Switzerland; Christoph Bareiss, Swiss Commission for UNESCO, Switzerland; Nicolas Ducimetière, Fondation Bodmer, Switzerland

## Session I | Recovering Panoramas

### **Impossible to Frame: Shifting Scales in Forgotten Cosmorama Pictures**

Susana S. Martins, Universidade NOVA, Lisbon, Portugal

**Abstract:** Image consumption in the nineteenth century—from panoramas to aerial photography, stereoscopy, and microscopic entertainments—operated at various perceptual scales, crossing different kinds of popular, erudite and instructive circles. This shaped a vibrant visual culture that often oscillated between the gigantic and the minuscule.

In such a playful environment, Cosmorama shows emerged in Europe as attractive venues for experiencing modern pictures, where landscape representations played a prominent role. Part of an immersive culture in which education and recreation converged, Cosmoramas (or views of the world) were installed in fashionable exhibition rooms in city centers, displaying well-lit painted landscapes to be admired through a series of optical lenses set into a wall. While cosmoramas share some features with panoramas, in some ways, they almost invert the panoramic device, namely in terms of scale and the relationship between the image and the viewer.

This paper explores the Cosmorama phenomenon, investigating how the landscape paintings they exhibited engaged with questions of “scale” at material, perceptual and conceptual levels. To do so, we will examine Cosmorama showmen (Nicolino Calyo (1799–1884) and Hubert Sattler (1817–1904) among others) who were also accomplished landscape and travel painters. First, the paper will analyze the changing depth and scale illusions one perceives while admiring a cosmoramic picture through a lens, causing the impression of entering a more spacious and borderless, unlimited landscape. Second, it will examine how the process of condensing and presenting different views of the world in one single setting, actually rested upon intense travel endeavors, which these artists performed all around the world. Finally, we will also address how these cosmoramic images, much like the panoramas, circulated worldwide, at a magnified global scale, promoting a dynamic and fluid landscape of images.

**Keywords:** Cosmorama, scale, early media culture, circulation, immersive perception

**Biography:** Susana S. Martins is an Assistant Professor in Contemporary Art and Museology at the Art History Department at Universidade NOVA de Lisboa. Researcher at the IHA—Art History Institute/IN2PAST,

she coordinates the research group MuSt-Museum Studies and is a member of the Direction Board. She also co-coordinates the line Museums, Monuments and their Collections within the associate laboratory IN2PAST. Trained as an art historian, she received a PhD in Photography and Cultural Studies from the Arts Faculty of the Katholieke Universiteit Leuven. Specialized in the history and theory of photography, Martins has been mainly working on the intersection of photography, exhibitions and print cultures. In the field of museum studies, she has engaged with issues of virtual heritage, exhibition histories, and digital museography. Author of several journal articles on these topics, she has worked with different museums and curatorial projects and has also been involved in multiple research projects involving art and visual culture. She is currently Co-PI of the FCT research project “Curiositas: Peeping Before Virtual Reality. A Media Archaeology of Immersion Through VR and the Iberian Cosmoramas” (2022–2025). [susana.martins@fchsh.unl.pt](mailto:susana.martins@fchsh.unl.pt)

### **Broadening Horizons: The Wayfaring Scenes of Fairground Panoramas (1820–1910)**

Bart G. Moens, Antwerp University, Belgium

**Abstract:** This presentation delves into the captivating world of fairground panoramas and related media formats, such as dioramas and cycloramas, shedding light on their exhibition practices at North-western fairgrounds. Based on extensive archival research in Belgian and German archives, this contribution showcases the cultural resonance and historical value of traveling fairs, an area that has received limited academic attention, particularly in relation to the circulation of knowledge.

Yet, through unprecedented socio-economic and technological developments during the nineteenth century, the realm of the funfair not only developed into a transitory site for commercial amusement. Traveling shows people popularized visual culture and disseminated knowledge about the world in various ways (Wynants 2020, 26). Next to an eclectic array of attractions, such as mechanical theaters and wax museums, panoramas were exhibited to represent remarkable historical and extraordinary geographical scenes.

Exploring fairground environments and tracing the geographical movements of fairground panoramas reveals a different kind of panorama. Firstly, on a formal level, these panoramas were designed to be more compact for touring and further spectacularized within the fairground ambiance through performance, in combination with other visual media, and music. Secondly, in terms of reception, these ambulant panoramas reached broad populations in towns and villages, more diverse than traditional and mainly stationary panoramas. As such mass audiences of men, women and children, rich and poor, were informed about historical events and distant places. Transcending societal boundaries, traveling panorama attractions opened up epistemic horizons, offering communities a peek into the wider world.

**Keywords:** Panorama, fairground, media archaeology, history of knowledge, circulation of knowledge

**Biography:** Bart G. Moens is an art and media historian with a particular interest in the interconnections between the arts and popular media forms during the late-nineteenth and early-twentieth centuries. He is currently a postdoctoral researcher at the University of Antwerp within the framework of the ERC-funded project “Science at the Fair: Performing Knowledge and Technology in Western Europe, 1850–1914,” working

on the subproject: “Panorama, Diorama and Cosmorama. Performing History and Geography.” In 2023, at the Université libre de Bruxelles, Bart completed his PhD, “Emotions on Demand: Melodramatic Structures of Feeling in Optical Lantern Culture (1890s–1920s),” as part of the EOS-funded research project “B-magic: The Magic Lantern and its Cultural Impact as a Visual Mass Medium in Belgium,” which he is currently reworking into a monograph that is planned to be published within the book series Media Performance Histories (Brepols Publishers). Email, bart.moens@uantwerpen.be

### **Mirroring the World: Techniques and Perceptions of Panoramas in the Early Nineteenth Century**

Gabriele Koller, Jerusalem Panorama, Altötting, Germany

**Abstract:** As an innovative media art form, the panorama had its start in 1787 with Robert Barker’s unique patent of invention. With it, Barker set the standard for an entirely new exhibition concept that was to have far-reaching effects on the presentation of visual art. Panoramas based on Barker’s invention have been created throughout the nineteenth and early twentieth centuries. The paper will focus on painted panoramas that were created in the early nineteenth century and will examine their specific media practices. It will examine how these panoramas were presented, and how they were perceived by the viewer. By looking more closely at the use of optical devices such as mirrors, lenses, and camera obscuras in or in relation to early exhibitions of panoramas, the paper will show how these practices, embedded in the cultural context of the time, were applied and how they shaped visitors’ perceptions. In addition, the paper will show that in terms of presentation and perception, early nineteenth-century panoramas differed much from late nineteenth-century panoramas.

**Keywords:** 360-degree panorama, exhibition, optics, mirror, camera obscura

**Biography:** Gabriele Koller is an exhibition curator, author, and researcher with interests in media art history and cultural history. Her thesis was devoted to Gebhard Fugel, the artist responsible for the Panorama of Jerusalem and the Crucifixion of Christ, Altötting, Germany. Since then, she has published on various aspects of panorama history. Her current research focus is on the early history of the panorama. For the International Panorama Council of which she is a member since its foundation she edited *The World of Panoramas: Ten Years of International Panorama Conferences* (2003), *The Panorama in the Old World and the New* (2010), and *More Than Meets the Eye: The Magic of the Panorama* (2019). She is a member of the Executive Board of the Jerusalem Panorama Foundation Altötting, Germany, and is the Panorama’s Curator. She currently serves as Vice President of the International Panorama Council. Email, gabriele\_koller@gmx.de

### **Thrown Back on the Sketches: Reconstruction of the Destroyed Panorama the Battle of Wörth on 6 August 1870 (1882–1905) by Otto Von Faber Du Faur**

Christian Bunnenberg, Ruhr-University Bochum, Germany

**Abstract:** Four oversized sketches (each approx. 140 × 290 cm) are stored at the Bavarian Army Museum in Ingolstadt. The oil sketches are preliminary studies by the painter Otto von Faber du Faur (1828–1901) from 1880 onwards for the large-format panorama painting “The Battle of Wörth in Alsace on 6 August 1870” (approx. 14 × 160 m), which

was staged by the Hamburg Panorama Actien Gesellschaft from 1882 in Hamburg, from 1886 in Cologne and from 1888 to 1890 in Munich. After the panorama painting had been stored for nine years, it was exhibited in Dresden from 1899 to 1901, then moved to Munich, temporarily stored and severely damaged during transport to Dortmund in 1905 and finally destroyed after an expert appraisal. Letters from the painter during his working period, newspaper articles and a detailed description of the panorama offer clues to the pictorial programme of the panorama. Taken together, the content of the panorama can thus be reconstructed. The four large-format sketches can be consulted to gain an impression of the composition of the picture. By comparing them with the image descriptions of the panorama, numerous similarities can be identified, turning the sketches into a second-order panorama. However, this approach to the sketches falls too short and does not do justice to these sources: the sketches have their own provenance and are independent objects with their own history. Thus, indications of an exhibition practice can also be found for the sketches. The lecture is dedicated to the destroyed panorama of the Battle of Wörth and attempts to reconstruct it in its temporal context—Wörth in Alsace was a place of pilgrimage for tourists in the German Empire—as part of the historical culture of the war of 1870/71 in the German Empire. The question is how to tell the story of a panorama that has not survived and of which there are no visual sources. Furthermore, the panorama sketches will be discussed as independent objects and scrutinized with regard to their source value for the reconstruction of the panorama.

**Keywords:** Battle Panorama, oil sketches, reconstruction, historical culture, sources

**Biography:** Christian Bunnenberg, Dr phil. (\*1979), studied History and German Studies at the Westfälische Wilhelms-Universität, 2005 First State Examination and Magister Artium, 2008 Second State Examination, then secondary school teacher. 2009 to 2011 lecturer in history didactics at the University of Cologne, 2011 to 2014 research assistant at the Department of History Didactics at the University of Duisburg-Essen, 2014 to 2016 academic counselor at the Heidelberg University of Education. Since October 2016 Junior Professor of History Education at the Ruhr University Bochum, since 2021 Professor of History Education and Public History at the same university. His research focuses on the history of the nineteenth and twentieth centuries, in particular the history of tourism, media history and the cultural history of war; history in social media and immersive media (virtual reality); history teaching and digital transformation. Email, christian.bunnenberg@ruhr-uni-bochum.de

### **Charles A. Chase and the Electric Cyclorama**

Suzanne Wray, independent researcher, New York City, United States

**Abstract:** In the late nineteenth century, the popularity of the painted panorama was on the wane, despite attempts to add sound and lighting effects to the canvas. As the exhibitions became unprofitable, panorama rotundas were often converted for other uses. In late 1893, an advertisement in the Chicago Tribune newspaper announced the removal of the Chicago Fire Panorama, to be “replaced by one of the most novel, weird, and magnificent exhibitions ever conceived.” The following year, the “Electric Cyclorama” of

Charles A. Chase was demonstrated in the rotunda. Continuous “cycloramic” view from photographs were projected, using a battery of stereopticons (magic lanterns) arranged on a circular platform suspended from the ceiling. The lower cost of producing an “electric cyclorama,” and the ease with views could be changed led to hopes that Chase’s invention might “bring panoramas into fashion again,” but the invention never gained the success predicted for it.

**Keywords:** Electric cyclorama, stereopticon panorama, electrical projection, projected panorama

**Biography:** Independent researcher Suzanne Wray has presented her research on panoramas and related “optical entertainments” at conferences of the International Panorama Council and the Magic Lantern Society. She is a long-time member of the Society for Industrial Archeology, the Society for Commercial Archeology, and the Victorian Society New York. Email, [gribble@earthlink.net](mailto:gribble@earthlink.net)

## Session II | Panorama of the Battle of Murten

### Unveiling Historical Depth: Semantic Annotation of the *Panorama of the Battle of Murten*

Tsz Kin Chau, Daniel Jaquet and Sarah Kenderdine, EPFL, Switzerland

**Abstract:** Realized by Louis Braun (1836–1916) in 1893, the *Panorama of the Battle of Murten* stands as a cherished Swiss national treasure, commemorating the pivotal Swiss victory of 1476. Beyond its national significance, the panorama holds a prominent place in global visual heritage, particularly within the realms of art history and panoramic history. Remarkably, the Murten Panorama is a rare surviving example of a painted panorama depicting a medieval battle scene. While most military panoramas of the time focused on contemporary victories, this work provides a unique glimpse into the past. Additionally, it is the sole surviving panorama by Louis Braun, making it essential for the preservation of the artist’s legacy.

To achieve its immersive quality, Louis Braun and his associates conducted exhaustive historical research, delving into museum collections, illustrated chronicles, historical accounts, and field visits to craft a vivid portrayal of the medieval battle, transporting visitors back in time. The panorama’s content is exceptionally rich, encompassing various elements such as geolocations, heraldic representations, historical characters, events, armaments, and costumes. This richness invites scholars from diverse disciplines, including art history, military history, and medieval studies, to explore its iconographic significance.

To enhance the interpretation of the panorama’s intricate visual content, we propose a deep semantic annotation approach for data curation, operating at the Point of Interest (POI) level. Leveraging Linked Open Data (LOD) technologies, we will develop an annotation ontology to facilitate the description and interpretation of the panorama

using interoperable structured data. This annotation will be supported by a web-based platform we designed, featuring deep zoom capabilities, with the potential to evolve into a versatile tool for the curation of panoramic content.

**Keywords:** Annotation, data curation, art history, linked open data

**Biographies:** Tsz Kin (Raphael) Chau is a PhD candidate in Digital Humanities at the École polytechnique fédérale de Lausanne (EPFL), Switzerland, with a background in history, art history, digital humanities, and artificial intelligence. Drawing from expertise in digitization and archiving, he has developed both the physical archive and the digital infrastructure of the Jeffrey Shaw Archive and Jeffrey Shaw Compendium (2015–), which have been exhibited in Austria, France, Hong Kong, Switzerland, and online. He is interested in the curation, retrieval, dissemination, and experience of big cultural data on the web. Currently, he is working on the Digital Murten Panorama project (DIAGRAM), a collaboration between EPFL and the Foundation for the Panorama of the Battle of Murten. Email, [tszkin.chau@epfl.ch](mailto:tszkin.chau@epfl.ch)

Daniel Jaquet is a medievalist, with a background in literature, history of science and material culture of the early modern period. He received his PhD in history at the University of Geneva in 2013. He taught at the universities of Geneva, Lausanne, Bern and Neuchâtel (2008–2023). He was a visiting scholar at the Max Planck Institute for History of Science (Berlin, 2015–2016), and an associate researcher at the Renaissance Centre of the University of Tours (2016–2017). His teaching and research specializations are martial culture, production, transmission and reception of martial knowledge in Europe (fifteenth–nineteenth centuries). He is the project manager and co-lead researcher of the project Digitizing and Augmenting the Panorama of the Battle of Murten at the Laboratory for Experimental Museology (EPFL, 2022–2026). He is also a certified museologist (ICOM Switzerland 2021) with experience in state and has curated 5 exhibitions. Email, [daniel.jaquet@epfl.ch](mailto:daniel.jaquet@epfl.ch)

Professor Sarah Kenderdine researches at the forefront of interactive and immersive experiences for galleries, libraries, archives and museums. In widely exhibited installation works, she has amalgamated cultural heritage with new media art practice, especially in the realms of interactive cinema, augmented reality and embodied narrative. In addition to her exhibition work she conceives and designs large-scale immersive visualization systems for public audiences, industry and researchers. Since 1991, Sarah had authored numerous scholarly articles and six books. She has produced 80 exhibitions and installations for museums worldwide including a museum complex in India and has received a number of major international awards for this work. In 2017, Sarah was appointed Professor of Digital Museology at the École polytechnique fédérale de Lausanne (EPFL), Switzerland where she has built a new Laboratory for Experimental Museology (eM+), exploring the convergence of aesthetic practice, visual analytics and cultural data. She is also Director and lead curator of EPFL's new art/science initiative, EPFL Pavillons. Email, [sarah.kenderdine@epfl.ch](mailto:sarah.kenderdine@epfl.ch)

## **Unfurl the Banners! Flags as Artistic Elements and Military Markers in Battle Panoramas**

Jean-Claude Brunner, Independent Researcher, Austria

**Abstract:** Any visitor to Switzerland will be greeted by the ubiquitous displays of local, cantonal and national banners in the streets. It is fitting that the panorama of the battle of Murten features a plethora of Swiss, allied and Burgundian banners. For modern audiences unfamiliar with vexillology it can be hard to decode the mimesis encoded in the panorama paintings.

Comparing the use of flags in the Murten panorama painting and the Murten miniatures diorama of Curt F. Kollbrunner in the Swiss National Museum in Zürich, the illustrations in Swiss chronicles as well as the surviving specimens of the banners in various Swiss museums will reveal the different choices the artists took in aligning art, truth and storytelling. On the image from the Murten panorama included below on the left, the three lions of the English King are proudly displayed to mark the English archers participating in the battle who in reality would not have been permitted to fly royal banners.

The presentation will educate the audience in better understanding the flags presented in the Murten panorama.

**Keywords:** Flags, Murten panorama, Murten diorama, battle panoramas, vexillology

**Biography:** Jean-Claude Brunner is a Swiss business analyst living and working in Vienna, Austria. His research interests are social and technological change in the fifteenth and nineteenth century in Central Europe. He is treasurer of the Weltmuseum Wien Friends association. Email, [jc.brunner@gmail.com](mailto:jc.brunner@gmail.com)

### **The Terapixel Panorama: The Augmented Panorama of the Battle of Murten**

Daniel Jaquet and Sarah Kenderdine, EPFL, Switzerland

**Abstract:** The project entitled “Digitizing and Augmenting the Panorama of the Battle of Murten” (2022–2026) exploits the unprecedented digital resolution of the digital twin of the panorama (1.600 Gigapixel) to pioneer new strategies and methods of interpretation for this magnificent yet contested historical artifact for exhibitions and networked access. Enriched with 4D volumetric video, 3D objects and spatial soundscape building on research in military and cultural history, the digital twin will enable diverse publics to engage with pioneering research across the three scientific domains of digital heritage, humanities and public history. To do so, the project will leverage world-leading hardware infrastructure developed by the Laboratory for Experimental Museology. Emulating historic ways of seeing “in-the-round,” these technologies include a pioneering 3D-360-degree display system. This platform provides up to 30 people with the extraordinary capacity to explore the digital twin in a format that not only emulates but also augments the original panoramic viewing experience.

The project will publicly communicate the digital twin through a series of four exhibitions at the Museum für Gestaltung, the Castle of Grandson, the Murten Museum, and the Bernisches Historisches Museum and related programs in 2025 and 2026. It will additionally produce specific content and avenues of engagement for audiences who would not otherwise have access to the underlying scientific knowledge of the Panorama of the Battle of Murten and the research unraveled in its digital twin. A special website and interactive tool for accessing all the augmented features of the project will open the entire digital twin to national and international audiences. As the permanent display of the digital twin or original painted panorama is not envisaged, this website will be the only mode of permanent access to the work.

**Keywords:** Panorama of the Battle of Murten, museum, digital twin, augmentation

**Biographies:** Professor Sarah Kenderdine researches at the forefront of interactive and immersive experiences for galleries, libraries, archives and museums. In widely exhibited installation works, she has amalgamated cultural heritage with new media art practice, especially in the realms of interactive cinema, augmented reality and embodied narrative. In addition to her exhibition work she conceives and designs large-scale immersive visualization systems for public audiences, industry and researchers. Since 1991, Sarah had authored numerous scholarly articles and six books. She has produced 80 exhibitions and installations for museums worldwide including a museum complex in India and has received a number of major international awards for this work. In 2017, Sarah was appointed Professor of Digital Museology at the École polytechnique fédérale de Lausanne (EPFL), Switzerland where she has built a new Laboratory for Experimental Museology (eM+), exploring the convergence of aesthetic practice, visual analytics and cultural data. She is also Director and lead curator of EPFL's new art/science initiative, EPFL Pavillons. Email, sarah.kenderdine@epfl.ch

Daniel Jaquet is a medievalist, with a background in literature, history of science and material culture of the early modern period. He received his PhD in history at the University of Geneva in 2013. He taught at the universities of Geneva, Lausanne, Bern and Neuchâtel (2008–2023). He was a visiting scholar at the Max Planck Institute for History of Science (Berlin, 2015–2016), and an associate researcher at the Renaissance Centre of the University of Tours (2016–2017). His teaching and research specializations are martial culture, production, transmission and reception of martial knowledge in Europe (fifteenth–nineteenth centuries). He is the project manager and co-lead researcher of the project Digitizing and Augmenting the Panorama of the Battle of Murten at the Laboratory for Experimental Museology (EPFL, 2022–2026). He is also a certified museologist (ICOM Switzerland 2021) with experience in state museums and has curated 5 exhibitions. Email, daniel.jaquet@epfl.ch

## Session III | Panoramas and Living Memory

### The Nova Tuskhut: A Walk-in Archive of “Arctic” Things

Sara Velas and Ruby Carlson, Velaslavasay Panorama, Los Angeles, United States, and Weiling Deng and Jonathan Banfill, Champlain College, Vermont, United States

**Abstract:** This presentation provides an in-depth tour to the design ideas and philosophical underpinnings of the Nova Tuskhut (2014–2024) in the Velaslavasay Panorama in Los Angeles, a built-in diorama of the “Only Arctic Trading Post in the Lower 48 States” of the US. Its installation was paired with two of the VP’s previous installations: the 360-degree panorama *Effulgence of the North* (2007–2017) and the lobby exhibit *Nancy Columbia and the Arctic Beyond* (2014–2018). The famed Inuit film star was born into the spectacle of “Eskimo Village,” an Arctic obsession at the 1893 Chicago Columbian Exhibition that imposed its colonial name on her. By birth, Nancy Columbia’s life was an installation of stolen and simulated memory to shifting audiences who both admired and remembered her and penned the world in which she lived in the role of acting and a memory holder.

Instead of a “seamless” 360-degree installation, the Nova Tuskhut relies on the fleeting and fragmented vignettes of ephemera and specters of polar lifeways, and also on the embodied experiences with them shared by the curators and the visiting public as the wooden hut survives over a decade and a change of panorama-on-view at the VP. It features a well-stocked pantry, library, wood burning stove, bear pelt, picturesque window view, fireside cot. Throughout the first half of 2015, it was accompanied with a six-part screening series in collaboration with LA Filmforum entitled *Mush To The Movies: A Polar Film Club*. But as the hut’s de-installation and digitization near, its next habitat in the digital ether renews the rumination of the gains and losses of these polar legacies that always haunts preservation works upon reentry into the process of conception-execution-reproduction. From the Nova Tuskhut, we interrogate the possibilities and constraints of panorama and its digital representation as a tool and institution of memorialization.

**Keywords:** Ephemera, archival object, Arctic, diorama, Nancy Columbia

**Biographies:** Sara Velas is the Founder, Co-Curator and Artistic Director of the Velaslavasay Panorama, a nonprofit museum and garden she established in the year 2000 to present experimental immersive experiences and variations of media popular before the invention of cinema. An artist, graphic designer, curator, gardener, and native Los Angeleno, she is active on the Heritage Committee and Advisory Board of the International Panorama Council. Ms. Velas is a member of the Los Angeles Breakfast Club and is significantly involved in architectural preservation efforts throughout Los Angeles. Born in Panorama City, California she received her BFA from Washington University in 1999. Email, [sara@panoramaonview.org](mailto:sara@panoramaonview.org)

Ruby Carlson is a Curator, Writer and Director of Programs at the Velaslavasay Panorama. From 2015–2018 she served as the Secretary of the International Panorama Council. She studied literature and linguistics at George Washington University and is an award-winning cinematographer for media and fine art projects. Since 2010 she has participated in PLACE, a critical return to the discovery of Freud and its construction in the topology introduced by J. Lacan. Email, [ruby@panoramaonview.org](mailto:ruby@panoramaonview.org)

Weiling Deng is Assistant Professor of Interdisciplinary Studies and Digital Humanities at Champlain College in Burlington, Vermont. She received her Ph.D. in Social Sciences and Comparative Education from UCLA. Her research and teaching interests include Global Asias, archipelagic thinking, traveling theory, gender and race in technology, engaged pedagogy, and applied humanities. She has published on *South Asian Review*, *Verge: Studies in Global Asias*, *Los Angeles Review of Books*, and academic anthologies including *Postcolonial and Postsocialist Dialogues: Intersections, Opacities, Challenges in Feminist Theorizing and Practice*. Email, [wdeng@champlain.edu](mailto:wdeng@champlain.edu)

Jonathan Banfill is Assistant Professor of Interdisciplinary Studies and Digital Humanities at Champlain College in Burlington, Vermont. He holds a PhD in Social Sciences and Comparative Education from UCLA, where he worked as a teacher and researcher for a multi-year interdisciplinary educational program, the Urban Humanities Initiative, funded by the Mellon Foundation and is a founding member of the Urban Humanities Network ([urbhum.net](http://urbhum.net)). His research sits at the intersection of pedagogy, urban space, and public humanities fields. Email, [jbanfill@champlain.edu](mailto:jbanfill@champlain.edu)

## **Beyond the Canvas: The Essential Conservation of Ecological and Cultural Heritage on Kauō**

Liz Crooks and Jessica M. Smith, University of Iowa Museum of Natural History, United States

**Abstract:** The University of Iowa Museum of Natural History's Laysan Island (Kauō) Cyclorama encapsulates a moment frozen in time, preserving the memory of an ecosystem on the brink of irreversible change. Through meticulous detail in foreground and mural, the cyclorama serves as a tangible sensory snapshot, preserving the essence and memory of this part of the world for generations to come. Transporting visitors to 1902, proceeding the forthcoming devastation by poachers, industrialization, and the introduction of non-native species, the cyclorama provides an immersive experience, vividly capturing the sights and sounds of the island's pristine environment. Despite some successful recovery efforts, including the eradication of invasive animal species and heightened conservation measures, today the island and its inhabitants face new threats from human impact—primarily plastics. The story the cyclorama tells supports current research and provides a platform for cultural exchange and preservation.

This presentation explores the museum's new partnership with the supporters of the United States Fish and Wildlife Service's work in the Papahānaumokuākea refuge, highlighting the intersection of environmental conservation, cultural heritage, and museum practices. By engaging with stakeholders knowledgeable about native naming conventions and cultural significance, the museum seeks to update exhibit labels and narratives, ensuring a more authentic and inclusive portrayal of the island's history and

Ecology. Through this case study, we demonstrate the pivotal role of panoramas/cycloramas as repositories of memory and cultural heritage. By integrating historical knowledge with contemporary conservation efforts, museums can foster meaningful dialogue, raise awareness, and contribute to the preservation of our shared natural and cultural heritage.

**Keywords:** Cyclorama, Laysan Island, conservation, cultural heritage, museum practices

**Biographies:** Liz Crooks has served as the director of the University of Iowa Pentacrest Museums since 2018, serving the greater institution for over three decades. Crooks holds an MA in Museum Studies and a Graduate Certificate in Book Arts. Her passion for museums was kindled through formative visits to the very museums she now leads with dedication. With her leadership guided by the foundational belief that museums hold in store something for everyone, Liz ensures that every individual, from her staff to visitors and even campus janitors, will find enjoyment and enrichment within the museum's walls. Liz's impact

extends far beyond the walls of her institution. A firm believer that great universities have great museums, Crooks serves as a state representative and on the conference planning committee with the Association of Academic Museums and Galleries. Liz has spearheaded efforts to conserve the museum's crown jewel exhibit, the Laysan Island Cyclorama. This work has led to a deeper involvement with the International Panoramic Council where she has served as conference presenter, host, journal editor, and member of the heritage committee. Email, [liz-crooks@uiowa.edu](mailto:liz-crooks@uiowa.edu)

Jessica M. Smith has led the communications and engagement department at the University of Iowa Pentacrest Museums since 2018. Her diverse and creative backgrounds in sociology, art, marketing, environmentalism, and non-profit organizing inform and contribute to her work as a museum professional. Jessica has played an integral role in the conservation efforts of the cyclorama with documentation, a major fundraising campaign, grant acquisitions, and strategic partnerships. Her work in identifying curricular connections between the cyclorama and classes encourages high-impact, hands-on learning opportunities for students of all ages. Jessica teaches her own students to create access to science and history using creative media, writing, and joy. Email, [jessica-smith-7@uiowa.edu](mailto:jessica-smith-7@uiowa.edu)

### **Rotunda and the City: An Intricate Relationship**

Emile Mermillod, Association des Amis du Panorama de Morat, Switzerland

**Abstract:** The sheer scale of a panorama painting and its fixed form make the building that hosts it an imposing urban presence. In the early nineteenth century, rotundas were mostly built as a profitable short term investment, and were thus built with minimal financial and decorative efforts. By contrast, modern rotundas from the end of the twentieth and the beginning of the twenty-first century seem to be built to last and these differences are often visible in the quality of the cladding and the type of the structure. Likewise, the location of rotundas also highlights various strategies. While the nineteenth century panoramas tend to nestle in the heart of cities, newer rotundas are pushed outward on the edges due to rising land costs and zoning laws. Another common strategy found both in modern and classical time panoramas includes the integration of rotundas into green spaces, disconnected from the urban fabric.

In this study, we collect and sort data about the exterior appearance and the different urban strategies of European rotundas built outside of the context of fairs. This analysis shows tendencies in the urban and architectural characteristics of rotundas with regard to their economical and historical background. We question the evolution of these characteristics not only in the context of improving techniques and supply chains, but also in the changing function of these buildings in our society. Finally we discuss the fate of panoramas, first as capitalistic enterprises then as historical artifacts worth cherishing. Highlighting these architectural and urban strategies and their evolution paves the road to cautious previsions about the future development of panoramas.

**Keywords:** Architecture, urbanism, rotunda, urbanistic strategies, cladding

**Biography:** Emile Mermillod discovered panoramas as a child when he visited the Morat Panorama at the Swiss National Exhibition of 2002 (Expo 02). He graduated from the EPFL as an architect in 2019 with a project for a rotunda to house the Panorama of the battle of Morat. He collaborates with the Association of

Friends of the Morat Panorama who are aiming to find a suitable permanent site for the painting and pursue research related to this object. This led in 2019 to a traveling exhibition and in 2022 to an analysis of the various past projects around the Panorama of Morat. In 2023, together with the architectural office *awerk* he submitted a study for a building permit application to the city of Morat to investigate the legal feasibility of a rotunda in the protected areas of the medieval town. This project is currently ongoing. Emile Mermillod also has an interest in ambiguous Swiss heirloom pieces, exploring the myths and objects that shape the mental landscape of Switzerland. Besides his interest in the Morat Panorama his research also includes the question of the heritage and significance of ageing Swiss nuclear power plants. Email, emile.mermillod@gmail.com

### **Outsourcing Memories: Remembering at Urban Panstereoramas (in the Age of AI)**

Blagovesta Momchedjikova, New York University, United States

**Abstract:** Panstereoramas, commonly referred to as scale models, miniatures, or maquettes, belong to the family of panoramic representations that both supplement and contest the medium of painted panoramas. Unlike painted panoramas, which are two-dimensional, bigger than the viewers, and surrounding them; panstereoramas are three-dimensional, smaller than the viewers, and surrounded by them. These differences provide radically different experiences at painted panoramas versus pansteroramas, yet there are overlapping experiences as well: those of immersion, memory, and comprehensiveness. But to what end?

I argue that panstereoramas have persisted in time periods and across disciplines, more so than painted panoramas have, perhaps due to their size, portability, and their ever-growing circulation in popular culture (i.e., the toy industry). Do panstereoramas then have a different relationship to memory, both collective and individual, than painted panoramas? Has that contributed to the popularity of panstereoramas, even in the present day? At previous conferences, I have examined the ancient technique of the memory palace, as it enlivens panstereoramas and invites immersion in the world of miniatures. This time, I want to explore the fading necessity to remember due to various electronic devices and recently, AI, and thus the habit to outsource the process of remembering and as a result, outsource memories. I will engage with concepts from “media archeology,” as well as examples of panstereoramas, in the context of fashioning city memories from city representations.

**Keywords:** Panstereoramas, media Archeology, memory palace, city representations, outsourcing memories

**Biography:** Blagovesta Momchedjikova, PhD, is an urban culture essayist and poet, who publishes on panstereoramas, memory, and the lived city experience. She is the editor of *Captured by the City: Perspectives in Urban Culture Studies* and *Streetnotes: Urban Feel*; and the co-editor of *Sounds and Silence in the Pandemic City*, *The Panorama Handbook: Thoughts and Visions On and Around the Queens Museum’s Panorama of the City of New York*, *From Above: The Practice of Verticality*, *Public Space: Between Spectacle and Resistance*. Dr. Momchedjikova chaired the Urban Culture Area for the Mid-Atlantic Popular and American Culture Association (MAPACA) for 15 years and the inaugural Conference Scientific Committee for IPC for 5 years. She is a founding member of the International Panorama Council Journal (IPCJ), and sits on the editorial boards of both IPCJ and *Streetnotes*. She teaches art, writing, and the city at New York University. Email, bmm202@nyu.edu

## Session IV | Round Tables

### *Discussion: Restoration*

#### **The Renewal of the “Optical Apparatus” in the Bourbaki Panorama, Lucerne (Switzerland)**

Christian Marty, Bourbaki Panorama, Lucerne, Switzerland

**Abstract:** The painting of the Bourbaki Panorama Lucerne was extensively restored in the years 1997–2000. The optical apparatus, the viewing platform and the lighting system with artificial light were also redesigned and furnished. After almost 25 years and over a million visitors, the Baldaquin, velum and solar sails in particular showed visible signs of wear and aging and formed a sometimes-drastic contrast to the high quality of the painting. The aim of the recently completed project was to upgrade the worn-out, damaged and technically overhauled equipment to a future-oriented and energy-efficient equipment. The presentation describes the planning and execution of this work.

The central part of the project concerned the replacement of the Baldaquin, which has about 1600 square meters of fabric with a total weight of about 200 kilograms. To this end, a custom-made design with cutting patterns and a hanging device for the Bourbaki Panorama had to be created. In terms of fire resistance, lightness and light protection, the textiles had to meet the highest requirements in terms of heritage preservation and safety. Most of the restoration work was carried out by industrial rope access technicians to protect the painting.

Another sub-project concerned the refurbishment/restoration of various listed equipment elements due to the worn-out condition and the exceeded service life. In particular, it was about the metal balustrade of the visitors' platform and four leather-covered benches, which are still from the original furnishings of 1889. The third sub-project concerned the replacement of 64 metal halogen lamps for artificial painting illumination. Once again, 64 high-quality LED spotlights were installed as a custom-made product for mounting on the existing metal brackets. They allow illumination without damaging spectral content in UV and IR range, guarantee gentle illumination and an authentic impression of Picture and foreground. A new lighting control with dimming function allows an acceptable adjustment and controls the illumination intensity according to the time of year and day.

**Keywords:** Bourbaki Panorama, optical apparatus, Baldaquin, velum, solar sails

**Biography:** Christian Marty, Conservator-restorer SKR/SCR FIIC. He completed his training as a painting and sculpture conservator-restorer in Zurich. Further training took place at various museums and institutes in Switzerland, Austria and the Netherlands. In 1980 he joined the Swiss Institute of Art Science (SIK/ISEA), where he was appointed head of the Art Technology Department in 1985. During this time, he was involved in the “Swiss Association for Conservation and Restoration” (SKR/SCR) for 8 years, 6 of them as president. He

was also co-founder and member of the presidium of the “European Confederation of Conservators-Restorers’ Organisation” (E.C.C.O). From 1997 onwards, he led the Institute’s major conservation projects, including the conservation and restoration of the Bourbaki Panorama (Lucerne, CH) where he is still mandated as chief restorer. In 2003 he founded ARS ARTIS AG, together with his life partner Petra Helm. He was able to contribute his experience in dealing with large panoramas as a consultant in the restoration of the Sattler Panorama (Salzburg, A) and in the translocation of the painting Battle of Atlanta (Atlanta, United States). He was the overall project manager for the translocation of the Battle of Bergisel (Innsbruck, A). From 2017–21 he restored together with his partner Petra Helm the small panorama «Clear World of the Blissful” by E. Kupffer on Monte Verita, Ascona (CH). He publishes and gives lectures on conservation and restoration. Fellow of the International Institute of Conservation IIC. Email, christian.marty@bourakipanorama.ch

### **The Panorama of Raclawice and its Two counterparts: Reconstruction in the Process of Panorama Revitalization**

Ryszard Wójtowicz, Drabik i Wójtowicz Conservation and Restoration of Monuments, Wrocław, Poland

**Abstract:** Due to the need to resolve a unique conservation problem, it was necessary to adopt and invent a new approach to the issue that could solve the subject in an innovative way and answer any questions. In order to prove such a thesis, it was necessary to define the methodology of conservation proceedings and to develop a new research strategy regarding the monuments. These studies were initiated and carried out during the restoration of the Panorama of Raclawice in Wrocław, and as a sequence in Hungary and the United States. Each of these ventures was led by the author of the book.

The basic assumption for technical and aesthetic solutions in these processes was the restoration and preservation of the main idea of the panorama, which is the illusion of the «new» reality. The experiments and research described in the book come from the results of conservation work on the following works of art:

*Panorama of the Battle of Raclawice, Wrocław, Poland*

Creation date: 1893–94, Lwów, Poland

Dimensions: 114.50 m × 14.20 m, conserved 1981–85

*Feszty Panorama Arrival of the Hungarians, Ópusztaszer, Hungary*

Creation date: 1892–94, Budapest, Hungary

Dimensions: 113.50 m × 14.10 m, conserved 1991–95

*Cyclorama Battle of Gettysburg, Gettysburg, PA; United States*

Creation date: 1884, Boston MA, United States

Dimensions: 114.80 m × 12.90 m, conserved 2006–08

Referring to the title of the book the issues of all aspects of conservation problems and terminology, contained in a complex sequence of activities aimed at recovering all artistic values of preserved works of art inscribed on the national heritage lists in each of the described panoramas homelands, were developed and applied.

**Keywords:** Conservation, three panoramas, illusion of reality

**Biography:** Dr Ryszard Wójtowicz, Conservator of Monuments: master's studies in Conservation and Restoration of Works of Art, Nicolaus Copernicus University in Toruń 1975–1980. Since 1992 a member of the IPC, former vice—president, as well as Association of Art Conservators and Association of Art Historians in Poland. Head conservator of 3 panoramas: Raclawice Panorama, Poland, Feszty Panorama, Hungary, The Gettysburg Cyclorama, United States. Participation in many research projects, among others of the Getty Institute, California; many conservation projects for historic monuments from the early middle ages up to the twentieth century, including two located on the UNESCO World Heritage List: Centennial Hall in Wrocław, Pl. and the seventeenth century Peace Church in Świdnica, Pl. Numerous works in the field of his profession, expert opinions and consultations in Poland and abroad. Preparation of several exhibitions and many presentations. Author of a number of articles. Awarded by the Prime Minister and Minister of Culture for conservation work on the Panorama of Raclawice, honored with the Cross of Appreciation by the President of Hungary for work on the Panorama of Feszty in Hungary, a special award from the Gettysburg Foundation for work on the panorama of the Battle of Gettysburg in the United States (PA). Email, zabytki@drabikwojtowicz.pl

## Session V | Pano-Visions

### An Archeology of Time and Memory in Panoptic Media

Rod Bantjes, St. Francis Xavier University, Nova Scotia, Canada

**Abstract:** “Deceptive” anamorphosis and their corrective apparatuses are artifacts that embody a covert pre-history of the panorama. I take an experimental media archaeology approach to unlocking the conceptual innovations embedded in these objects. Kepler’s rotating camera obscura of 1604 was similar to the panoramic camera obscuras popular in the early nineteenth century except that Kepler’s image-plate rotated and across its surface a roll of paper scrolled as he recorded the panorama slice by slice. His paper roll was a cybernetic memory employed to capture and reconstruct the all-round immersive character of the world-as-experienced. Seventeenth-century Dutch painters inserted shiny convex surfaces into their still-lives that reflected anamorphic projections of full-surround views of the spaces they occupied. The “curvilinear” perspective that these details exemplified was a still-un-rectified anamorphosis of the immersive experience they pointed to.

Artistic innovators used anamorphosis to question all planar projections of immersive spatial experience. I reconstruct Hoogstraten’s peepshow parody of perspective convention and recreate the lost viewing apparatus for Van der Heyden’s anamorphic Amsterdam Stadhuis. I also reconstructed the missing viewing-box for Fabritius’s panoramic *A View in Delft*. I make the device adjustable to test hypotheses about the nature of the anamorphosis and the logic of its rectification. All these assemblages, like the Barker panorama, produce seductive invocations of space that seem freed from an image substrate. They achieve their effect through the mediation of obtrusive machinery of representation that implies a machinery of perception—the bodily motion, temporal recording and reconstruction through memory that Kepler’s panoramic camera obscura stood as concrete metaphor for. This new constructivist paradigm of percep-

tion, first articulated by Berkeley, was fiercely resisted for its challenge to veridical sight. That resistance helps make sense of the paradox that, despite unprecedented realism, exhibition machinery was often “disappeared,” and media that used it was stigmatized as “deceptive.”

**Keywords:** Experimental media archaeology, anamorphosis, curvilinear perspective, spatial perception

**Biography:** Rod Bantjes is a Senior Research Professor at St. Francis Xavier University, Nova Scotia, Canada. He is author of two books and numerous journal articles on environmental social movements and state formation. He is currently applying his research on media archaeology to understanding changing conceptions of space, perception and epistemology. His recent work has been published in *The History of Ideas, Art History, History of Photography, Technology and Culture, Early Popular Visual Culture*, and the *International Journal of Film and Media Arts*. Email, [rbantjes@stfx.ca](mailto:rbantjes@stfx.ca)

### **Chicago as Exhibition: Centering the City in Interactive Print**

Molly Briggs, University of Illinois at Urbana-Champaign, United States

**Abstract:** Two print artifacts, dated 1870 and 1886, offer a concise overview of Chicago's construction and reception as a panoramic city. An 1870 advertising broadside pictures the Chicago Rock Island & Pacific Railroad (C.R.I. & P.R.R.) as a central component in a contiguous network of steam and rail lines that circumnavigate the globe. The broadside is dominated by a world map drawn in north polar (azimuthal) projection upon which transport lines are charted in a continuous loop. This does more than put Chicago on the map; it situates the burgeoning pre-fire city at the center of the world.

Adolph Wittemann's 1886 accordion-fold *Panorama of Chicago* pictures in 270 degrees the view from the roof of the Pullman building on Michigan Avenue. Labels highlight infrastructural additions since the 1871 Chicago fire. This single-sheet viewbook renders Chicago as a panoramic city in five senses of the word. The title echoes the word's United Statesge in illustrated print compendiums of urban data—books that purport to contain whole cities—while its proportions comport with those of the wide-format images known then (as now) as panoramas. Its format is a direct adaptation of the circular panorama and horizontal orientation plans thereto, and it is rendered from a vantage point whose proportions correspond to those of a panorama viewing platform. Finally, it omits an important building from the foreground in order to open a sightline to the rotunda housing the Panorama of the Chicago Fire, then on display on Michigan Avenue.

This presentation contextualizes a close reading of both prints with period accounts of efforts to construct a pair of new rotundas, one in Garfield Park and one in Jackson Park, with the aim of curating Chicago's cultural landscape history in expressly panoramic form.

**Keywords:** Immersive rhetorics, panoramic perception, transportation infrastructure, Chicago Fire, Chicago Panoramas

**Biography:** Dr. Molly Catherine Briggs is a design theorist, landscape historian, and studio practitioner who interrogates graphic and spatial epistemologies by elucidating interactive and immersive rhetorics in historic and contemporary media. She holds a PhD in Landscape Architecture History & Theory from the University of Illinois at Urbana-Champaign and an MFA in Art Theory & Practice from Northwestern University. She is currently an Assistant Professor of Graphic Design and Design for Responsible Innovation in the School of Art & Design at the University of Illinois at Urbana-Champaign, where she teaches visual communication and design research methodology. Dr. Briggs has presented her research in peer-reviewed conferences, symposia, and journals throughout the United States and Europe. She is the recipient of numerous scholarly, creative, and pedagogical grants, awards, and recognitions and is a 2023 Fellow of the Maclean Map Library. She is a member of the College Art Association, the Design Research Society, the Design History Society, the International Panorama Council, the SECAC, and the Society of Architectural Historians. Her creative work has been represented by Zg Gallery in Chicago since 2004. Email, mbriggs@illinois.edu

### **Crossing the Switzerland of America: Chicago's Global Ambitions**

Nicholas Lowe, The School of the Art Institute of Chicago, United States

**Abstract:** *The Grand Panoramic View of the Heart of Chicago* (1892) by George Melville presents an image of the city in anticipation of the World's Columbian Exposition of 1893. Following the Great Fire of 1871 Chicago had rebuilt itself sufficiently enough that all traces of the conflagration had been eradicated. The city's ambitions had been made clear for some time, and the occasion of the World's Fair consolidated the opportunity to claim itself as the world's center. The post conflagration fervor to rebuild produced what has been called the first truly American city and this idea appears to have been established in no small part through the embrace of panoramic forms. Knowingly or not, Chicago had remade itself as a platform from which to view the world, and conversely through an architecture that contained the world.

A close reading of *The Grand Panoramic View of the Heart of Chicago* when taken together with an earlier accordion-fold publication *The Panoramic Map of the Great Overland Route from Occident to Orient* (Rand McNally) is revealing of the panoramic ambitions and conceits of Chicago. The city's urban fabric and architectural inventions can be seen to have been greatly informed by panoramas and panoramic visions. The Chicago, Rock Island and Pacific Railroad from its beginnings in 1851 is celebrated in this 1876 publication for its contributions to improvements in transcontinental travel. The journey from Chicago to San Francisco at the time of this publication is described self-consciously for its physical connections to the rest of the world. Closing with the assertion that in having forged its ascendancy in rail connections from the east to the "Golden Gate" and San Francisco, Chicago confirms itself as a city of global importance to rival London and its Great Exhibition of 1851. As a foldout pocket map this artifact draws strongly upon the precedents found in overland trail guidebooks, and moving panorama narrations of the 1840's. Key to this publication is its connections to the exponential post-fire growth of commerce in Chicago which is set in counterpoint to European and particularly British imperial ambitions.

**Keywords:** Chicago World's Fair 1893, Chicago Fire, moving panorama, transcontinental map

**Biography:** Nicholas Lowe is an interdisciplinary visual artist, writer, educator and curator whose work is known for its contextual and documentary approaches. His visual and performance works forefront material research, interpretation and public engagement. He holds an HDFA from the Slade School of Art, University College London and a BA in Crafts Combined Study (Wood Metal Textile Ceramic) from Manchester Met. University. Lowe is a Professor at The School of the Art Institute of Chicago and is the John H. Bryan Chair of Historic Preservation. Email, nlowe1@saic.edu

***Museum Panorama Mesdag: Ulrike Heydenreich, Longing for the Distance***

Ulrike Heydenreich, artist, Düsseldorf, Germany, and Adrienne Quarles van Ufford, Museum Panorama Mesdag, Netherlands

**Abstract:** Museum Panorama Mesdag is an icon in The Hague, with the Panorama of Scheveningen (1881) as its absolute highlight. The museum owes its name to the painter of the Panorama, Hendrik Willem Mesdag (1831–1915), and also houses an impressive collection of art by him and his wife Sientje Mesdag-van Houten. With many temporary exhibitions that connect the past to the present, there is always something new to see.

In 2023 Museum Panorama Mesdag presented a unique overview of German visual artist Ulrike Heydenreich (1975). In this IPC talk Ulrike Heydenreich and Adrienne Quarles van Ufford, curator of the show and Head of Collection and Exhibitions at Museum Panorama Mesdag, will give insights into her work.

Ulrike Heydenreich is fascinated by maps and panoramic mountain landscapes. Her magical—and sometimes monumental—artworks express her desire for distant places. She records these vistas in drawing and objects, with collages and through folding techniques—or even a huge reflective kaleidoscope.

Like Hendrik Willem Mesdag, Heydenreich toys with perspective and illusion, the difference being that she fabricates rather than replicates the view and shows you what you don't see. Time and again, Heydenreich designs, draws, folds or stitches a new and wondrous world of imaginary landscapes. Heydenreich sometimes refers quite literally to the phenomenon of nineteenth-century panoramas, as is the case with the historic topographical maps and folded panoramas she uses in her work. Heydenreich draws copies of various mountain ranges taken from historical photos or creates collages from old topographical maps, merging different mountains together to create a new landscape.

Using photographs from the early twentieth century as a starting point for her collages brings the aspect of time into play in her work. Most of the glaciers have probably melted away, intensifying the sense of transience.

**Keywords:** Illusions and fabricated views, historic panoramas as a window on present times, reinventing dimensions, climate change

**Biographies:** Adrienne Quarles van Ufford is a Dutch art historian. She studied Art History at Amsterdam University and achieved a Postdoc degree at the School of Journalism, Utrecht. She is Head of Collection and Exhibitions at Museum Panorama Mesdag, Den Haag since 2021 and curator of the exhibition Ulrike Heydenreich. *Longing for the distance*. Email, [aquarlesvanufford@panorama-mesdag.nl](mailto:aquarlesvanufford@panorama-mesdag.nl)

Ulrike Heydenreich lives and works in Düsseldorf, Germany. She studied at the famous Bauhaus-Universität in Weimar and also at the School of Visual Arts in New York, among others. Her work has been exhibited in Germany, The Netherlands, Belgium, Austria, Spain, America and Japan. *Longing for the distance* at Museum Panorama Mesdag in Den Haag was her first survey exhibition at an art museum. Email, [ulrike.heydenreich@gmail.com](mailto:ulrike.heydenreich@gmail.com)

### **The Memories of Objects: From Lenses to Panorama History**

Luca Vascon, VR artist, photographer, and video maker, Venice, Italy

**Abstract:** How a camera collector looking for some rare and forgotten lens stumbles over some Panorama history missing pieces. Collectors are strange beings, moved by passion and curiosity, they are avid learners of any information that concerns their fixation and they want to know more than simply the nude facts, they want all the microhistories connected. My line of collection, or, with the proper terms. “My own obsession” is non-rectilinear lenses and optical systems. Meaning primarily fisheye lenses, but including all the ones that defy the now common rules of renaissance perspective, all exposed in <https://www.thefisheylens.com>. I’m actually looking into some prototypes and elusive lenses histories, but in the last two years of researches I’ve seen few solved mysteries, I’d say two, and the lines of two fascinating lenses ended in a precise place in Panorama history, both connecting to the name of Ernst Heiniger, the inventor of Swissorama. I’ll try to explain, with real life examples I recreated myself, how the two systems were supposed to work and make a comparison with previous and actual technologies.

**Keywords:** Cinema, photography, technology, Cineorama, Circarama

**Biography:** I’m a 360VR artist, photographer and video maker, but I’m also a camera and photographic collector. I started at the end of 1990 with the very beginning of the digital VR pioneering era. I felt it was a natural move to research Panorama history in order to look for answers about the media’s nature, languages and possibilities. My attitude is to make or adapt my own tools in order to achieve the result that I want, being them cameras, special heads, new techniques, approaches, languages. At first working as multimedia lab teacher in IUAV university of Venice, then as co-founder and CEO of the visual services company “Officine Panottiche”, then as a self-employed, I took part in major cultural and educational projects in Italy and abroad. A pioneer of digital panoramic photography, I have a thorough knowledge of the technology (hardware and software) related to interactive imaging, high-resolution photo and video, navigable videos and time-lapses, and have developed an extensive network in that particular community through years of active involvement. Fields of expertise: Analogical and digital photography: HDR techniques, high-resolution gigapixel images, documentary, scientific, scale models, studio photography, geological and architectural surveys. Interaction design: VR photography and video, immersive reality, interaction design for cultural heritage, photogrammetry. Education, research and development. Email, [luca.vascon@gmail.com](mailto:luca.vascon@gmail.com)

## Session VI | Panorama du Congo

### The Afterlife of the Panorama du Congo (1913): Decolonial Curation of Imperial Panoramas

Victor Flores, Lusófona University, Lisbon, Portugal, and Leen Engelen, LUCA School of Arts / KU Leuven, Belgium

**Abstract:** The fabrication and manipulation of history and memory were the primary objectives of most imperialist panoramas. Due to their unsettling messages, many of these sophisticated propaganda machines have since disappeared into oblivion, either consigned to storage or lost altogether. The retrieval and digital remediation of these panoramas can serve as a timely political gesture, raising awareness among contemporary audiences and sparking discussions on similar contemporary discourses. This presentation will argue that despite the loss or unavailability of imperial panoramas, their substantial persuasive power can still be harnessed to dismantle their original narratives and encourage critical inquiry. To this end, the diverse array of surviving archival materials and their rich material history—including advertisements, handbills, illustrated keys, pamphlets, and guidebooks—will play a pivotal role.

The digitization and virtual recreation of the Panorama of Congo (Congo VR, 2023), a Belgian colonial Panorama from 1913 by Alfred Bastien and Paul Mathieu, contribute to the critical examination of such propaganda mechanisms. This presentation will draw upon both virtual and physical artistic restagings of the Panorama of Congo, created for its first critical exhibition at the National Museum of Natural History and Science (February–June 2024). The absence of the original Panorama, now relegated to storage due to its poor condition, was not a disadvantage. Rather, it allowed us to digitally entangle and weave the painting with its historical contexts of violence and oppression. Firstly, akin to how historical illustrated keys and guidebooks instructed viewers to scrutinize details and interpret the all-embracing image, our project employed sound narratives and specific scenographic techniques to redirect the gaze and reorganize the knowledge about what is seen in Virtual Reality. Secondly, the curation of a scaled installation (15 meters) of the Panorama, accompanied by a decolonial soundscape and contemporary voices, served to evoke the violence (conspicuously absent in the original painting) and stimulate the viewer's imagination and critical engagement, thereby thwarting the Panorama's original objective of rendering violence in Congo unimaginable.

**Keywords:** Panorama of Congo, virtual reality, decolonial curation, imperial panoramas

**Biographies:** Victor Flores is a media researcher, professor and curator whose work foregrounds understudied immersive media heritage through archive research and recent technologies such as Virtual Reality. He is an Associate Professor at Lusófona in Lisbon and is the head of the PhD Program in Media Arts and Communication. As a principal researcher at CICANT, he coordinates the Early Visual Media Lab (<https://earlymedialab.ulusofona.pt/>) and is the co-PI of the research projects *Curiositas: Peeping Before Virtual Reality* (FCT) and *Decolonising the Panorama of Congo: A Virtual Heritage Artistic Research* (FilmEU RIT-H2020). He

is the founder and editor-in-chief of the International Conference and Journal on Stereo & Immersive Media (<https://revistas.ulusofona.pt/index.php/stereo/issue/archive>). His publications include books and articles on immersive media. He is the curator of the Catalogue Raisonné of Carlos Relvas's Stereoscopic Photography. (<https://carlosrelvascatalogue.pt>). Email, [victor.flores@lusofona.pt](mailto:victor.flores@lusofona.pt)

Leen Engelen is a professor of film-and media history at LUCA School of Arts/KU Leuven in Belgium. She published widely on film, media and visual culture in the nineteenth and twentieth century, including immersive media such as panoramas and the Kaiserpanorama. An overview of her publications can be found here: <https://www.kuleuven.be/wieiswie/en/person/LeenEngelen>. She is currently Principal Investigator (with Victor Flores) of the research project CongoVR. Decolonising the Panorama of Congo: A Virtual Heritage Artistic Research (FilmEU RIT-H2020). Leen is an honorary academic at the School of History (University of Kent) and is currently the president of the International Association for Media and History ([www.iamhist.net](http://www.iamhist.net)). Email, [leen.engelen@luca-arts.be](mailto:leen.engelen@luca-arts.be)

### **Congo VR: A Panoptical Dissidence**

Ana David Mendes, Lusófona University, Lisbon, Portugal, and Wim Forceville, Luca School of Arts, Ghent, Belgium.

**Abstract:** The *Panorama du Congo*, an early immersive media, has been retrieved from archives and museums where its memory was fading and absent (Congo VR 2022). It is crucial to safeguard this historical media artifact in the current digital transition times. This presentation will showcase a VR experience designed to question this imperialist dispositive through contemporary artistic practices. The creation of a virtual environment named “Panoptical Dissidence” decentered the vantage point and brought voices that were absent in this visual narrative. This approach was built on Experimental Media Archaeology and Artistic Research methodologies undertaken by CONGO VR to contribute to the decolonization of this mass propaganda medium. This was accomplished with a process of co-creation and co-curation with five artists from the Congolese diaspora, bringing their analogue artistic works to a VR environment. This required the curation and placement of performances, oral narratives, sculptures, installations and videos on the *faux terrain* according to the different scenes of the painting and to the planned VR interaction. The development team used full body motion-capture, 3D-character animation, VR game technology, spatial sound, photogrammetry(3D-scan), hand gestures to integrate 2 performative choreographies, a video-essay, an interactive sculpture, audio poems and an interactive art mini-game. Secondly, this presentation will draw upon the virtual recreation of this forgotten *faux terrain* through information fragments collected in archive materials and materialized with virtual set design. This was a heuristic process to study the lighting, the structure of the rotunda, the height of the central platform and the shape of the canopy. Most importantly, it allowed viewers to be transformed into decolonial actors by stepping into this scenography and participating in new counter-narratives. A VR headset with this critical installation will be available during the conference to collect feedback from IPC experts.

**Keywords:** Decolonisation, VRexperience, art, deconstructing propaganda, Congo

**Biographies:** Wim Forceville is a researcher & lecturer at Luca, School of Arts, Ghent, Belgium. In his research project Cohackreality, he develops proof of concepts where he uses XR as a design & educational tool. One output is the award-winning collaborative AR-game *Babelar*. He teaches immersive film & arts. Besides this he runs an artistic practice wuwao.be as an “interdependent” producer/maker of immersive art & films. He likes to use creative technology that takes the viewer beyond the delusion of the day. He is the producer & DOP of multi-award winning “Kinshasa Now” an interactive cinematic VR fiction film in Congo, Kinshasa Now by Marc-Henri Wajnberg. Creative technologist of Glad that I came, not sorry to depart, an award-winning VR piece with poems by Omar Khayyam by Belgo-Iranian artist Azam Mazoumsadeh. He is a producer and conceptual designer of “WILDING,” a poetic interactive listening performance that invites you to get lost and wander in the Bergmolenbos in Roeselare. He is the producer of Table Dialogues, a collection of five intimate, immersive participatory performances. Table Dialogues is a project that unites extended reality, interactive theater, and visual art. He is a producer and Director of Photography of Cinematic VR experience “Antigone in Molenbeek”. Artistic research & design development Coordinator of Kongo VR and Panoptical Dissidence. Email, wim.forceville@luca-arts.be

Ana David Mendes is a Ph.D. candidate in Contemporary Art at University of Coimbra. She is specialized in Museology. Recently she received a PhD Research Scholarship through CICANT (Centre for Research in Applied Communication, Culture, and New Technologies) for the project *Curiositas: Peeping Before Virtual Reality. A Media Archaeology of Immersion Through VR and Iberian Cosmorama*s.” She has been coordinator and artistic curator of BAG- Municipal Gallery of Contemporary Art, since 2018. Co-founder of m|i|mo (Museum of the Moving Image) in 1996, she was its scientific and artistic coordinator until 2017. Since 1999 she has developed several innovative exhibitions such as the interactive project *Oficina do Olhar* [The Eye Workshop], created in 2010, and that exemplifies her passion in mediating museum collection contents through new technologies while at the same time enabling research and stimulating artistic and creative re-imaginings of artifacts. Since 2013 she has participated in three research projects of CICANT, related to stereoscopic photography coordinated by Victor Flores. She is currently co-investigator in the research project *The Amazing Optical Machine: Workshop/Rational Recreation/Exhibition*; coordinated by Rod Bantjes, from St. Francis Xavier University, Canada. Email, anadavidmendes@gmail.com

### **Illustrating a New Memory: Panorama Key and Virtual Tour for the Exhibition “Panorama of Congo”**

Chiara Masiero Sgrinzatto, Independent Artist, Venice, Italy

**Abstract:** Interpreting and reimagining artworks is a way to explore their essence, reconsider them through a different lens, and also to preserve their memory. This talk presents two immersive illustrated works based on the Panorama of Congo, painted by Alfred Bastien and Paul Mathieu for the Belgian Colonial Exposition in 1913. The Panorama Key and Virtual Tour presented here were developed for the research project Congo VR and its first critical exhibition, “Panorama of Congo.” The National Museum of Natural History and Science in Lisbon will host an exhibition titled “Unrolling the Past with Virtual Reality” from February to June 2024. The Panorama Key and Virtual Tour combine artistry and technology to take audiences on a captivating journey through history and imagination.

The Panorama Key translates the panorama painting into a detailed and easily accessible graphic illustration, available as a large wall print or digital menu for the VR experience. Particular attention was given to the rendering of the scenes depicted in the foreground and the environments depicted in the background. The Virtual Tour accompanies visitors through the environments and showcased content, serving as a bridge between the past, present, and future. Its main goal is to transport the public to the exhibition before its physical construction and to preserve the memory of the exhibition after its closing, allowing more people to enjoy it.

The process of creating the virtual tour will be explained in detail. This will include analyzing the available material to determine how each element could be incorporated into spherical illustrations. The challenge of illustrating a space that I had never physically visited and about which I had little information was faced using a simple but tricky drawing method. Digital handmade drawing and collage techniques were used to highlight the showcased content while subtly conveying the environment, ensuring a seamless user experience. The Virtual Tour of the exhibition is not available to the public at the moment, but it is possible to experience it on computer, smart devices, HDMs at the following link: [https://superkiro.s3.eu-west-3.amazonaws.com/test/2311\\_panocongo/index.html](https://superkiro.s3.eu-west-3.amazonaws.com/test/2311_panocongo/index.html). The key is visible on the first panorama.

**Keywords:** Spherical drawing, panorama key, virtual tour, VR experience

**Biography:** Chiara is a visual designer based in Venice, Italy. Architect specializing in Visual Arts, her work is focused on the representation of environments through immersive hand-made drawing. She has been working in the VR industry for over a decade, creating photo, video, and illustrated 360° content for clients and institutions worldwide, including the European Union, La Biennale di Venezia, the Italian Ministry of Culture, the Venice World Expo Committee, the Guggenheim Collection, Ricoh Japan and *faux terrain*, and The World War II Foundation. She also collaborates with panoramic photography manufacturers on equipment beta-testing, and with specialized software houses on the design of immersive interfaces. She is doing a joint Ph.D. in Digital Media Arts between the Algarve and Aberta Universities in Portugal. Email, chiara.kiro@gmail.com

## Session VII | Immersive Media and Panoramas

### The Panorama of Rio de Janeiro by Victor Meirelles and Henri Langerock: Part 7—360° Historical Experiences of City Memories by Game Engines

Thiago Leitão de Souza, Universidade Federal do Rio de Janeiro, Brazil

**Abstract:** This essay is related to the ongoing research project “The immersive experience in 360°: investigation, representation and digital immersion in the city of Rio de Janeiro in the nineteenth and twentieth centuries”, developed at PROURB-FAU-UFRJ, Rio de Janeiro, Brazil. The present work is a continuous investigation of the Unity Game Engine presented respectively from 27th to 32nd IPC Conferences. The Panorama of Rio

de Janeiro realized by the Brazilian painter Victor Meirelles and by the Belgian photographer and painter Henri Langerock was exhibited three times: Brussels in 1888, Paris in 1889, and in Rio de Janeiro in 1891. According to the official's painters reports and visitors notes the three presentations created significant marks and memories in the inhabitants of the three cities. Belgians, French, and Brazilians celebrated the exhibitions and enjoyed the 360° experience with the great splendor and beauty of Rio de Janeiro in 1885.

But how were the historical experiences in these three different moments? Do they have any in common or any singularity? Brussels, Paris and Rio had the same architecture to host a 360° immersive experience of the same panorama? How was the impact in these exhibition sites caused by the Panorama of Rio de Janeiro? And also, what kind of memories were developed and created in their citizens due its exhibitions? What kinds of histories were created due to its memories?

This paper proposal will investigate 360° immersive experiences through the different three cities and its exhibitions developed in The Panorama of Rio de Janeiro by Victor Meirelles and Henri Langerock Unity Game Engine. The experiences established in previous essays will be improved. In order to achieve this, several digital and analogical systems of representations will be applied: computer graphics techniques, 3D models, 3D renderings, sketches, Virtual Reality, and programming codes will be also investigated.

**Keywords:** Panorama of Rio de Janeiro, Victor Meirelles, Henri Langerock, game engines, virtual reality

**Biography:** Thiago Leitão de Souza is PhD Professor at Faculdade de Arquitetura e Urbanismo in Universidade Federal do Rio de Janeiro, Brazil. Holds an undergraduate degree in Architecture and Urbanism (FAU-UFRJ, 2006), Master of Science in Arts (PROURB-FAU-UFRJ in Rio de Janeiro, co-realized at Sint-Lucas Architectuur, Hogeschool voor Wetenschap & Kunst, Brussels, 2009), and PhD (PROURB-FAU-UFRJ in Rio de Janeiro, 2014), a Post-PhD in Game Design in New York University in development (2024). Since graduation, Thiago Leitão's research areas include: panoramas and virtual reality; 3D models; panoramas and its history; panoramas of Rio de Janeiro; 360° experiences and its conversion to digital media. He is the Secretary-General of the International Panorama Council. Currently, he is the coordinator of the master course at PROURB-FAU-UFRJ. Email, leitao.thiago@fau.ufrj.br.

### **Ernst A. Heininger's SWISSORAMA: The World's First Seamless 360° Large-Format Film System (70mm)**

Lukas Pèiccolin and Thomas Schärer, independent researchers, Zürich, Switzerland

**Abstract:** On July 2nd 1984 the Swissorama, a new 360° projection system, opened at the Swiss Museum of Transport and Communication in Lucerne. After over a decade of research and experimentation Ernst A. Heininger finally presented the world's first large format seamless 360° film (70mm) within a special theater to the public. An audience of 400 people could experience the film "Impressions of Switzerland" free of distortion as a moving panorama on the circular screen, 5m high and 60m in length. The

theater had no seats and was about 20 m in diameter. Shows were held every hour and no extra admission was charged. Up to 1991 Swissorama was very popular among museum visitors, then attendance figures started to decrease constantly. After the last “farewell” shows, held on the 9th and 10th of March 2002, the Swissorama was removed and replaced by another exhibit.

Nevertheless in 16 years over 1.8 million people in about 20,000 shows saw Impressions of Switzerland. Although the Swissorama was a pioneering format and 3 more films were produced with the system until 1996, it was soon forgotten. This changed when the Fotostiftung Schweiz planned a retrospective of Heinigers photo as well as film works in June 2021. Thomas Schärer & Lukas Piccolin wanted to present a digital version of Impression of Switzerland at the exhibition—in collaboration with partners a solution for the task was developed and tested. Unfortunately the project could not be realized due to lack of financial funding.

In our presentation we give a brief history of the Swissorama system and its main characteristics, followed by the main steps of how to produce a VR version of a 70mm film. Last but not least we present the current project to contextualize its genesis with oral history.

**Keywords:** Swissorama, patented 360° film system in 70mm, technical history, oral history

**Biographies:** Lukas Piccolin is a freelance production manager for Swiss film productions and in the independent theater scene. He worked on film projects such as “Schellen Ursli” (2015) and “Zwingli” (2018) or on theater projects by Phil Hayes, Tim Zulauf, Michel Schröder and many others. For many years, he has cultivated his passion for circular paintings and circular projections and as member of the board of the association Pro Elisarion initiated the restoration project of the circular painting “Clearworld of the Blissful” on Monte Verita, Ticino. (Link: [www.elisarion.ch](http://www.elisarion.ch)). He knows the Swissorama cinema in the Museum of Transport in Lucerne from his childhood and began his research on the subject after a visit in 2003 when the Swissorama had already been closed. Email, [lukas.piccolin@bluewin.ch](mailto:lukas.piccolin@bluewin.ch)

Thomas Schärer has a PhD in history, film and cultural studies. Initiator and contributor to various (film) historical research and exhibition projects and author. Lecturer at the Zurich University of the Arts (film and media history, film and image analysis, academic writing), at the Universities of Basel (Department of Cultural Studies), Fribourg (Department of Contemporary History) and at the University of Bern (Economic, Social and Environmental History). His mother Lilian Schärer worked as a hostess on the SBB 360-degree film “All about wheels and rails” directed by Ernst A. Heiniger and shot with Disney’s Circarama system (9x 35mm) and still raves about the visual and social experience to this day. Thomas Schärer contributed to the rediscovery of this film and its digital re-screening. Email, [lukas.piccolin@bluewin.ch](mailto:lukas.piccolin@bluewin.ch)

## The Effects of Panorama 25 December’s Digital Spaces on Visitors

Murat Dağ and Hüseyin Ateş, Gaziantep Metropolitan Municipality, Turkey

**Abstract:** The concept of “Panorama,” created by the painter Robert Barker in 1792 by combining two Greek words meaning “all visible”, has become an important museological technique used in the construction of national culture through museums around the world. The circular exhibition space in the form of a two-story rotunda established by

the painter Robert Barker and his family in London's Leicester Square between 1793–1863 is considered to be the first attempt at a panorama museum in this sense, and this exhibition technique, which the Barkers pioneered by patenting it, also contributed to the establishment of nearly 30 panorama museums around the world. In this context, Turkey is very rich in terms of panorama museums. The panorama museums in Turkey make important contributions to the formation of national consciousness while telling various stages of Turkish history.

Among the panorama museums in Turkey, the largest panorama museum made with oil painting technique on canvas is the Panorama 25 December Gaziantep Defence Heroism Panorama and Museum built by Gaziantep Metropolitan Municipality. The museum covers the years of the National Struggle in terms of subject matter and tells the Antep Defence that took place between 1918–1921 in all its aspects. Built on an area of approximately 16 thousand m<sup>2</sup>, the museum includes 14 oil paintings by Russian artist Alexander Samsonov and his team, 3 dioramas and a unique panoramic area with a length of 122 meters and a height of 13 meters.

While the museum draws attention with these traditional features, it also makes extensive use of modern museological elements. The digital areas in the museum are inspired by real events in the light of documents. The most important of these is the declaration issued by the French commander to the people of Ayntab. In the declaration, the people of Ayntab were asked to tie white bands on their arms and thus the Turks were labeled. This incident is told in the museum in the digital area consisting of arms. The visitor interacts between the arms holding hands, holding the arms reserved only for him/her, and completes the unity with the heartbeat. In addition, there are digital areas in the museum that will provide different experiences for visitors. Animated areas and digital museum guides are a few examples of these.

**Keywords:** Gaziantep, panorama, digital, experience

**Biographies:** Murat Dağ was born in 1989 in Gaziantep. He graduated from the History Department. He received a master's degree in the same field. He continues his doctorate education in the field of History of the Republic of Turkey. Panorama 25 December Gaziantep Defence Heroism Panorama and took part in the installation and display arrangement of the Museum. He has published 4 books on Gaziantep defense. He has edited various books and has many articles. Dağ is working as the Branch Manager of Libraries and Museums in Gaziantep Metropolitan Municipality. Email, [muratdag@panorama25saralik.com](mailto:muratdag@panorama25saralik.com)

Hüseyin Ateş was born in 1987 in Gaziantep, he graduated from the Department of Office Management and Management Sciences with a degree. Then he completed the Faculty of Business Administration in 2011. In 2015, he completed his Master's Degree in Management and Organisation in the Department of Business Administration. He worked as Deputy Director of Culture, Directorate of Social Affairs, Libraries and Museums Branch Directorate for 12 years within the Department of Culture and Social Affairs of Gaziantep Metropolitan Municipality. He took part administratively in the establishment and display of Panorama 25 December Gaziantep Defence Heroism Panorama and Museum. In addition, he took part in the processes of 10 museums, 1 city archive and 5 Children's Libraries from installation to operation. He has articles and thesis studies on Libraries and Museums. His academic studies continue at Istanbul University, Department of

Museum Management. He is currently working at the Directorate of Culture and Tourism. Email, [muratdag@panorama25aralik.com](mailto:муратдаг@панорама25аралик.ком)

### **Sacred Spaces of New England: Cultural Heritage and the Panorama**

Seth Thompson, American University of Sharjah, United Arab Emirates

**Abstract:** The Sacred Spaces of New England project ([seththompson.info/sacredspacesne/](http://seththompson.info/sacredspacesne/)) is my ongoing effort to document religious and spiritual gathering spaces—both historical and contemporary—within the New England region through 360° panoramic imaging. This is the science, art, and practice of creating interactive and navigable immersive 360° screen-based images, which usually depict a place or event. The use of 360° panoramic photography is integral to this project, as it captures a gathering space in its totality.

While I was initially drawn to New England's sacred spaces for their spiritual significance and beauty, my quest also endeavors to better understand the complex history of religion in New England by learning about the churches, temples, synagogues, mosques, and other spaces that have made people's lives richer through communal gatherings and shared beliefs and experiences. While some of these places are strongly embedded within their communities, others are at risk of closing or have already closed. Drawing from my recently published book, *Sacred Spaces of New England: Cultural Heritage and the Panorama*, my presentation will introduce and contextualize the Sacred Spaces of New England project by defining 360° panoramic imaging and situating it within a historical and technical context; introduce the Sacred Spaces of New England project and discuss its value and significance; and root my 360° panoramic photography's two-dimensional geometric image projections—known as stereographic images—of sacred spaces into an artistic tradition.

**Keywords:** Digital Heritage, 360° Panoramic imaging, panorama, stereographic projections, New England

**Biography:** Seth Thompson is an associate professor in the Department of Art and Design at the American University of Sharjah, specializing in 360° panoramic imaging and its history. His research interests and practice primarily focus on the interpretation and representation of visual culture and heritage using panoramic imaging and hypermedia systems. Media art history with special emphasis on the panorama and stereoscope plays an integral role in this theoretical and practice-based investigation. Thompson is an Advisory Board member and former President (2017–2020) of the International Panorama Council and a member of the International Art Critics Association. He has lived and worked in the United Arab Emirates since 2006. Email, [sthompson@aus.edu](mailto:sthompson@aus.edu)

### **Unveiling the Past with Photogrammetry: A Study of Static and Dynamic Projects—Panorama Raclawicka and Stave Churches**

Karolina Wójtowicz, visual and architectural designer, Wrocław, Poland, and Wojciech Drzeński, Wrocław University of Technology, Wrocław, Poland

**Abstract:** Photogrammetry is a fundamental technique in modern geospatial analysis and 3D modeling, offering a sophisticated approach to capturing and reconstructing real-world environments with unparalleled accuracy and detail. In this presentation, we delve into the intricacies of photogrammetry, focusing on its application to the renowned Panorama Raclawicka in Wrocław, Poland. The process involves several key steps, including image preprocessing, camera calibration, feature matching, bundle adjustment, and surface reconstruction, all of which are essential for refining the accuracy and fidelity of the final output. However, photogrammetry extends beyond mere modeling; it serves as a gateway to understanding the object's form, techniques, and historical context. Leveraging innovative tools like the Unreal Game Engine, photogrammetric models can be transformed into educational applications that elucidate painting styles, conservation efforts, historical events such as the depicted battle and preserve memories. This presentation explores two implementation pathways: static virtual tours and interactive applications, drawing inspiration from successful projects like the Panorama Raclawicka Photogrammetry and Application and Virtual Tours of the Stave Churches in Norway.

Moreover, these methodologies offer the flexibility to incorporate diverse forms of documentation from digital archives or collections, enriching the narrative with historical insights and contemporary perspectives. By bridging the past and present, photogrammetry enables the capture of both historical events and current realities within historic environments, utilizing modern technology to engage audiences of all ages and backgrounds worldwide.

In essence, photogrammetry transcends traditional boundaries, serving as a powerful tool for spatial documentation, historical preservation, and educational outreach. Through this presentation, we aim to illuminate the transformative potential of photogrammetric techniques in bridging the gap between past and present, while fostering global understanding and appreciation for cultural heritage and historical significance.

**Keywords:** Photogrammetry, virtual reality, 3D models, cultural heritage, virtual tours

**Biographies:** M.Sc. Engineer in Architecture Karolina Wójtowicz is Visual and Architectural Designer holding a degree in Architecture and Urban Planning from the University of Technology in Wrocław, Poland. Her professional journey commenced with designing a new building for the panorama painting of the Battle of Murten as part of my diploma project. Through immersion in architectural studios and international firms, I cultivated expertise in design, 3D modeling, and 2D graphics. Transitioning from interior design to receiving a 2017 grant, she had embarked on creating a Virtual Project for the Church of Peace in Świdnica, Poland. This encompassed conducting a comprehensive computer survey, developing a detailed 3D model, and crafting a Virtual Tour compatible with the Oculus Quest platform. Subsequently, she dedicated nearly two years at the University of Technology to creating 3D printed Tactile Maps for visually impaired students, while also spearheading the development of tactile map standards across universities. Funded research endeavors led her to Norway to study stave churches and explore their digital preservation methods. Presently, as a freelance designer, she specializes in corporate branding and 3D projects, including the meticulous modeling of the altar in Kamieniec Żąbkowski, Poland, and the development of engaging Virtual Reality Projects. Email, karawojtowicz@gmail.com

MSc. Eng. Wojciech Drzewiński has experience in the IT industry, (AI, AR,VR, Cybersecurity, Photogrammetry, 3D digitization) Chief Technology Officer at Feyenally (Telemedics and AI specialist), Director of Department of Control in UKE (Office of Electronic Communication) employee of the Wrocław University of Technology, head of Knowledge Sharing at the Wrocław University of Technology in the Active Information Platform project e-scienceplus.pl (acronym AZON) and in the AZON 2.0 project (main digitizer and specialist in 3D digitization–laser scanning, scanning with structural LED light), manager responsible for the preparation of materials (typhlomaps and teaching aids) and navigation elements for people with disabilities at the Wrocław University of Technology in the “Politechnika Nowych Szans” project, manager and coordinator of the Laboratory Team at the Wrocław Network and Supercomputing Center, including the “3D Academy Laboratory”, head of the “Cybersecurity for the Economy of the Future” project at the Faculty of Electronics of the Wrocław University of Technology, lecturer in the field of Multimedia Services and tariffication and cybersecurity. In addition, he was the president of the Piqua company dealing with digitization using the photogrammetry method and advanced solutions for people with disabilities. Co-creator of the project of the Virtual Church of Peace in Świdnica and co-creator of the photogrammetry model of Panorama Raławicka. Email, Wojciech.drzewinski@gmail.com.

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## 7 Reviews



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This section invites reviews of recent books, exhibitions, events, performances, archives, products, and other artifacts of and about panoramic and/or immersive experience.

### **Section Editors**

Molly C. Briggs, Panoramic and Immersive Media Studies Yearbook, Germany; International Panorama Council, Switzerland; School of Art & Design, University of Illinois at Urbana-Champaign, United States

Thorsten Logge, Panoramic and Immersive Media Studies Yearbook, Germany; Professor of Public History, University of Hamburg, Faculty of Humanities, Department of History, Hamburg, Germany

Nicholas C. Lowe, Panoramic and Immersive Media Studies Yearbook, Germany; Outreach Committee Chair, International Panorama Council, Switzerland; John H. Bryan Chair of Historic Preservation, School of the Art Institute of Chicago, United States



Victor Flores, Linda King

## Interview—Exposing Contrasts: A Conversation With Matthew G. Stanard on the *Panorama of Congo* and Belgian Colonial Propaganda

The role of some Panoramas as propaganda tools is often unclear. This is particularly evident when Panoramas substitute military or battle scenes with depictions of serene natural landscapes. The beauty of a landscape is not always regarded as a political instrument or part of a power narrative. Nevertheless, landscape views can be quite persuasive by implying ownership and control while upholding national pride. The *Panorama of Congo* (1913) is one such case. This enormous painting (115 × 14 metres) was painted between 1911 and 1913 by Belgian painters Paul Mathieu (1872–1932) and Alfred Bastien (1873–1955), and commissioned by the Belgian Ministry of Colonies for the 1913 International Exposition in Ghent, Belgium.<sup>1</sup> It comprises eight scenes including several of Matadi, the rainforest—which was some 1500 kilometres away from that village—and Kinshasa. Although they are presented in one continuous visual narrative, these scenes are not geographically accurate in relation to each other. In Ghent the Panorama was seen by almost 250,000 people and it was subsequently displayed at the World's Fair in Brussels in 1935. The *Panorama of Congo* served to encourage young Belgians to commit to the colonial project although the vast majority of Belgians would never visit the African territory. The Panorama showcased the Belgian investment in public works in the Congo, and such “modernisation” was understood to be in contrast with traditional African culture. This idealised image of the Congo masked the twenty-three years of brutality during the so-called Congo Free State (1885–1908), the colonial state of the Belgian king Leopold II which had been revealed and condemned

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1 The full painting can be explored here <https://conGOPanorama.filmeu.eu/>

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**Victor Flores**, Early Visual Media Lab—Centre for Research in Applied Communication, Culture, and New Technologies (CICANT), Lusófona University, Lisbon, Portugal, and the Centre of Excellence in Immersive Media Heritage (ImHERIT), FilmEU+ ERASMUS-EDU-2023-EUR-UNIV Project: 101124314.

**Linda King**, Thought Lab Research Group— IADT, Institute of Art, Design and Technology (IADT), Dublin, Ireland, and the Centre of Excellence in Immersive Media Heritage (ImHERIT), FilmEU+ ERASMUS-EDU-2023-EUR-UNIV Project: 101124314.

worldwide. During this time, Leopold II never set foot in the region. In 1908, the Belgian government took direct control of the region, thus paving the way for Belgian colonial rule which continued until 1960. The very fact that the painting was hidden from the public from 1935 has obfuscated its role in the propaganda campaigns developed by the Belgian government after the handover of the Congo to Belgium by Leopold II in 1908.

In early 2024, Matthew G. Stanard was invited to visit and respond to the exhibition *Panorama of Congo: Unrolling the Past with Virtual Reality*. The exhibition had been running at the National Museum of Natural History and Science, Lisbon, since February (Fig. 1). It arose from research conducted through *Congo VR*, a project developed in FilmEU—the European Universities Alliance for Film and Media Arts. *Congo VR* was realised with the collaboration of over twenty researchers from Lusófona University; LUCA School of Arts, Belgium; and the Institute of Art, Design and Technology (IADT), Dublin, Ireland. The project located, photographed, digitised and analysed this infamous piece of Belgian colonial propaganda which had been hidden from public scrutiny for almost ninety years. The exhibition *Panorama of Congo—Unrolling the Past with Virtual Reality* built on decolonial approaches developed in exhibition spaces over the past two decades and served as a curatorial response to challenge and disrupt colonial propaganda and violence. Rather than reviving the historical iconography of horror once used to expose the violence in the Congo Free State, the exhibition deliberately excluded such imagery, which



**Fig. 1:** Detail of the entrance to the exhibition *Panorama of Congo: Unrolling the Past with Virtual Reality*, at the National Museum of Natural History and Science, Lisbon, featuring the orientation plan by Chiara Sgrinzatto (February, 2024). Image, © Oleksandr Lyashchenko.

had already been widely circulated in recent historiographies and showcased in numerous museums and galleries. Instead, it explored alternative ways of representing violence, employing technical and semiotic strategies to reinterpret the *Panorama of Congo* (Flores et al. 2025). The inability to display the original *Panorama*—for preservation and logistical reasons—created an opportunity to reimagine its public presentation and redefine its meaning through the VR and non-VR installations curated for this exhibition.

The exhibition reconstructed the *Panorama of Congo* in analogue (1:8 ratio) and digital formats. The digital format comprised two VR experiences where the audience could choose to either view and hear an overlay of an extended historical narrative, or experience a series of artworks embedded in the Panorama, specially-commissioned from Congolese artists and artists from the Congolese diaspora. *Panorama of Congo: Unrolling the Past with Virtual Reality* was co-curated by Professor Victor Flores and Ana David Mendes (Lusófona University, Lisbon), Professor Leen Engelen (LUCA School of Art, Belgium) and Professor Linda King (Institute of Art, Design and Technology, Dublin). The *Congo VR* project and resulting exhibition proved to be particularly timely as across the globe, museums and cultural institutions are engaging (or being forced to engage) in attempts to decolonise their collections, and many governments have made (and continue to make) reparations for atrocities committed in the name of colonisation.

On June 5, 2024, Stanard was interviewed by Flores and King. An edited transcript of their conversation is presented here (Fig. 2). Stanard also gave a public talk in the exhibition space exploring how his research aligns with *Panorama of the Congo: Unrolling the Past with Virtual Reality*, and a lively debate followed between Stanard, Flores, King and members of the audience.



**Fig. 2:** Matthew G. Stanard at the exhibition *Panorama of Congo: Unrolling the Past with Virtual Reality*, the National Museum of Natural History and Science, Lisbon (June, 2014). Image, © Oleksandr Lyashchenko.

**Victor Flores**—How did you first become interested in Belgian colonial propaganda?

**Matthew G. Stanard**—I became interested in the history of Belgian colonialism and colonial propaganda in a roundabout way. I started graduate school at Indiana University in 1999. I went there to study with Bill Cohen, who was an expert in French colonialism, especially in West Africa (Alter, 2003). I lived in Belgium for a few years when I was a kid. I did not intend to go to graduate school to study Belgian colonialism, but I returned to it through a seminar paper. I took a course with my advisor, Cohen, on modern European imperialism and I landed on the subject of the 1958 Brussels World's Fair. A lot had been written about French universal expositions and colonial propaganda and a lot had been written about British colonial exhibits such as the World's Fairs. Still, almost nothing had been written about Belgium and Belgian World's Fairs. The 1958 World's Fair in Brussels was just fascinating: it had a vast Congo section, including a so-called "village indigène" or a "native village" where they brought Congolese artisans in from the Congo to be displayed as a human zoo. I could not believe that this had happened in 1958. It sparked my interest and I turned this seminar paper into an article. This sort of ballooned into an entire dissertation and eventually a book on Belgian colonial propaganda.

**VF**—In your work, you explore the visual culture of the Congo Free State: how important was that imagery during Leopold's rule?

**MGS**—In the visual imagery that emerged during the period of Leopoldian rule in the Congo from 1885 to 1908, a large volume of imagery emerged in Belgium and was of great significance. There was global visual imagery that emerged as well and a big reason for this is because of the atrocities that occurred in the Congo under Leopold's rule. It's just eye-watering to think about the horrific things that occurred in the Congo under Leopold. It provoked at the time—around the turn of the twentieth century—an anti-Leopold campaign. One way that this campaign worked to try and end Leopold II's rule in the Congo was by producing images that foreign audiences could pretty easily consume, that is audiences in the United States and Britain and France and other countries. That demonstrated, in visual form, the horrific things that were being perpetrated against the Congolese under Leopold's watch.

So, you get lantern slide shows and have all kinds of publications with photographs reproduced in them. Drawings and political cartoons also emerged in different publications. In visual form, they drove home to audiences—in a very direct way—what was going on in the Congo. At the same time, Leopold went on his own counteroffensive and produced his own pro-Congo Free State propaganda. A lot of it was produced by front organisations that he had organised himself and paid for, or they were produced by journalists, authors, and photographers whom he paid to go to the Congo or to write material about the Congo Free State.

And so in the first decade of the twentieth century, there's really two different visual narratives that emerge, sort of competing visual narratives: one that is anti-Leopoldian

and one that is pro-Leopoldian and pro-Congo Free State. Both use a lot of images to try to make their points. One emphasised the atrocities perpetrated by the Belgian authorities in the Congo, and the pro-Leopold propaganda tries to demonstrate that Leopold in the Congo Free State had brought civilisation to Central Africa and was doing all sorts of “good” things, building roads and railways and bringing commerce to Central Africa. It was almost like a war, a war of visual imagery that led to a proliferation of images, and these images played a central role in the campaign against Leopold. This campaign was eventually successful in forcing Leopold to turn the Congo Free State over to Belgium. This occurred in 1908.

**VF**—The *Panorama of Congo* belonged to a new era of Belgium’s rule (1908–1960). However, it re-uses the same tropes as Leopold’s visual propaganda of some years before (1885–1908). Is there any significant difference in the propaganda of these two periods?

**MGS**—There are not many differences. In the pro-Leopoldian or Congo Free State campaign of the late 1890s and the early 1900s, we can see contrasts between supposed African “backwardness” and “advanced” European civilisation, and you see that again in photographs. In the *Panorama of Congo* very direct contrasts are sometimes drawn by juxtaposing two photographs [details of the painting] next to each other in publications and guidebooks. We also see this strategy after 1908 and it continued throughout the colonial period until 1960. So, in that sense, this drawing of contrasts between a supposed African backwardness and a supposed European advanced civilization that you see across the colonial era was striking, as the Belgian state period continued after 1908 into the 1920s and the 1930s.

A striking difference is that Leopold II emerges as the focal point for much of the Belgian state’s propaganda, and this is quite an irony: he becomes a hero. He became this “prescient colonial genius” who had the foresight to secure this massive African territory and then bequeath it to Belgium. Leopold II goes from a sort of zero to hero after he died in 1909. He had been little loved by the Belgian people, but by the 1920s and 1930s, he had begun to be rehabilitated. By the 1950s, towards the end of the colonial period, Leopold II is arguably at the centre of most colonial propaganda in Belgium. He was essentially rehabilitated, and this, again, is a striking irony because it had been his misrule in the Congo in the first place that had led to Belgium taking over the Congo in 1908. There’s a fundamental irony in this.

Another, maybe not a continuous theme that runs through propaganda across the two periods, but something that is evident again and again in the visual culture emerging from this propaganda, is the image of the “dangerous Arab slaver”. This is an image that was used repeatedly during the Leopoldian era to justify intervention in the Congo and demonstrate that Leopold had control over the territory. This message was repeated and sustained through much, if not all, of the Belgian colonial period, in statuary and publications. Consequently, this almost becomes a trope: the “dangerous predatory Arab Swahili slave trader”.

The most significant difference that you see emerging in the imagery produced in colonial propaganda really [develops] after World War I, and that's where Leopold II himself emerges as a major focus of colonial propaganda. There's a great irony here, of course, because Leopold II's misrule in the Congo led to Belgium becoming a colonial power from 1908. Then he turned it [the Congo Free State] over to Belgium. He had bequeathed it to his country as a gift. I think the main reason that Leopold has become such a central figure is because Belgium had not been a colonial power before the late 1800s and it wasn't formally a colonial power until 1908. Therefore, it had no colonial tradition, unlike the other major colonial powers—the Portuguese and the Dutch, the British and the French. As Belgians were trying to root their contemporaneous empire from the 1920s through to the 1950s and trying to assert its legitimacy, the foundational era for Belgium became the Leopoldian period. And so in this way Leopold II becomes this central founding figure upon which the Belgians could base the legitimacy of their continued colonial control over the Congo.

**VF**—In your book *Selling the Congo*, you analyse the exhibitions as one primary form of propaganda. The *Panorama of Congo* was featured in the International Exposition in Ghent in 1913, five years after the colony was transferred to the Belgians, as you just mentioned. How do you think this panorama contributed to the distancing of the Belgian government from Leopoldian rule?

**MGS**—In 1913, the *Ghent International Exhibition* was significant. The colony of the Congo had been a Belgian colony, formally speaking, for five years by then. It's important to remember that it would continue to be a Belgian colony until 1960. [From 1908–1913] Belgian control over the Congo was much more tenuous; it was almost an open question. Therefore, in 1913 the *Panorama of Congo* allowed Belgians to show themselves to the world that they were a legitimate colonial power. To put this in concrete terms, one of the leading, probably the leading, organisations that fought against Leopoldian rule in the Congo, the *Congo Reform Association*—headed by E.D. Morel, the Franco-British activist—played a significant role in pressuring Leopold to turn the colony over to Belgium in 1908. However, that doesn't mean that they [CRA] ceased their work in 1908. They finally disbanded in 1913, the same year as the International Exhibition in Ghent. Great Britain did not recognise the Congo as “Belgian” until that same year.

This means that for five years, the leading power in Europe—indeed the leading imperial power in the world, Great Britain—didn't even recognise Belgium as a legitimate power in the Congo because it was an open question. Does Belgium intend to make changes? Will it conduct “reforms” there? Will it be able to maintain control over this massive territory? Therefore, to present the *Panorama of Congo* at this major World's Fair, where millions of people could be expected to visit Ghent—and in the end, nearly 250,000 people visited the Colonial Pavilion—was an excellent opportunity for the Belgian colonial authorities to show off the “progress” they had already achieved and suggest that the “reforms” they had begun enacting in 1908 had already achieved

results. In this sense, displaying the *Panorama of Congo* at the 1913 World's Fair was a significant moment in legitimising Belgian colonial rule.

**VF**—You mentioned the *Panorama of Congo* in your book, *Selling the Congo*. How well-known was this Panorama at the time of publication?

**MGS**—It wasn't that well known to me. When the book came out, I had read about it and seen images, but I had not seen it myself until I could come here and view the exhibit in Lisbon (Fig. 3). It was known [by reputation], but not much academic research had been done about it. I think there were many bits and pieces in different archives, in different places here and there, mentioning it and discussing and talking about some of the imagery. There were some reproductions of parts of the Panorama to be found on postcards [for example], but it wasn't well known. It certainly wasn't known as the monumental production it clearly is. I had seen imagery from it, but I did not realise until now how detailed it was, how incredibly rich it is as a document, how colourful it is, and just how enormous and impressive it is as a piece of art and as a production.



**Fig. 3:** Detail of the to-scale recreation of the *Panorama of Congo* (1913) during the opening of the exhibition *Panorama of Congo: Unrolling the Past with Virtual Reality*. Image, © Tomas Vandecasteele (2024).

**VF**—It's hard to believe how such a large image fell into oblivion?

**MGS**—It is. It's incredible, the biographer of Bastien and Mathieu, who wrote their biographies for the *Biographie Coloniale Belge*—J.M. Jadot—in his brief biographies of both artists, he asserted that the Panorama had actually been destroyed. He believed that this had happened during World War II when Germany occupied Belgium, and now it turns out that it had been damaged during that time, but it wasn't destroyed. So, he was an expert on Belgian colonial affairs, writing about these two artists in the 1950s and 1960s, and he did not know that the Panorama existed at the time. It is an amazing story.

**Linda King**—In your book *Selling the Congo*, you mentioned that the *Panorama of Congo* was a “lesson of contrasts” and “simplistic ones.” Could you elaborate on that point?

**MGS**—At a basic level, what the Panorama does is that it juxtaposes supposedly advanced European technology and European “civilisation” with African “backwardness”. And it does this at several different points. For example, you will see the European buildings at Matadi, next to what's depicted as a traditional African market, held out in open air (Fig. 4). At another point in the Panorama, there is, in the distance, an iron overpass bridge, clearly of European construction. You can even see a plume



**Fig. 4:** Alfred Bastien (Belgian, 1873–1955) and Paul Mathieu (Belgian, 1872–1932). Detail of the painting *Panorama of Congo* (1913) depicting an African market in Matadi. Image and © the War Heritage Institute, Brussels and Lusofona University / Luca School of Arts. Photographers, Rodrigo Peixoto, Tomas Vandecasteele, Lennert Deprettere, José Fadolla and Oleksandr Lyashchenko.



**Fig. 5:** Alfred Bastien (Belgian, 1873–1955) and Paul Mathieu (Belgian, 1872–1932). Detail of the *Panorama of Congo* (1913) with the Pic Cambier and M’Pozo rapids in the background. Image and © the War Heritage Institute, Brussels and Lusofona University / Luca School of Arts. Photographers, Rodrigo Peixoto, Tomas Vandecasteele, Lennert Deprettere, José Fadolla and Oleksandr Lyashchenko.

of smoke or steam near the iron bridge, indicating that a train is passing or about to pass over it (Fig. 5) that is a sign of European progress and advancement, a piece of infrastructure that Europeans have achieved and built in the Congo. Right in the foreground, just in front of it, you see Africans travelling in a traditional way [barefoot and with canoes], crossing the river on foot. In 1913 these contrasts would have jumped right out at audiences. Spectators would have recognised several different places in the Panorama, such as European-built steamships, bridges, buildings, and roads under construction. They would have recognised those immediately and been familiar with them including the look of the steamships and buildings. Then they would have seen other figures and scenarios representative of African scenes which would have been completely unfamiliar to them because very few Belgians travelled to the Congo at any point during the colonial era. This use of contrast [of European and African images] continued throughout the colonial period until 1960 when the Congo gained its independence. Like many other European colonial powers, Belgians resorted to this use of contrasts to drive home to audiences that they were bringing advanced technology and “civilisation” to Africa or wherever the colonies were. This contrast and demonstration of European advancement was intended to justify European colonialism and a European overseas empire.

**LK**—You often mention that the images of atrocities perpetrated by the Belgian authorities in the Congo initiated a photographic offensive against Leopold II. However, you also point out that such “atrocities photographs” were not anti-colonial per se as they did not question European rule. Considering this viewpoint, should we be more cautious and reflective about the frequent use of such images in exhibitions and publications?

**MGS**—“Atrocities photographs” ought to be used carefully. When you show such photos there is the risk that you might be inviting the viewer into some strange kind of voyeurism around violence. We should be sensitive to the fact that these are real people in these images. These aren’t just pictures that exist on paper. They have to be used cautiously for a couple of reasons. The first is because they weren’t anti-colonial images, strictly speaking, they weren’t images that were produced and disseminated to bring an end to colonialism and overseas imperialism. The activists that produced them were members of the Congo Reform Association; missionaries and others circulated them denouncing Leopold and his rule, so they were anti-Leopoldian, but not anti-colonial. Most of these people, producing these photographs and circulating them, lived in the Western world and were citizens of countries that were themselves empires. And so they weren’t strictly calling for the end of colonialism, they were trying to bring about an end to Leopold’s rule. So, you must frame them carefully because we don’t want to interpret them as strictly anti-colonial images.

We should also keep in mind that a lot of those images were staged. This doesn’t mean that they’re not valuable, that they shouldn’t be looked at or studied, not at all. But it’s important to keep in mind that a lot of viewers would not have known this. So, for example, one of the often-repeated atrocities in the Congo was the severing of people’s hands. I’m sure many people are familiar with these terrible images. If you look at them carefully, you’ll note that many of the victims are photographed wearing something white or wrapped in some white cloth. This is to highlight the fact that one of their extremities has been severed, so it’s a staged photograph. There’s a famous photograph of the use of *la chicotte*, a terrible hippopotamus-hide whip that was often used to punish people in the Congo: it was dried in such a way that it had this corkscrew tip that could inflict terrible damage on the human body. There’s a famous photograph that was produced to denounce that practice and it shows a couple of Africans standing over another African who’s lying on the ground and who is going to be punished. We now know from research that that photograph was staged. It was not an actual scene that was unfolding or photographed on the fly. This is something that also needs to be considered when viewing, displaying, and trying to interpret these photographs.

**LK**—How does Belgian propaganda differ from that of other European empires? You mentioned previously that Britain and France also had colonial interests in Africa. So, what’s the difference between the propaganda output of those countries and Belgium?

**MGS**—There are a lot of similarities: the use of contrasts and stressing the exoticism of colonial locations and, of course, an attempt to legitimise empires, but there are some

fundamental differences. The Congo had been handed over to Belgium in 1908 and after World War I there was a particular focus in Belgium on Leopold II. He emerges as a central figure in colonial propaganda. If you look at all the different overseas colonial empires that Europeans ruled over including Germany, Great Britain, France, Spain, Portugal, Italy, in addition to the United States, there is no other single figure who emerges in any one of those countries who could rival the dominance of Leopold II within colonial propaganda in Belgium. Another distinct difference between Belgian colonial propaganda and that of other colonial empires, is that it was overwhelmingly and almost completely focused on a single colony: the Congo. This didn't necessarily have to be the case because after World War I, Belgium acquired—not strictly speaking, as colonies, but as League of Nations mandates—the territories of Rwanda and Burundi, which were formerly part of German East Africa [from 1891 to 1919]. In the Paris peace settlement of 1919, Belgium took over Rwanda and Burundi, but these countries never featured significantly in Belgian colonial propaganda. So, the fact that Belgian propaganda was overwhelmingly focused on just one single colony, the Congo, also sets it apart from the other colonial empires.

**LK**—Your research shows that Europe's colonial knowledge is shaped by colonial propaganda. But, it seems that—in the context of contemporary efforts of decolonisation—there's a lot of emphasis on museums with specific African collections and less emphasis on imperial propaganda [more broadly]. Would you agree?

**MGS**—I think that there has been a significant and heavy emphasis on decolonising the museum and decolonising collections, but I think there has also been focus on other areas including the legacies of colonial propaganda. In some areas, colonial propaganda disappeared, at least in the Belgian case with the end of formal colonisation. For example, there wasn't a huge amount of attention given to the Congo in history textbooks during the colonial era. After 1960, colonial history almost fell off the map in history textbooks. That's not to say that there isn't something that endures, because there is: a very positive image of Leopold II, for example. The generally positive view of Belgian colonialism remains in the textbooks but becomes a much more muted presence. However, there were many different media remnants and legacies of colonial propaganda and some attention has been paid to these, including imperialistic advertising or advertising with some sort of imperialistic theme to it.

Museums have come under particular scrutiny in the past ten or fifteen years for a number of reasons. One reason is because there is now an example that can be followed, namely the restitution of looted art in Europe that was stolen by the Nazis during World War II, in particular Jewish artwork or Jewish holdings. This began earlier than the more recent focus on colonialist museums or ethnographic collections. In that sense, people today, looking at these colonialist or ethnographic museums with collections of African objects, can look back at what has been achieved in the restitution of looted and stolen artwork after World War II and say that this is something that can be done again, or there's a model that can be followed. Another reason why collections are of a

particular focus now is because museums have material things that can be returned. The very presence of these objects from Africa in, for example, one of Belgium's most prominent museums, the African Museum in Tervuren, ensures that the public can see these objects taken from the Congo and consider how they were taken through the use or the threat of force. That makes this a key issue today: the very material nature of these things means that you can actually do something about them.

**LK**—You mentioned the Africa Museum in Tervuren. How do you think it [the *Panorama of Congo*] will be received in Belgium, as opposed to how it has been received in Portugal?

**MGS**—It will be received well. I have seen the VR exhibit and it is fantastic that's one reason I think it will be well-received. As a production, it is exceptionally well done and engaging. Audiences will be eager to check it out. Another reason I think it will be well received is the recent changes in Belgium's cultural and social landscape. If you go back twenty or thirty years this may have been different. Today, we are in the third decade of the twenty-first century and there have been a number of great books published on the Congo and its history. Today, Belgians are much more aware of the darker sides of their colonial past. There's also been generational change. Many older former colonials have, at this point, passed away and so there are generations who are just no longer with us, who in the past might have been inclined or were inclined to try to put the best face forward on Belgian colonial history, if not outright in the suppression of certain narratives about the Belgian colonial past.

A younger generation in Belgium has grown up without knowing anything about the colony. They are completely un-implicated in any colonial affairs and they're much more willing to confront some tough questions and difficult issues from their past. Part of the younger generation in Belgium, part of this changed social landscape, is that many more people of Congolese descent live in Belgium today. The number of Congolese was historically very low in Belgium, considering the colonial connection with the Congo. It was not until the late 1990s that the number of people of Congolese descent, who are either Congolese living in Belgium or Belgians of Congolese descent, shot up. Now, there are tens of thousands comprising a very large Congolese community in Belgium. Traditionally, Congolese people in Belgium lived rather precarious existences and many of them lived in Belgium only briefly and then travelled back to the Congo. Now, many more of these people, who are permanent residents, are citizens of Belgium. They have much more stable existences and are in a better position to raise questions about the past. To have this growing community in the country also means that the country is more open to questioning its colonial past. For that reason, the *Panorama* and [the accompanying] VR exhibit will be well received [in Belgium].

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## Author Biographies

**Victor Flores** is an Associate Professor and Head of the PhD Programme in Media Art and Communication at Lusófona University in Lisbon. He coordinates the Early Visual Media Lab at the research centre CICANT and the Centre of Excellence in Immersive Media Heritage at FilmEU European University. He is the founder and principal editor of the *International Journal on Stereo & Immersive Media*. He serves as the principal investigator for the research project *Curiositas: Peeping before Virtual Reality* (FCT). From 2023 to 2024, he was the principal investigator (with Leen Engelen) of the research project *Congo VR. Decolonising the Panorama of Congo: Virtual Heritage Artistic Research* (FilmEU RIT - H2020). Since 2024, Victor Flores has been a member of the executive board of the International Panorama Council.

**Linda King** is an Associate Professor at the Institute of Art, Design and Technology, Dublin. She is a cultural historian specialising in interdisciplinary research that is frequently public-facing, collaborative, and typically combines historical, theoretical and practice-based concerns. She has published and broadcast widely on design and visual culture in the context of decolonisation and national identity, including the book *Ireland, Design and Visual Culture: Negotiating Modernity, 1922–1992* (2011) as co-editor and subject specialist. Linda sat on the Board of the National Museum of Ireland (2018–23) and remains as an expert advisor to the organisation. She is a member of the Historical Studies Committee of the Royal Irish Academy and has been a consultant for several Government of Ireland departments. She was a senior researcher on *Congo VR, Decolonising the Panorama of Congo: Virtual Heritage Artistic Research* (FilmEU RIT - H2020). She is a member of AICA (the International Association of Art Critics) and coordinates the Centre of Excellence in Immersive Media Heritage at FilmEU European University.

**Matthew G. Stanard** serves as a Professor of History at Berry College in Mount Berry, Georgia, USA. His area of expertise lies in modern European History, particularly in imperialism, colonialism, and nationalism, with a specific focus on Belgian colonialism in the Congo. He has published extensively on these topics, including *Selling the Congo: A History of European Pro-Empire Propaganda and the Making of Belgian Imperialism* (2011, University of Nebraska Press); *European Overseas Imperialism, 1879–1999: A Short History* (2018, Wiley); *The Leopard, the Lion, and the Cock: Colonial Memories and Monuments in Belgium* (2019, Leuven University Press); and most recently, *Decolonising Europe? Popular Responses to the End of Empire*, which he co-edited with Berny Sèbe (2020, Routledge). Stanard has also held fellowships at the Wolfsonian-Florida International University in Miami Beach, Florida, and the Belgian American Educational Foundation in Brussels. Currently, he presides over the French Colonial Historical Society (FCHS).



Gabriele Koller

## Book Review—*The Panorama of the Battle of Racławice and its Two Counterparts* by Ryszard Wójtowicz

By Ryszard Wójtowicz, Wrocław: Museum of Architecture in Wrocław, 2024, 458 pages, 281 illustrations, ISBN 978-83-65730-29-9 (English version)

**Keywords:** 360-degree panorama, conservation, restoration, reconstruction, revitalization

Panoramas are more than just paintings. They combine architecture, painting, lighting, and stage design to create a magic synthesis, in which all parts are interrelated. Consequently, the illusion of a panorama—the main goal of the art form—only works when all parts are complete.

While in their time most panoramas used to travel from one venue to the next to be exhibited to new visitors, the few panoramas that survive are now protected monuments, rare witnesses of a once-powerful media art form. The German term “*Rieserundgemälde*” (gigantic circular paintings) which was often used for panoramas in the late nineteenth century, aptly describes their special character. Saving these historic colossi and preserving them for the future represents a major challenge.


Today, the few surviving panoramas from the heyday of panoramas are in different conditions. While the *Jerusalem Panorama* in Altötting (Germany), the *Mesdag Panorama* in The Hague (Netherlands), and the *Battle of Waterloo Panorama* in Braine l’Alleud (Belgium) have been preserved almost unchanged in their historical settings, other panoramas have been deprived of their original buildings and *faux terrains*. Of some panoramas only fragments exist, kept in museums, or stored elsewhere.

The reconstruction of panoramas in their original appearance is an enormous undertaking that requires not only great financial effort, but also specific knowledge of the art form and careful planning that can extend over several years.

In his book, which is an expanded version of his doctoral thesis Ryszard Wójtowicz describes three major panorama restoration projects in which he was involved as a leading restorer, spanning around 30 years of his career. Through the knowledge he has gained during this time, he is one of the most experienced panorama restorers today. The three projects concern the *Battle of Racławice Panorama* (1894) in Wrocław, Poland; the *Fesztly Panorama* (1894) in Ópusztaszer, Hungary; and the *Battle of Gettysburg Cyclorama* (1884) in Gettysburg, Pennsylvania, United States.

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**Gabriele Koller**, Jerusalem Panorama Foundation, Altötting, Germany; Heritage Committee, International Panorama Council, Switzerland.

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The introductory section of the book starts with the author's reflections on the history and nature of the panorama, followed by a discussion of the terms of conservation, restoration, reconstruction, and realization as defined by international and national charters for the conservation and restoration of monuments and historic sites. The chapters on the three restoration projects are preceded by in-depth analyses in the fields of panorama research, restoration methods, and restoration concepts. The author also examines the technical construction of panoramas and their buildings and provides an overview of important panorama restoration campaigns since the 1960s. In addition, he outlines an operational framework for an international technical group to address the needs of panorama conservation and maintenance.

For the three projects which are described in the book, the history of the creation, past restorations and current condition of each panorama were closely examined before an approach to restoration was developed. In a long process that comprises conservation, restoration, and reconstruction, the aim of each project was to bring an historical panorama back to life.



**Fig. 1:** Ryszard Wójtowicz, testing canvas samples of the Battle of Raclawice Panorama, 1983. Image, Jerzy Ilkosz.

The restoration of the *Battle of Raclawice Panorama* in Wrocław, Poland, was the earliest project in which Wójtowicz was involved (Fig. 1). Jerzy Ilkosz, director of the Museum of Architecture in Wrocław from 2000 to 2022, who accompanied the process, outlines the political background to the restoration campaign of the *Battle of Raclawice Panorama*

and its significance for Poland in his foreword to the book. The panorama, created by the two Polish panorama painters Jan Styka (1858–1925) and Wojciech Kossak (1856–1942) depicts the victorious battle of Raclawice, which was fought on April 4, 1794 under the leadership of Tadeusz Kościuszko against Russian troops. It was opened in Lviv in 1894 to mark the 100th anniversary of the battle. In 1896 it was shown briefly in Budapest, from where it soon returned to Lviv. At the end of Second World War, the panorama was badly damaged when a bomb hit the building in which it was on display. When Lviv was incorporated into the Soviet Union after the end of the war, the remaining parts of the panorama canvas were transported to Wrocław, in accordance with an agreement between Poland and Russia that provided for the return of Polish cultural artifacts to Poland. Despite several attempts to conserve the painting and reopen the panorama, it took another 40 years for this dream to come true. In 1980, the Solidarity Movement caused by an upheaval in Polish society, opened a window of opportunity for the realization of the project and led to the resumption of conservation work, which eventually gave rise to its successful completion and the reopening of the panorama in 1984 (Figs. 2, 3). The experience gained through this restoration formed the basis for the subsequent restoration of the *Feszy Panorama* and the *Battle of Gettysburg Cyclorama*.



**Fig. 2:** The *Battle of Raclawice Panorama* during the process of joining its parts into a whole, 1983. Image, Ryszard Wójtowicz.

Although all three panoramas were badly damaged, the condition of the *Feszy Panorama* was by far the worst. As a member of an international committee of experts



Fig. 3: Modern rotunda of the *Battle of Racławice Panorama*, Wrocław, Poland. Image, Gabriele Koller.

that oversaw the restoration of the *Feszty Panorama* between 1992 and its completion in 1995, I was fortunate enough to witness the long and complicated process of this project. The panorama was painted in 1892–94 by the Hungarian artist Árpád Feszty (1856–1914) and depicts the arrival of the first Hungarians in the great plain, not far from present-day Szeged. The panorama was opened in Budapest in 1896 to celebrate the millennium of the first Hungarian settlement. It was soon taken to London to be exhibited at the 1898 Universal Exhibition. After its return to Hungary, it was once again installed in Budapest. At the end of the Second World War, the panorama was badly damaged when a bomb hit the panorama rotunda. The building was demolished and the painting soon fell into decay. Only 40 percent of the once 15-meter-high and 120-meter-long painting remained. The pieces had to be restored and then the missing parts supplemented. The panorama was finally opened in August 1995, in the National Historical Memorial Park at Ópusztaszer in southern Hungary, near the site of the first Hungarian settlement (Figs. 4, 5).

The Feszty Panorama's successful restoration set a standard for recreating a panorama from fragments. This project was also future-oriented in another aspect: The meeting of several European panorama curators in Szeged, Hungary, in 1992, at which the restoration project of the *Feszty Panorama* was discussed, also marked the birth of the International Panorama Council, which would soon develop into the worldwide community of panorama experts that it remains today.

The project to restore the *Battle of Gettysburg Cyclorama* for Gettysburg, PA, United States, differed from the two restoration projects in Poland and Hungary in that it lasted just two years, from 2006 to 2008. The cyclorama was painted by the French painter Paul Dominique Philippoteaux (1846–1923). It is one of four versions he painted and is



**Fig. 4:** Arrival of the Hungarians, main scene of the *Feszty Panorama*, after restoration. Image, Gabriele Koller.



**Fig. 5:** Modern rotunda of the *Feszty Panorama*, National Historical Memorial Park, Ópusztaszer, Hungary. Image, Gabriele Koller.

the only one that survives. The cyclorama depicts one of the most important battles of the American Civil War, known as Pickett's Charge, which took place on July 3, 1863. It was opened to the public in Boston in December 1884. In 1891 it was exhibited briefly in Philadelphia and then stored in poor conditions for many years. In 1910 it was sold to a department store owner who exhibited it in various locations until 1913. From 1912 to 1962 it was on display in Gettysburg in a temporary building, and from 1962 again in Gettysburg in a newly built rotunda. By this time the damaged, truncated, and deformed painting barely resembled the original *Battle of Gettysburg Cyclorama*. It was through the mediation of the International Panorama Council that an American-Polish team of conservators started a collaboration and carried out the restoration. Today, the cyclorama is installed in a new rotunda that is part of the Museum and Visitor Center at Gettysburg National Military Park (Figs. 6, 7).



**Fig. 6:** Canvas of the *Battle of Gettysburg Cyclorama* during the restoration of paint losses in the sky area, 2008. Image, Ryszard Wójtowicz.

Despite the different starting positions, there are some aspects that all three panoramas have in common. All of them had lost the original rotundas in which they were exhibited. In all three cases, only parts of the original painted canvases have survived. And all of them lacked the original *faux terrain*, the three-dimensional foreground that leads the viewer's eye into the scene depicted on the canvas. So the task was not just to restore the surviving fragments, but to reconstruct all the elements of a panorama that



**Fig. 7:** Modern rotunda of the *Battle of Gettysburg Cyclorama*, Gettysburg National Military Park, Gettysburg, 2008. Image, Ryszard Wójtowicz.

are necessary to restore its overall illusionistic effect. Another important experience in all three projects was that it was not enough to simply sew the original parts of the canvas back together. When reconstructing a 360-degree panorama painting, the original hyperboloid shape of the canvas, which was created by hanging it in the rotunda, must also be restored (Fig. 8). Only then can a convincing result in terms of the original illusion be achieved.

What makes this publication particularly valuable is its broad yet in-depth approach to the subject of panorama conservation, which includes not only technical issues but also refers to cultural and historical contexts. The three restoration projects that are described in the book help a reader to understand the complexity of historical panoramas and provide the knowledge needed to preserve them for the future. The book is therefore an indispensable manual for restorers, conservators, and curators of historic panoramas and can serve as an aid for other panorama conservation projects. With its extended approach, the publication is also of significance for researchers, as it embeds the restoration projects in the history of the panorama.

The publication is available in English and Polish language. It is lavishly illustrated and includes an appendix with twenty sections mainly containing documents relating to the restoration processes. It concludes with an extensive bibliography and a very useful index.



**Fig. 8:** Hyperboloid shape of the canvas, back of the Battle of Raclawice Panorama, Wrocław, Poland. Image, Gabriele Koller.

## Author Biography

**Gabriele Koller** is an art historian, exhibition curator, author, and researcher with interests in media art history and cultural history. She has published on various aspects of panorama history. For the International Panorama Council (IPC) of which she is a member since its foundation she edited *The World of Panoramas: Ten Years of International Panorama Conferences* (2003), *The Panorama in the Old World and the New* (2010), and *More Than Meets the Eye: The Magic of the Panorama* (2019). She is a Co-Editor of the Restoration, Management and Field Reports section of the *Panoramic and Immersive Media Studies Yearbook* (De Gruyter, in association with IPC). She serves as Chair of the Heritage Committee and as Vice President of the International Panorama Council. She is a member of the Executive Board of the Jerusalem Panorama Foundation Altötting, Germany, and is the Panorama's Curator.

Blagovesta Momchedjikova

## Book Review—*Sacred Spaces of New England: Cultural Heritage and the Panorama* by Seth Thompson

By Seth Thompson, Rockland, Maine: Seth Thompson, 2024, 92 pages, 13 illustrations and 24 plates, ISBN 979-8-218-35861-7

**Keywords:** 360-degree photography, sacred spaces, stereographic projection, painted panoramas

At a time when faith continues to be a divisive force and even a reason to wage wars, media art historian Seth Thompson proposes an innovative way of seeing, documenting, and preserving sacred spaces in New England—through the technique of 360-degree panoramic photography coupled with geometric projection. His book, *Sacred Spaces of New England: Cultural Heritage and the Panorama*, which includes three academic essays about this ongoing project and twenty-four original stereographic projection plates of sacred spaces, is a contribution to the fields of cultural heritage production, digital imaging, and preservation. As such, the publication raises our awareness and appreciation of these special places, generating conversations among the diverse communities who frequent or simply view them.

For the project, Thompson, a native of Madison, Connecticut, journeys across towns in the six different states that comprise the Northeastern tip of the United States, known as “New England” (Maine, Massachusetts, Rhode Island, New Hampshire, Vermont, Connecticut), exploring over one hundred “sacred” spaces in the span of fifteen years. He uses the term “sacred” to describe religious and spiritual gathering sites—churches, mosques, temples, synagogues—which have played a significant role in their communities over time. Thompson discovers that many of these spaces are at risk: they have changed functions or ownership; some have closed down. He decides to view them through the lens of digital photography, in the hope of archiving their histories, both personal and communal.

Thompson takes artistic inspiration from the historic 360-degree painted panoramas—the all-encompassing, massive views of cityscapes, religious scenes, or historical battles often displayed in cylindrical buildings—rotundas. Patented by Robert Barker in eighteenth century England, these circular views immersed viewers in the view, as if they were a part of it. This illusion was achieved through the play with perspective: the central viewing platform distanced from and obscuring the top and bottom edges of the painting; the dramatic dark-to-light entrance to the viewing platform from a lower

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Blagovesta Momchedjikova, New York University, New York City, New York, United States

level; the life-size of the painting; and the natural lighting. Thompson builds on this legacy of immersive representation using digital photography, hence, the term 360-degree panoramic photography.

Namely, Thompson pictures the interior of each sacred space, empty of visitors, from a rotating digital camera placed at its center, capturing an uninterrupted view of the interior, in its totality, like a 360-degree painted panorama would, only this time it is digital. He then renders a two-dimensional geometric projection—a stereographic image—of it. The result is a lush, lotus-looking visualization, a spherical view as if peeled open from the top and laid flat on the paper. The “petals” show the uniqueness of the interior design: stained glass windows, decorated walls, chandeliers, or plain colors and simplicity, while the center, like a bulb, is rich with pews, or other sitting formations, bulging up. Before we know it, we are engulfed by the beauty of these intricate images and feel the power of their history (Fig. 1).



**Fig. 1:** Seth Thompson (American, b. 1967), Stereographic Projection of Transfiguration of Our Savior Greek Orthodox Church in Lowell, Massachusetts (Plate 15). *Sacred Spaces of New England: Cultural Heritage and the Panorama*, 2024. Image, Seth Thompson.

360-degree panoramic imaging thus becomes a form of celebration, remembrance, and preservation of sacred spaces for Thompson, as well as an opportunity to connect different geometrical traditions (Fig. 2). “Geometry and the sacred are often linked in most religions’ manifestation of art and architecture,” he writes, “such as churches, temples, mosques, and religious monuments, as well as in designated natural spaces” (Thompson 2024, 29). He references the late German art and media historian Hans Belting, who explores the intersection between Islamic and Western pictorial traditions in *Florence and Baghdad: Renaissance Art and Arab Science*. Both Belting and Thompson are fascinated by the distinctions as well as the connections between the two visual practices: represented and representational geometry.



**Fig. 2:** Seth Thompson (American, b. 1967), Stereographic Projection of Saint John's Episcopal Church in North Guilford, Connecticut, (Plate 3), in *Sacred Spaces of New England: Cultural Heritage and the Panorama*, 2024. Image, Seth Thompson.

Represented geometry or “geometric motifs,” explains Thompson, is what we encounter in Islamic visual art and philosophy while representational geometry or “applied linear perspective” is what we find in Western visual art and philosophy (Thompson 2024, 31). Unlike Western representational geometry, which is linked to “pictorial space,” Islamic

represented geometry is “an expression of the divine and the cosmos,” thus linked to mathematical patterns (Thompson 2024, 31). Thompson’s creative representations of three-dimensional sacred spaces onto two-dimensional surfaces combine both traditions: Western, by the 360-degree panoramic view; and Islamic, by the stereographic projection (itself achieved by following strict geometrical rules towards a certain final form) (Fig. 3).

Thompson hopes to create “interfaith dialogue using geometry” (Thompson 2024, 32); to foster exchange of views and ideas across sacred spaces and communities. As we look through his monumental and timely project, we realize that he is not only archiving, memorializing, resurrecting, or reimagining these special locations across New England; he is asking us to think more about our shared lives in and around similar spaces: we exist together more so than in isolation and we always have. Though each unique sacred space rendered by Thompson is a flat stereographic projection in the book, each robust, immersive design connects us to the next, uniting us in our human



**Fig. 3:** Seth Thompson (American, b. 1967), Stereographic Projection of Islamic Society of Boston Cultural Center in Roxbury, Massachusetts (Plate 6), in *Sacred Spaces of New England: Cultural Heritage and the Panorama*, 2024. Image, Seth Thompson.

desire to project our ideas and beliefs onto the built environment, gather in safe spaces with others like us, and find solace in spirituality (Fig. 4).

A QR code underneath each image plate in the book takes readers to a comprehensive website, <https://seththompson.info/sacredspacesne/>, where they can read the history of each sacred space, locate it on google maps, and engage in a 360-degree VR tour of it by sliding a finger on their phone screen or mounting their phone on a VR set. Over a hundred sacred spaces are already on the website and new spaces are periodically added.



**Fig. 4:** Seth Thompson (American, b. 1967), Stereographic Projection of First Presbyterian Church in Stamford, Connecticut (Figure 13), in *Sacred Spaces of New England: Cultural Heritage and the Panorama* 2024. Image, Seth Thompson.



Andrew J. Reading

## Exhibition Catalog Review—*On the Spot: Panoramic Gaze on Istanbul, A History*

Edited by Çiğdem Kafescioğlu, K. Mehmet Kentel, and M. Baha Tanman, Istanbul: Pera Museum, 2023, ISBN 978-605-71205-9-5

**Keywords:** Istanbul, Panoramic Gaze, On the Spot, exhibition, Pera Museum

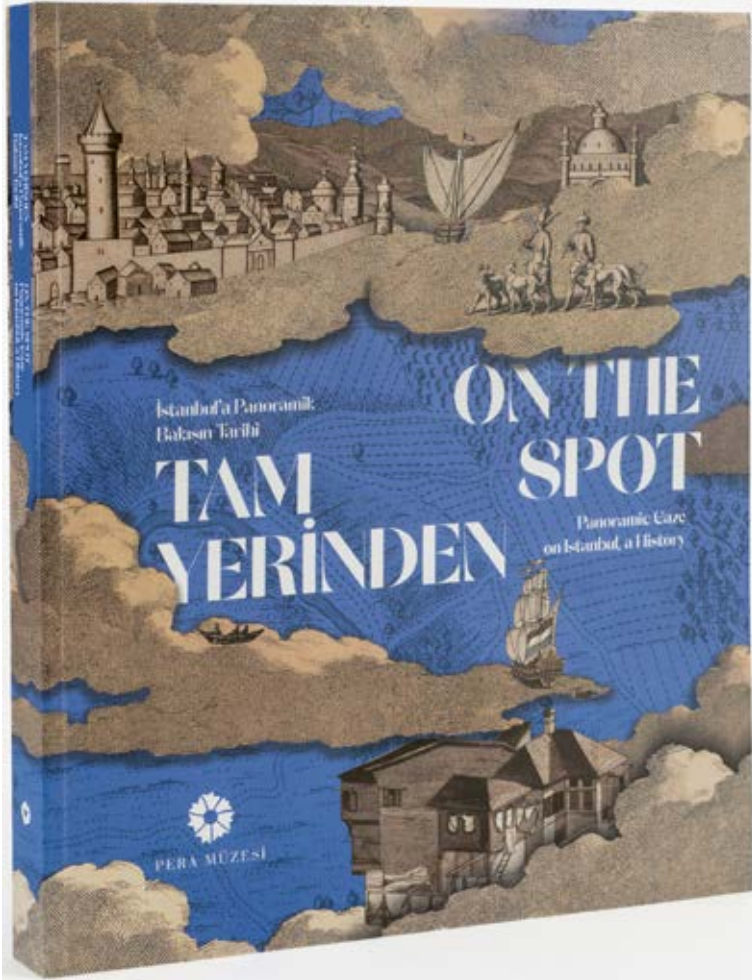


**Fig. 1:** On the Spot exhibition entrance at the Pera Museum, Istanbul, 2023. Image, Suna and İnan Kıraç Foundation Photography Department, Uğur Ataç, Engin Şengencer.

The long and rich history of the panorama as a unique visual medium is well documented and understood by scholars all over the world. What may be less well known to some is the important role the city of Istanbul played in the development and presentation of various panoramic displays for public engagement emerging in Europe around the turn of the nineteenth century. Opening in late 2023 and on view until August 2024, the curators at the Pera Museum in Istanbul presented a comprehensive exhibition to address and unpack this very subject (Fig. 1). The exhibition and accompanying catalog,

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**Andrew J. Reading**, Lake Forest, Illinois, United States



**Fig. 2:** Exhibition catalog front cover, *On the Spot: Panoramic Gaze on Istanbul, a History*, 2023. Image, Suna and İnan Kiraç Foundation Photography Department, Uğur Ataç, Engin Şengenc.

*On the Spot: Panoramic Gaze on Istanbul, a History*, not only places the city at the center of the story, but also reveals the significance of geopolitics in the Ottoman Empire at large and the way panoramic images were created and used to influence the opinions of both public audiences and foreign governments. Following the invention of large-scale panoramic viewing experiences by Robert Barker in 1792, Istanbul would find itself the subject of a new, dynamic, and ever-evolving artistic mode of representation that has impacted visual culture to this day. But the exhibition and catalog do not simply cover the meaningful impact of Barker's panorama as it relates to Istanbul and a wider European audience. Through the introduction, followed by a set of seven very well-researched and comprehensive essays, the catalog provides readers with a wealth of

information spanning the history of city views from the early modern era in the late fifteenth century, through the invention of photography and other mass-produced media in the nineteenth century, as well as panoramic painting and popular culture ephemera that continued to inform general audiences into the early twentieth century. The Pera Museum website states,

The exhibition aims to shed new light on the history of Istanbul's representations through panoramic paintings and photographs. It critically approaches the history of the "panorama" and contextualizes its many iterations. While examining the layered relationships in the production and consumption of panoramic images, the exhibition also explores the circulation of these images among different audiences, their receptions, and the connections between various media that have gained popularity over centuries. (Pera Museum 2024)

The catalog itself is a large format, beautifully designed, soft-cover book that is well researched and presents the subject with the highest standards of scholarship (Fig. 2). Its scale and weight align with the volume of research, imagery, and valuable information contained within, and along with the contemporary design, make it suitable for any discerning collector's coffee table. The cover presents an intriguing pastiche of panoramic imagery spanning the four centuries of history covered in the research and resulting essays. The elegant layering of antique sepia-toned images from multiple panoramas over a dark periwinkle background image taken from an older map of the area indicates to the reader a book full of historical content with relevance in contemporary visual culture. Inside, each essay is fully illustrated with multiple color images, as well as a catalog of more than seventy full color images and details. The presentation, layout, and print quality are praise-worthy and invite engagement from scholars and casual readers alike.

The essays each offer detailed investigations into different aspects of panoramic material related to Istanbul throughout history. Beginning with Erkki Huhtamo's "A Panoramic View of the Panorama," the reader is given an important general history of the panorama, citing its origins and evolution over time. This sets the stage for the succeeding essays which delve into more specific variants of the medium in chronological order leading up to the early twentieth century. Topics include how panoramic city views were made and why, including important geographical locations and architecture in and around Istanbul that were instrumental in the creation of such images; the use of urban city views as propaganda, particularly during the reign of Sultan Selim III at the turn of the nineteenth century; the impact of new technologies in the making of panoramas following urban disasters such as the Great Fire of Pera in 1870; and the use of panoramas in modern Ottoman painting which impacted the construction of a cultural identity of Istanbul in the late nineteenth and early twentieth centuries. Overall, the essays provide a detailed history of this important city as it appeared in panoramas of many forms and various views at a time when the world was changing rapidly around it.

In the introductory essay, the three curators share the genesis of this exhibition and catalog which ". . . began with a moment of shared astonishment." The moment being referenced was the joint investigation of a newly acquired 3.5-meter-long hand-drawn

panorama of Istanbul, which was laid out flat on a table for collective viewing. Through careful examination and continuous movement around the perimeter of the anonymous and undated artifact, the scholars would eventually discover that the drawing was intended to be viewed as a 360-degree panorama whose two sides could be joined to create a circular view of the city. This inspiring discovery on the part of the curators can be seen to represent an important aspect of all panoramic media and its immersive qualities that put viewers “on the spot,” usually high above the landscape, allowing for a unique perspective on the subject being presented. These distinct perspectives are what led to the emergence of panoramas as important viewing devices, political tools, and entertaining visual experiences for mass consumption. The *On the Spot* exhibition and catalog provide many useful insights for those interested in panoramic media and visual culture in general. By analyzing this case study of the panorama in relation specifically to Istanbul and over the course of three centuries, we can identify and evaluate the different forms and agendas that the medium employs to affect politics, civic identity, public opinion, and technology. This knowledge enriches current research by providing a broader perspective and creating connections between past and present creative practices. Fortunately for the readers of this catalog, the pocket on the back cover contains a scaled-down black and white reproduction (40 × 350 cm) of the anonymous view of Istanbul that was the impetus for this project (Fig. 3). Now dated to the early nineteenth century, the view drawn from the Galata Tower can be laid out by owners of the book to experience the same joy and wonderment that inspired the curators and authors of the exhibition and catalog.



**Fig. 3:** View of Istanbul reproduction (detail), Anonymous, early nineteenth century. Scanned by the author from a digitally printed reproduction of the original.

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## **8 Call for the 2025 Conference**



# The World at a Glance: Panoramic and Peep Technologies



The 34th International Panorama Council Conference, Hosted by the Early Visual Media Lab—CICANT and the Art History Institute, IHA, NOVA-FCSH/IN2PAST, At Lusófona University of Lisbon and Calouste Gulbenkian Foundation, Lisbon, Portugal | July 02–05, 2025

The International Panorama Council and Lusófona University Early Visual Media Lab and the Art History Institute (IHA, NOVA-FCSH/IN2PAST) organize the 2025 IPC conference in Lisbon under the theme “The World at a Glance. Panoramic and Peep Technologies.” This recasting of Robert Barker’s original title for his invention’s patent (1787), “Nature at a Glance” (in French, “La Nature à Coup d’ Oeil”), will explore the modern desire to experience the world visually through panoramic or peep technologies and to embark in virtual travels. Panoramas and panoramic imagery shared these early immersive experiences with (itinerant) peepshows, cosmoramas, and neoramas; and in the domestic space, zograscope, stereoscopic photography, graphoscopes and polyoramas, among others. These theatres of visuality were key achievements in art, education, and science, fostering visual curiosity and new skills of looking. Whether engaging a distant or a proximate gaze, requiring lenses or a specific vantage point on a viewing platform, these technologies made the world in all its aspects admirable and available at a glance. In addition to challenging the visual sensorium, panoramic and peep technologies often intersected and mobilized a synesthetic universe. By exploring their coexistence and intermediality, new light will be shed on the visual cultures and worldviews they promoted.

The conference will take place July 02–04, 2025, with an optional post-conference excursion on July 5, 2025.

Please direct queries related to IPC conference attendance to the IPC Secretariat, [secretariat@panoramacouncil.org](mailto:secretariat@panoramacouncil.org). For more information about the International Panorama Council and the Conference, please visit <http://panoramacouncil.org/>.



## IPC Mission

The word “panorama” is common in modern languages. However, this term was originally coined in the eighteenth century to describe a new, spectacular, and extraordinarily influential invention. A panorama—or cyclorama, as it has been called in some places and times—is a purpose-built architectural structure containing a large 360-degree painting that affords the visual and somatic illusion of standing in the middle of an actual place and/or event. Natural lighting from a cleverly concealed source enlivens the virtual experience. The panorama built upon earlier immersive interfaces such as the Eidophusikon, and in turn inspired a fascinating array of immersive and interactive interfaces including the Diorama, Cosmorama, Mareorama, Moving Panorama, etc. Numerous heritage panoramas survive to the present day, and new panoramas are being created in the twenty-first century.

The International Panorama Council (IPC) is an international non-governmental and not-for-profit association, subject to Swiss law, that supports the conservation and interpretation of heritage panoramas dating from the nineteenth and early twentieth centuries. It also promotes awareness of the broader panorama phenomenon, including its historic offshoots and current developments. IPC is active in the fields of panorama restoration, research, financing, exhibiting, marketing, and publishing. It promotes professional trusteeship and stimulates interdisciplinary discourse on historic and contemporary panoramas, moving panoramas, dioramas, and related ephemera, and related contemporary media including photography, film, video, and electronic VR interfaces. Throughout these efforts, IPC strives to connect the past, present and future of the panorama phenomenon worldwide.

## IPC Membership

The IPC is a unique international community of active and engaged scholars, artists, stewards, and audiences who share a commitment to panoramas, immersive media, and related ephemera. Highlights of our activity include the annual IPC conference and our annual publication, the *Panoramic and Immersive Media Studies Yearbook* (De Gruyter, Berlin). Membership also offers:

- Discounted registration fees for the annual IPC Conference
- Member pricing for the hardcover *Panoramic and Immersive Media Studies Yearbook*

- Priority placement in the *IPC Newsletter*
- Liaise with venerated international institutions
- Expand your professional network
- Consult with experts and specialists
- Direct access to extensive conversations, information and resources about panoramas and immersive media

We invite you to participate in our activities by joining as an individual or institutional member. IPC offers the following annual statutory IPC Membership levels. Membership rates are set by the IPC General Assembly (GA). The GA consists of the full IPC membership. The GA meets and votes annually on the final day of the IPC Conference.

75€	Individual
35€	Student (with copy of current student ID card)
125€	Sustaining Individual Membership (provides extra support for IPC's mission)
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To join, please visit the IPC website or <https://panoramacouncil.org/en/membership/> or scan the QR code below.





# Index

- 1893 *Chicago Columbian Exhibition*, see Exhibitions
- 3D 89, 154, 178, 205, 234, 265, 355, 358, 360, 362, 364, 370, 371, 375, 392, 406, 409, 414
- 3D modelling/models 231, 355, 357, 360, 362–364, 366, 368–370, 372, 373, 375, 409, 413, 414
- 360°, see Panoramas
- 360° *Projection*, see Projections
- 90 *Degrees South: With Scott to the Antarctic*, see film, documentary
- Adobe Fresco*, see Software
- Adobe Illustrator*, see Software
- Adobe Photoshop*, see Software
- African Slave Trade 24, 25
- Agathocleous, Tanya 48
- Albert I. (King of Belgium) 166
- Allegory of the Cave*, see Printed Matter and Print media, Books
- Alpers, Svetlana 93, 94, 97, 104
- Alpineum Museum*, Luzern, Switzerland, see Institutions, Museums
- Alps, The 180, 269, 297, 333
- Alting van Geusau, Sylvia 264
- Altötting, Germany 137, 264, 266, 275, 276, 378, 388, 333, 440
- American Anti-Slavery Society*, see Institutions, Societies and Associations
- American Civil War*, see War
- Amsterdam, North Holland, The Netherlands 311, 317, 400, 414
- Anamorphosis 311, 317–320, 400
- Anaximander (Anaximandros, Greek Philosopher) 84
- Ancient Art*, see Art
- Anthropocene 56, 70, 81, 87, 84, 86
- Apol, Louis 293, 294
- Architectural Survey 364, 372, 404
- Architecture 7, 94, 97, 98, 154, 162, 186, 202, 221, 231, 232, 235, 237, 245, 356, 358, 363, 364, 375, 402, 409, 413, 433, 444, 443, 449
- Arctic 62, 72, 265, 289, 290–304, 396, 397, 299–302, 306, 307, 308, 378, 393
- Art
- Ancient 195
  - Arts and Crafts 238, 239, 241
  - Audiovisual 154
  - Contemporary XII, 165, 169, 295, 386, 406, 407
- Artificial Intelligence 231, 355, 391
- Artificial Light(ing) 143, 398
- Art Institute of Chicago*, Chicago, USA, see Institutions
- Arts and Crafts*, see Art
- Association for the Preservation of the Bourbaki Panorama*, Luzern, Switzerland, see Institutions, Societies and Associations
- Astronomy 82, 83, 88, 90
- Atkins, Anne 43
- Atrocity Photographs 428
- Atwater, California, USA 238
- Atwood Celestial Sphere*, see Panoramas, Globe
- Atwood, Wallace W. 91
- Audiovisual Art*, see Art
- Audubon Bird Centre (National Audubon Society)*, USA, see Institutions
- Augmented Reality (AR) 226, 243, 271, 355, 357, 382, 391, 393
- Austen, Edward James 182
- Automobiles 282
- Azorean Islands, Portugal 48
- Backlot 201–203, 208
- Baloji, Sammy 169, 170
- Balustrade 48, 147, 150, 169, 398
- Banvard, John 13, 22
- Barker, Henry Aston 300
- Barker, Robert 154, 264, 300, 388, 400, 411, 441, 448, 453
- Barthes, Roland 43
- Bastien, Alfred 138, 165, 169, 171–173, 335, 405, 407, 419, 426, 427
- Batchelder, Ernest 241
- Batchelder House 241
- Baths of Caracalla 216
- Battle of Lisaine 139
- Battle of Raclawice 157, 434
- Battlestar Galactica*, see Film, Shows
- Battle for Lookout Mountain, The*, see Panoramas, Cyclorama
- Battle of Atlanta, The*, see Panoramas, Cyclorama
- Battle of Chattanooga, The*, see Panoramas, Cyclorama
- Battle of Gettysburg, The*, see Panoramas, Cyclorama

- Battle of Missionary Bridge, The*, see Panoramas, Cyclorama
- Battle of Sedan, The*, see Panoramas, Cyclorama
- Battle of Shiloh, The*, see Panoramas, Cyclorama
- Battle of the Meuse, The*, see Panoramas, Diorama
- Battle of the Yser, The*, see Panoramas, Cyclorama
- Bauersfeld, Walter 82, 86
- Beijing, China 95, 106–108
- Beijing Zhanwang*, see Panoramic Map of Peking
- China, a
- Belgian Colonial Exposition*, see Exhibitions
- Belgian National War Veterans Association*, Brussels, Belgium, see Institutions, Societies and Associations
- Belgium Battlefield of Europe*, Brussels, Belgium, see Institutions, Network
- Belting, Hans 435
- Benjamin, Walter 43, 44, 51
- Bennet, William James 18, 19
- Berkeley, George 311, 321, 401
- Berner, José Badia 306
- Bernisches Historisches Museum*, Bern, Switzerland, see Institutions, Museums
- Bibb, Henry, see Printed Matter and Print Media, Books
- Bibliotheca Bodmeriana*, see Institutions, Museums
- Biconvex Lenses 319
- Biographie Coloniale Belge*, see Printed Matter and Print Media, Books
- Blender*, see Software
- Boer War*, see War
- Bonaparte, Napoleon I. (Emperor) 195
- Bonnier, Louis 86
- Boston Globe, The*, see Newspapers
- Boston, Massachusetts, USA 9–13, 15–17, 20, 22, 23, 28, 41, 70, 115, 159, 239, 399, 436, 444
- Boston Athenaeum*, see Institutions
- Boullée, Étienne-Louis 85
- Bourbaki, Charles Denis 139
- Bourbaki Panorama, The*, see Panoramas, Cycloramas
- Bourbaki Panorama Foundation, The*, see Institutions, Foundations
- Braine l'Alleud, Walloon Brabant, Belgium 275, 433
- Brienz, Lake 257
- Broadway 283
- Brook Farm, West Roxbury, Boston, Massachusetts, USA 12, 15, 22
- Brooklyn, New York, New York, USA 115, 223, 331
- Brown, Henry „Box“ 3, 7–13, 15–17, 20–28, 32
- Brunel, Isambard Kingdom 281
- Brussels, Belgium 165, 166, 169, 171, 175, 386, 409, 419, 422, 426, 427, 431
- Budapest, Hungary 156, 399, 435, 436
- Bulletin of the American Art-Union*, see Newspapers
- Bunri, Usami 97
- Buzzard Bay, Massachusetts, USA 38, 48, 71
- Cabinet of Curiosities*, see Wunderkammer
- California, USA 58, 59, 66, 163, 181, 201, 214, 217, 219–221, 239–241, 243, 244, 289, 297, 301, 302, 310, 379, 394, 400
- Camera Obscura 40, 313, 315, 320, 321, 388, 400
- Cameron, Edgar S. 183
- Campbell, Thomas 264, 265
- Canopy 137, 139, 144, 149, 151, 406
- Canvas 8, 9, 13, 17, 22, 24, 28, 32, 38, 40, 41, 48, 49, 51, 66, 70, 72, 105, 114, 115, 154, 155, 157, 159, 160, 172, 239, 251, 256, 257, 265, 274, 281, 283, 285, 300, 317, 321, 337, 339, 378, 389, 395, 411, 434, 435, 438, 440
- Carcavilla, Nicolàs 306
- Cartography 93, 94, 103, 298
- Castres, Edouard 140, 141
- Celestial Navigation 313, 320
- Celestial Space 81, 84, 91
- Cenotaph for Newton*, see Panoramas, Globes
- Chai, Ling 106
- Champaign Daily News, The*, see Newspapers
- Chaplin, Charlie 302–304
- Chapman, John Gatsby 29, 30, 31
- Chartres, Eure-et-Loir, France 239
- Chase, Charles A. 264, 281, 283–286, 378, 389, 390
- Chase Electric Sign Company of Chicago 285
- Chicago, Illinois, USA 85, 113, 114, 138, 177, 188, 189, 231, 235, 265, 267, 281, 284, 286, 289, 294, 296, 301, 296, 379, 389, 393, 401–403
- Chicago 00 Project, The*, see Exhibitions, Installations
- Chicago Historical Society*, see Institutions, Associations and Societies
- Chicago History Museum*, see Institutions, Museums
- Chicago Tribune, The*, see Newspapers
- Chicotte, la 428
- Chile 50, 51
- China 59, 65, 95, 105, 106, 171, 177
- Chincha Islands, Peru 53–58, 65,
- Church, Frederic 15

- Church of Peace 164, 355, 364, 369, 371, 375, 400, 413, 414
- Cinema 42, 82, 83, 87, 92, 154, 208, 271, 286, 301, 302, 305, 310, 382, 383, 391, 393, 394, 410
- City on fire*, see Exhibitions
- Claerbout, David 169, 170
- Claetz, Pieter 312
- Climbers, Industrial 139, 146, 149
- Clinchant, Justin 139, 140
- Cohn, Norman 306
- Coleman, Alice 241
- Collins, C. H. 183
- Collective Memory 231
- Colonial 53, 58–60, 64, 81, 82, 86, 87, 170, 289, 292, 297, 299, 308, 335, 393, 407, 419, 420, 423, 430
- Anti 428
  - Authority 87
  - Colonization // Colonizers
  - Decolonial (Decolonization // Decolonizing) 267, 380, 405, 406
  - Exploration 292
  - Mindset 82
  - Narrative 267
  - Nostalgia 170
  - Propaganda 419, 420, 422, 424, 429
  - Territories 53
- Color 95, 97, 102, 145, 146, 150, 182, 284, 394, 337, 442, 449
- Watercolor 46, 72
- Columbia, Nancy 289, 296, 297, 301, 393
- Coolies 66
- Commune 22
- Communist Party of China 105
- Complete Picture of the Newly Opened Port of Yokohama*, see Printed Matter and Print Media, Maps, Cityscape
- Congo 171, 268, 339, 405, 407, 419, 424, 427, 431
- Congo Reform Association*, see Institutions, Societies and Associations
- Congo VR 268, 335, 337, 351, 380, 405, 407, 420, 421, 431
- Conservation 137, 142, 152, 153, 155, 160, 162, 266, 275, 364, 367, 378, 379, 384, 395, 396, 398, 400, 413, 434, 435, 439, 454
- Constitution, U.S. (United States Constitution) 13, 21
- Contemporary Art*, see Art
- Corwin, Charles 182, 183
- Cosgrove, Denis 81
- Cosmorama*, see Panoramas
- Cotard, Charles 86
- Cox, William H. 45
- Craft, Ellen 16, 24, 25, 27
- Craftsman 115, 238, 240, 330, 362
- Craftsman Magazine, The*, see Newspapers
- Crane, Walter 241, 242
- Crary, Jonathan 39, 40–43
- Cropsey, Jasper 15
- Custer, George Armstrong (General, U.S. Army) 178
- Cybernetic Memory 313, 400
- Cyclorama*, see Panorama
- Cyclorama de Sainte-Anne-de-Beaupré*, see Panoramas, Cycloramas
- Dam in Amsterdam, The*, see Printed Matter and Print Media, Paintings
- De Architectura*, see Printed Matter and Print Media
- Deicher, Patrick 142, 263, 266, 277, 377, 379, 386#
- Deltour, Penelope 169, 170
- DeMille, Cecil B. 208
- Description de l'Égypte*, see printed matter and print media, books
- Digital
- Digital Representation 361, 394
  - Digital Self 231
  - Digital Twin 232, 357, 392
- Diorama*, see Panoramas
- Disinformation 195
- Disney 205, 221, 410
- Disney-MGM Studios 205
- Domelab 88, 89
- Dominikański Square, Krakow, Poland 108
- Drawing*, see Panoramas
- Drummond, Lake 31
- Duchamp, Marcel 294, 295
- Earth System Science (ESS) 84
- East Asia 93–99, 101, 104
- École des Beaux Arts*, see Institutions
- Edison, Thomas 283, 285
- Edo, Japan 102
- Edward, William Henry 59
- Effulgence of the North*, see Panoramas, Cycloramas
- Eiffel Tower 85
- Einsiedeln, Schwyz, Switzerland 247–249, 256, 258, 269, 278, 381
- Ekphrastic Poem*, see Printed Matter and Print Media, Poems
- Elcano, Juan Sebastián 81

- Electric Cyclorama*, see Panoramas, Cycloramas
- Elevator 193, 223–225, 282
- Elinga, Pieter 318
- Emerson, Ralph Waldo 70
- Empire State Building 193, 223–226
- EPFL (*École Polytechnique Fédérale Lausanne*), Lausanne, France, see Institutions
- Ephemera 5, 8, 81, 265, 289, 292, 306, 334, 394, 449, 454
- Erneutseak, Columbia, see Columbia, Nancy
- Eskimo*, see Film
- Étant donnés, see Exhibitions,
- European Universities Alliance for Film and Media Arts (FilmEU)*, see institutions, organisations
- Exhibitions 9, 15, 16, 25, 87, 88, 94, 138, 155, 156, 162, 164–174, 177, 178, 180, 185, 186, 189, 255, 257, 258, 261, 264, 266–268, 270, 271, 281, 284, 289, 291, 292, 294–296, 301, 320, 321, 323–353, 379, 380, 382, 383, 386–389, 391–393, 396, 397, 400–405, 407–411, 419–431, 436, 440, 447–450
- 1893 Chicago Columbian Exhibition 180, 181, 183, 184, 267, 289, 297, 299, 393, 402
  - 1898 Universal Exhibition 436
  - 1935 World's Fair in Brussels 419
  - 1958 World's Fair in Brussels 422
  - Belgian Colonial Exposition 335, 407
  - Chicago00 Project, The (installation) 177–189
  - City on Fire 177, 178, 186
  - Étant donnés (installation) 294
  - Expo.02 (Swiss National Exposition of 2002) 358
  - Ghent International Exhibition 424
  - In the Air (installation) 286, 287
  - Longing for the Distance 323–334, 379, 403, 404
  - Nancy Columbia and the Arctic Beyond 289, 296, 301, 393
  - On the Spot: Panoramic Gaze on Istanbul, a History 447–450
  - Panorama of Congo: Unrolling the Past with Virtual Reality 268, 335–353, 380, 405–407
  - Songlines: Tracking the Seven Sisters 87, 88, 91
  - Toilets (installation) 304, 305
- Experiences 3, 9, 12, 20–22, 24–26, 30, 32, 33, 38, 57, 79, 75, 79, 82, 83, 88–91, 93–96, 103, 106, 114, 137, 138, 156, 160, 165, 168, 174, 177, 178, 186, 193, 203, 208, 219, 211–221, 224, 225, 231, 233, 238, 241, 243, 263, 265, 268, 270, 271, 289, 294, 295, 303, 305, 311, 313, 315, 320, 321, 325, 334–337, 339, 343, 351, 355, 357, 360–362, 364, 369–374, 380, 392, 394, 395, 397, 400, 406, 408, 409, 411, 412, 421, 433, 435, 438, 448, 450, 453, 454
- haptic 96
  - immersive 82, 88, 90, 93–95, 103, 114, 138, 174, 177, 186, 211, 271, 310, 357, 364, 382, 391–395, 400, 408, 409, 453
  - interactive 83, 355, 369, 370
  - proprioceptive 311
  - shared 83, 96, 231, 335
  - transformative 83
  - vertical 224, 225
  - visual 82, 83, 321, 450
  - VR 174, 335, 336, 339, 355, 371, 406, 407, 408, 421
- Expo.02 (Swiss National Exposition of 2002)*, see Exhibitions
- Expo 58 (1958 World's Fair in Brussels)*, see Exhibitions
- Extended Dimensions (XD) 232
- Extended Reality (XR) 231, 232, 373, 407
- Fabritius, Carel 311–322
- Façade 55, 56, 186, 201–209, 237, 292–296, 302, 325
- Fallon, Jimmy 205
- Faux Terrain 114, 142, 143, 146, 147, 149, 150, 153, 155, 157, 163, 171, 174, 248, 252, 256–258, 268, 273, 274, 300, 301, 325, 385, 402, 406, 408, 433, 438
- Feldmann, Christiane 263, 377, 386
- Ferris Wheel 180, 183
- Fertilizer 37, 39, 40, 53, 54, 59, 60, 63, 66, 71
- Feszty, Árpád 156, 158, 357, 436
- Feszty Panorama*, see Panoramas, Cycloramas
- Fiction 13, 43, 202, 208, 292, 293, 297, 300, 334, 407
- Film 51, 83, 83, 84, 87, 88, 90–92, 174, 178, 189, 203, 205, 208, 212, 221, 226, 242, 266, 268, 283, 285–287, 289, 297, 299, 301, 302, 304–308, 322, 370, 380, 393, 394, 401, 405, 407, 409, 410, 420, 454
- Eskimo 305, 306
  - Fulvia's Flight 216
  - Gold Diggers, The 302, 303
  - Gold Rush, The 302–304
  - Jaws 205–208
  - Journals of Knud Rasmussen, The 305, 306, 308
  - King Kong 205
  - Mummy, The 205
  - Ten Commandments, The 204, 208
  - Torrent, The 203

- Visions of Paradise (Lunch with Mother) 214
- Animation 87–89, 357, 362, 373, 406
- How it was told to me: Māori Legends from New Zealand 87, 88
- Documentary 90, 305, 325
- 90 Degrees South: With Scott to the Antarctic 305
- Roald Amundsen's South Pole Expedition 305
- Short
- Legends of the Northern Sky 87, 90, 91, 287
- One Sky Project 87, 88, 91
- Star Dreaming 87, 89, 90, 91
- Travelling Kungkarangkalpa Art Experience, The 88, 89
- Travelling Kungkarangkalpa Walinynga Experience, The 88
- Shows
- Battlestar Galactica 205
- Fin-de-siècle 239
- Fish and Fishery Industries of the United States, The*, see Printed Matter and Print Media, Books
- Fish-Eye Lens*, see Perspective
- Fleury, Albert Francis
- Florence and Baghdad: Renaissance Art and Arab Science*, Printed Matter and Print Media, Books
- Florida, USA 205, 431
- Folklore 90
- Force, Kris 213
- Fouilhoux, J. André 85
- Fourier, Charles 22, 26
- Franco-Prussian War*, see War
- Friends of the Murten Panorama Association, The*, see Institutions, Societies and Associations
- Frieze, Wallpaper 241, 242
- Fuchs family 249, 256
- Fugitive 3, 7–10, 12, 13, 16, 21, 22, 24–28, 31–33
- Fugitive Slave Act, 1850 7, 21, 26, 28
- Fugitive Slave Clause 21
- Fuji, Mount, Japan 102
- Fulvia's Flight*, see Film
- Gaikaiko Yokohama no Zenzu*, see Complete Picture of the Newly Opened Port of Yokohama
- Galeron, Paul Louis Albert 85
- Galeron Sphere*, see Panoramas, Globe
- Gardner, Alexander 40, 44, 54–58, 65, 67, 68
- Garland for May Day, a*, see Printed Matter and Print Media, Woodcuts
- Garrison, William Lloyd 12
- Gazebo*, see Panoramas, Drawing
- Geneva, Geneva, Switzerland 141, 271, 383, 391, 393
- Geodesic Dome 82, 83, 232, 234
- Geometry 239, 443, 444
- Geographia*, see Printed Matter and Print Media, Books
- Germany 53, 82, 183, 264, 266, 274, 304, 328, 361, 378, 379, 426, 429
- Gérôme, Jean-Léon 183
- Gettysburg, Pennsylvania, USA 137, 153, 159, 163, 164, 181, 399, 400, 433, 435, 436, 438, 439
- Ghent, East Flanders, Belgium 406, 407, 419, 424
- Ghent International Exhibition*, see Exhibitions
- Glacier 72, 327, 333, 334, 403
- Gleick, James 294
- Globalization 81, 86, 87, 90
- Globe*, see Panoramas
- Globe Terrestre*, see Panoramas, Globe
- Goethe-Institute*, see Institutions
- Gold Diggers, The*, see Film
- Gold Rush, The*, see Film
- Goode, George Brown 46
- GoPro Camera*, see Hardware
- Gottorf Globe*, see Panoramas, Globe
- Grand Panorama of a Whaling Voyage 'Round the World, A*, see Panoramas
- Great Britain 424, 429
- Great Chicago Fire of 1871, The*, see Panoramas, Cycloramas
- Great Dismal Swamp, Virginia/Noth Carolina, USA 25, 29–32
- Great Glass Sphere*, see Panoramas, Globe
- Green, Charles C. 17, 24
- Gross, Howard H. 181–185
- Grover, Oliver Dennett 182
- Guano 4, 37–75
- Guano Song*, see Printed Matter and Print Media, Poems
- Hagen, Una 208
- Hagenbeck, Carl 180
- Handscroll, see Panoramas
- Hardware 82, 398, 410
  - GoPro Camera 286
  - Meta Quest 364, 369, 371, 375
  - Oculus Quest 413
- Harper, Kenn 296, 299, 301
- Harrison, Wallace 85

- Heinold's First and Last Chance Saloon, California, USA 302, 303
- Henneberg, Benjamin 141
- Heritage-Protected 150
- Herzog, Hans (General) 140
- Heston, Charlton 204
- Heyden, Jan van der 311, 317–320, 400
- Hirsch, Helen 263, 377, 386
- History of the Hawaiian or Sandwich Islands*, see Printed Matter and Print Media, books
- HMS Bounty, Restaurant 238
- Hollywood, California, USA 193, 203, 205, 244, 297, 299
- Hong Kong, China 106, 391
- Hoogstraten, Samuel 313, 318, 400
- How it was told to me: Māori Legends from New Zealand*, see Film, Animation
- Humboldt, Alexander von 52
- Hungary 137, 153, 156, 158, 163, 164, 357, 399, 400, 433, 436, 437
- Hurricane Katrina 195
- Hyperboloid-shaped, Painting*, see printed matter and print media, paintings
- Idea of the North, The*, see Film
- Identity, Placial 231
- Illusion 43, 63, 105, 137, 139, 142, 153, 155, 156, 160, 173, 193, 205, 274, 283, 286, 287, 325, 326, 330, 386, 399, 403, 433, 439, 441, 454
- Illusion Medium 139
- Imagination 31, 41, 51, 52, 57, 69, 81, 188, 293, 300, 306, 312, 335, 336, 405, 407
- Immersion XIII, 3, 42, 232, 243, 265, 270, 287, 289, 373, 387, 397, 407, 408, 413
- Immersive Environments 83, 86, 87, 90, 243
  - Immersive Fiction 201–209
  - Immersive Media XIII, 73, 82, 83, 86, 94, 114, 137, 229, 231, 268, 269, 292, 299, 308, 351, 380, 408, 454, 455
  - Immersive Storytelling 83, 88, 355
- Independence Day 240
- Indigenous 15, 38, 65, 82, 83, 87–91, 178, 299
- Infrastructure 16, 29, 97, 98, 188, 364, 392, 427
- Ingold, Tim 81, 86, 87
- Innsbruck Panorama*, see Panoramas, rotundas
- Institute of Art, Design and Technology (IADT)*, Dublin, Leinster, Ireland, see Institutions
- Institutions 17, 25, 26, 29, 71, 76, 81, 87, 91, 166, 263, 289, 294, 307, 376, 383, 421
- Art Institute of Chicago, Chicago, Illinois, USA 179, 182
  - Audubon Bird Center (National Audubon Society), USA 215
  - Boston Athenaeum, Boston, Massachusetts, USA 17
  - Chicago Academy of Sciences, Chicago, Illinois, USA 85
  - École des Beaux Arts, Paris, Ile de France, France 183
  - EPFL Laboratory for Experimental Museology (eM+) 261, 262, 269, 382, 383
  - Goethe-Institute, Munich, Bavaria, Germany 361
  - Institute of Art, Design and Technology (IADT), Dublin, Leinster Ireland 420, 421
  - LUCA School of Arts Belgium, Brussels, Belgium 420, 426, 427
  - War Heritage Institute, Brussels, Belgium 165–175, 426, 427
  - Wrocław University of Science and Technology, Wrocław, Lower Silesia, Poland 156, 358–360
  - foundations 139–152, 276, 277, 447, 448
  - Bourbaki Panorama Foundation, Lucerne, Switzerland 139–152
  - libraries 18, 93, 94, 98, 103, 183, 199, 242, 289, 290, 297, 303, 369, 384, 394
  - Library of Congress, Washington D.C., USA 18, 99, 94, 103, 183
  - MacLean Collection Map Library, Edinburgh, Scotland, UK 93, 94, 95, 98–102
  - museums
  - Alpineum Museum, Lucerne, Switzerland 250, 256, 258, 278, 381
  - Bernisches Historisches Museum, Bern, Switzerland 265
  - Bibliotheca Bodmeriana, Cologny, Geneva, Switzerland 262, 376, 384
  - Chicago History Museum, Chicago, Illinois, USA 138, 177–180, 182, 185
  - Lisbon National Museum of Natural History and Science, Lisbon, Portugal 335, 405, 407, 420, 421
  - Murten Museum, The, Murten, Friburg, Switzerland 265, 392
  - Museum Fridericianum, Kassel, Hesse, Germany 304
  - Museum für Gestaltung Zürich, Zürich, Switzerland 265, 392

- Museum of Jurassic Technology, Los Angeles, California 221, 298
- Mystic Seaport Museum, Stonington, Connecticut, USA 37, 41, 45
- New Bedford Whaling Museum, New Bedford, Massachusetts, USA 37, 39, 45–51, 61, 62
- Pera Museum, Istanbul, Türkiye 447, 449
- Philadelphia Museum of Art, Philadelphia, Pennsylvania, USA 93, 295,
- Queens Museum, The, New York City, New York, USA 224
- Royal Army Museum, London, England, UK 166, 172
- Westfront Nieuwpoort, Nieuwpoort, West Flanders, Belgium 138, 165–175
- Whitney Museum of American Art, New York City, New York, USA 286
- networks
- Belgium Battlefield of Europe 165, 166
- Le Sillon 169
- organisations 422, 424
- European Universities Alliance for Film and Media Arts (FilmEU) 420
- International Astronomical Union (IAU) 81, 82, 87
- UNESCO 261–263, 269, 270, 273–278, 361, 364, 376, 377, 382–386, 400
- societies and associations
- Association for the Preservation of the Bourbaki Panorama 152
- American Anti-Slavery Society 23
- Belgian National War Veterans Association 167
- Chicago Historical Society 185
- Congo Reform Association 424, 428
- Friends of the Murten Panorama Association, The 278
- International Panorama Council XIII, 137, 139, 156, 261, 266, 269, 273, 278, 303, 382
- Massachusetts Anti-Slavery Society (MASS) 7, 23
- New-England Anti-Slavery Convention 10
- Société de Géographie 85
- International Astronomical Union (IAU)*, see Institutions, Organisations
- International Panorama Council*, see Institutions, Societies and Associations
- Internet of Things (IoT) 231, 232
- Inter-State Exposition Building 178, 179
- In the Air*, see Exhibitions, Installations
- Ireland, David 214, 221
- Islam 443, 444
- Istanbul, Türkiye 447–450
- Ives, Halsey Cooley 299
- Jackson Jarves, James 47
- Jadot, J. M. 426
- Japan 93, 95, 97, 98, 101, 102, 171, 241, 244
- Jarenski, Shelly 49, 63
- Jarvis Island, USA 59, 70
- Jaws*, see Film
- Jefferson, Thomas 18, 27
- Jena, Thuringia, Germany 82
- Jerusalem and the Crucifixion*, see Panoramas, Cycloramas
- John Banvard's Panorama of the Mississippi River*, see Panoramas
- Juan Fernandez Islands, Chile 47, 50, 51
- Jurong Lake*, see Singapore Lake
- Kabakov, Emilia and Ilya 304, 305
- Kamieniec Żąbkowski, Lower Silesia, Poland 361, 363
- Kapital, das*, see Printed Matter and Print Media, Books
- Kassel, Hesse, Germany 304
- Kauō*, see Laysan Island Panorama
- Kepler, Johannes 313, 319, 320, 400
- King Kong*, see Film
- Kinshasa, Congo 419
- Koch & Söhne 141, 142
- Koreatown, Los Angeles, USA 238
- Kościuszko, Tadeusz 435
- Kościuszko Uprising 105, 357
- Kossak, Wojciech 105, 156, 357, 369, 370, 371, 435
- Kunuk, Zacharias 306, 308
- Kutusoff*, see ships
- Kyoto, Japan 102
- Labat, Tony 214
- Labor 12, 22, 50, 54–56, 63–66, 70, 71, 238, 239, 242, 281
- Laboratory for Experimental Museology (eM+)*, Lausanne, Switzerland, see Institutions
- Laemmle, Carl 202, 203, 204
- LA Filmforum 301, 394
- Lairesse, Gérard 313
- Lanci, Baldassere 320

- Landscape XIII, 3, 4, 7–35, 38, 40–45, 47, 49, 58, 64, 69, 70, 83, 93–98, 101–103, 114, 155, 170, 172, 173, 220, 238, 251, 256, 267, 270, 290, 301, 313, 319, 323, 325–334, 386, 397, 401, 403, 419, 430, 450
- Landscape painting, see Paintings, Landscape
- Last Servants, The*, see Music
- Laysan Island (Kauō) Cyclorama*, see panoramas, cycloramas
- Leather 98, 398
- LED 150, 373, 398
- Leftwich Dodge, William de 183
- Legends of the Northern Sky, Star Dreaming, One Sky Project*, see Film, Short
- Leopold II. (King of Belgium) 419, 420, 422–424, 428, 429
- Le Sillon*, see Institutions, Networks
- Liberator*, see Newspapers
- Library of Congress*, see Institutions, Libraries
- Liedtke, Walter 313–318
- Lima, Peru 40, 51, 52, 57, 58
- Lisbon National Museum of Natural History and Science*, see Institutions, Museums
- Liverpool, Lancashire, England, UK 52
- Logan, Frank G. 185
- London, England, UK 52, 98, 101, 102, 171, 181, 182, 184, 233, 239, 284, 286, 402, 411, 436
- London Illustrated News, The*, see Newspapers
- Longing for the Distance*, see Exhibitions
- Long, Roger 85
- Lorenz, Richard 183
- Los Angeles, California, USA 202, 217, 219, 220, 237–240, 242, 266, 268, 289–292, 299–301, 306–308, 378, 379, 393
- LUCA School of Arts Belgium*, see Institutions
- Lucerne, Lucerne, Switzerland 137, 139–152, 250–252, 256–258, 265, 268, 269, 277, 278, 378, 379, 381, 398, 409
- Luria, Aleksandr Romanovich 294
- Lynen, André 169
- MacLean Collection Map Library*, see Institutions, Libraries
- MacRae, Henry 203
- Madeira, Portugal 49
- Magellan, Ferdinand 82, 87
- Mahoney, Olivia 178, 186
- Manifest Destiny 15, 41, 59, 239
- Māori 87, 88
- Map(s)*, see Printed Matter and Print Mediums, Maps
- Marcellus Camera 285
- Marsh, Bela 23, 24
- Maroon(s) 25, 31
- Marxist 43
- Marx, Karl 58, 63
- Mason-Dixon Line 21
- MASS, see Massachusetts Anti-Slavery Society, see Institutions, Societies and Associations
- Massachusetts, USA 7, 9, 10, 12, 21, 22, 38, 70, 159, 441, 442, 444
- Massachusetts Anti-Slavery Society*, see Institutions, Societies and Associations
- Matariki 88
- Mathieu, Paul 335, 405, 407, 419, 426, 427
- Matisse, Henry 238
- Mayer, August E. F. 46
- MCA Inc. 203
- McCormick, Cyrus 179, 186
- McCormick, Stanley 186
- Medievalism 237
- Medieval Times Dinner & Tournament 237
- Mège, Salvador 181
- Melville, George 267, 402
- Melville, Hermann 39, 46, 55
- Mesdag, Hendrik Willem 325, 331, 403
- Mesdag Panorama*, see Panoramas, Cycloramas
- Mesdag-van Houten, Sientje 325, 403
- Meta Quest*, see Hardware
- Middle Passage 13, 24, 25
- Mirror of Slavery*, see Panoramas
- Mississippi River, USA 13, 41
- Mnemonic Device 228
- Morat, Lake, Switzerland 358
- Morel, E. D. 424
- Morland, George 24
- Morse, Samuel 42
- Moving*, see Panoramas
- Moving Picture 202, 283
- MSG Sphere*, see Panoramas, Globe
- Multidimensional Living 231–235
- Mummy, The*, see Film
- Murten Museum, The*, see Institutions, Museum
- Museum Fridericianum*, see Institutions, Museum

- Museum für Gestaltung Zürich*, see Institutions, Museum
- Museum of Jurassic Technology (MJT)*, see Institutions, Museum
- Music XIII, 12, 213, 215, 221, 241, 270, 314, 315, 379, 387
- Last Servants, The 303, 306, 307
- Myriorama*, see Panoramas
- Mystic Seaport Museum*, see Institutions, Museums
- Nabokov, Vladimir 292, 293
- Nancy Columbia and the Arctic Beyond*, see Exhibitions
- Narrated Audio Tours 177, 186
- Narrative of Henry Box Brown*, Printed Matter and Print Media, Books
- Narrative of the Life and Adventures of Henry Bibb*, see Printed Matter and Print Media, Books
- Narrative of the United States Exploring Expedition*, see Printed Matter and Print Media, Books
- Natural Bridge, Virginia, USA 16, 18–21, 26, 27, 29
- New Bedford, Massachusetts, USA 37–39, 45–51, 60–62, 64, 70, 71
- New Bedford Whaling Museum*, see Institutions, Museums
- New England, USA 10, 13, 22, 37, 38, 45, 70, 268, 380, 412, 441–445
- New England Anti-Slavery convention*, see Institutions, Societies and Associations
- Newspapers and Magazines 9, 12, 113, 115, 117, 181, 202, 204, 229, 239, 285, 300, 389
- Boston Globe, The 301
  - Champaign Daily News, The 281
  - Chicago Tribune, The 178, 180, 181, 183, 184, 281, 284, 286, 389
  - Craftsman Magazine, The 249
  - Liberator 8, 10, 12–14, 21–25, 31
  - London Illustrated News 98
  - New York Times 287, 294
  - Photogram, The 284
  - Scientific American 155, 282, 284
  - Washington Times 202
  - Western Electrician 284
  - Wolverhampton & Staffordshire Herald 32
- New York City, New York, USA 91, 115, 185, 193, 202, 208, 221, 223, 226, 229, 265, 281, 282, 283, 285–287, 334, 378, 389, 390, 397, 404, 441
- New York Times, see Newspapers
- New Zealand 88
- Niagara Falls*, see Panoramas, Cycloramas
- Nickelodeon 205
- Nike 227
- Nieuwpoort, West Flemish, Belgium 138, 165–175
- North Coast of Spitzbergen, The*, see Panoramas, Cycloramas
- Nouvel, Jean 358, 360
- Nova Tuskhut, The*, see Panoramas, Dioramas
- Nova Zembla*, see Panoramas, Dioramas
- Observation Deck 193, 229, 325
- Oculus Quest*, see Hardware
- Olearius, Adam 85
- On the Spot: Panoramic Gaze on Istanbul, a History*, see Exhibitions
- Optical Apparatus 137–152, 266, 378, 398
- Ópusztaszer, Csongrád, Hungary 153, 156, 163, 357, 399, 433, 436, 437
- Orlando, Florida, USA 205
- Orvieto, Umbria, Italy 239
- Ottoman Empire 448
- Overhead Projector (OHP) 211
- Owczarek, Janusz 105
- Oxford English Dictionary, The*, see Printed Matter and Print Media, Books
- Pale Fire*, see Printed Matter and Print Media, Books
- Pancosmos*, see Panoramas, Globe
- Panorama Box*, see Panoramas, Dioramas
- Panorama Key 268, 335, 336, 343, 345, 350, 351, 380, 407, 408
- Panorama du Congo*, see Panoramas, Rotundas
- Panorama of Cairo, The*, see Panoramas, Cyclorama
- Panorama of Congo: Unrolling the Past with Virtual Reality*, see Exhibitions
- Panorama of Rio de Janeiro*, see Panoramas, Cycloramas
- Panorama of the Battle of Murten, The*, see Panoramas, Cycloramas
- Panorama of the Battle of Ractawice, The*, see Panoramas, Cycloramas
- Panoramic Map of Peking China, A*, see Printed Matter and Print Media, Maps, Cityscapes
- Panoramas

- 360 83, 137, 166, 167, 171, 264, 289, 325, 327, 328, 364, 393, 412, 439, 441, 443, 444, 450
- Cosmorama 264, 377, 386–388, 407, 453, 454
- Cyclorama 94, 95, 138, 177–187, 264, 265, 276, 281, 283, 284, 285, 297, 299, 325, 387, 395, 396, 399, 436, 438, 454, 455
- Battle of Atlanta, The 114, 115, 152, 399
- Battle of Chattanooga, The 180
- Battle of Gettysburg, The 114, 137, 153, 155, 156, 159, 160, 399, 400, 135, 436, 438, 439
- Battle of Lookout Mountain, The 179
- Battle of Missionary Ridge, The 114, 115
- Battle of Shiloh, The 179
- Battle of the Yser, The 138, 165, 166, 169\_174
- Bourbaki Panorama 137, 139–152, 254–258, 266, 269, 273, 275, 277, 278, 277–379, 381, 384, 385, 386, 398, 399
- Effulgence of the North 289, 299, 300, 301, 393
- Chicago Fire Cyclorama, The 138, 177–179, 186–186, 281
- Cyclorama de Sainte-Anne-de-Beaupré 276
- Electric Cyclorama 281–285, 378, 381, 382
- Feszty Panorama 137, 153, 156, 158, 163, 164, 357, 399, 400, 436, 435–437
- Innsbruck Panorama 152, 275, 286, 385, 399
- Jerusalem and the Crucifixion of Christ 256, 269, 278, 388
- Laysan Island (Kauō) Cyclorama 265, 395, 39
- Mesdag Panorama 275, 276, 323, 324–328 331–394, 379, 403, 404, 433
- Niagara Falls 179, 286
- North Coast of Spitzbergen, The 300
- Panorama du Congo 267, 268, 335, 338, 339, 345, 350, 351, 380, 405–407, 419–421, 423–427, 430, 431
- Panorama of Cairo, The 171
- Panorama of Rio de Janeiro 268, 380, 408, 409
- Panorama of the Battle of Murten (Morat), The 271, 278, 358, 375, 377, 378, 383, 386, 390–393, 396
- Panorama of the Battle of Racławice, The 105, 107, 108, 137, 145, 176, 355, 357, 369, 370, 371, 399, 434–436, 440
- Paris by Moonlight 178
- Siege of Paris, The 179
- Stereopticon Cyclorama, The 284, 285
- Thun Panorama 257, 258, 263, 269, 278, 377, 386
- Waterloo Panorama 263, 273, 274–276, 277, 384, 433
- Diorama XIII, 175, 173, 256, 268, 269, 275, 281, 290–296, 327, 381, 387, 388, 392, 393, 411, 454
- Battle of the Meuse, The 173
- Nova Tuskhut, The 265, 289–307, 378, 393, 394
- Nova Zembla (Novaya Zembla) 292–294
- Panorama Box, The 327, 328
- Drawing 18, 47, 95, 97, 98, 154, 171, 175, 181, 183, 224, 267, 311, 320, 326, 330, 332, 333, 336–349, 353, 403, 308, 422, 450
- Gazebo 323, 332
- Exhibition Devices 320
- Georamas 86
- Atwood Celestial Sphere 85
- Cenotaph for Newton 85
- Galeron Sphere 85
- Globe Terrestre 86
- Gottorf Globe 85
- Great Glass Sphere 85
- MSG Sphere 231
- Pancosmos 85
- Perisphere 85
- Villard-Cotard Globe 86
- Wyld's Great Globe of 1851 86, 193, 231, 233
- Handscroll 93, 94, 96–101, 103
- Moving 3, 4, 7–9, 12, 13, 15, 22, 25, 27, 32, 37, 39, 41, 42, 48, 52, 58, 60, 63, 69, 193, 211, 220, 283, 402, 410, 454,
- A Grand Panorama of a Whaling Voyage 'Round the World 4, 37, 38, 48, 49, 50, 51, 61, 62, 69,
- Panorama of the Mississippi River (John Banvard) 13, 22
- Mirror of Slavery 3, 7–9, 13, 15, 16, 19, 21, 22, 24–29, 32, 33
- Rays of Sunlight in South America 37, 40, 43, 44, 53–58, 60, 63, 65, 67, 68
- Stockwell's Colossal Moving Panorama of the Mississippi River 12
- Velaslavasay Panorama 193, 217, 219–221, 265, 266, 289–296, 298–303, 306–308, 310, 378, 379, 393, 394
- Myriorama 327, 328
- Rotundas 114, 115, 142, 155, 171, 244, 256, 257, 265, 266, 274–277, 281, 283, 284, 286, 337–340, 357, 360, 378, 389, 390, 396, 397, 401, 406, 411, 436–439, 441
- Semi-circle 225, 226

- Stereopticon 281, 283–285, 390
- Panorama, The*, see Printed Matter and Print Media, Poems
- Panoramic View of London and the River Thames*, A, see Printed Media, Maps, Cityscapes
- Paris, France 85, 86, 140, 181, 199, 268, 283, 285, 286, 370, 409, 429
- Paris by Moonlight*, see Panoramas, Cycloramas
- Pasadena, California, USA 237, 238, 241, 242
- Peeters, Natasja 173
- Pencil of Nature, The*, see Printed Matter and Print Media, Books
- Pennsylvania, USA 7, 9, 25, 27, 138, 433
- Pera Museum*, see Institutions, Museums
- Period Room 297, 299, 303
- Perisphere*, see Panoramas, Globe
- Perspectives (views) XIII, 3, 12, 18, 19, 20, 32, 37, 66, 79, 84, 85, 87, 91, 94, 97, 98, 102, 142, 178, 208, 261, 270, 311, 318, 320, 323, 325, 326, 330, 332, 334, 351, 369, 400, 403, 404, 413, 441, 450
  - Boxes (Perspective Boxes) 311, 318, 320
  - Conventional 312, 317
  - Curvilinear 400
  - Cycloramic 264, 281, 390
  - Eccentric Apollonian 85
  - Fish-Eye 103
  - Global 84, 86, 87, 91
  - Indigenous 91
  - Linear 101, 320, 321, 443
  - Spherical 84–87, 91, 337, 338 90–93, 97, 343, 344
  - Terrestrial-Centric 84
  - Western 39, 48, 52, 58–60, 81, 83, 87–91, 172, 202, 208, 304, 370, 384, 428, 443, 444,
  - Wide-angle 311–317, 315, 317–320
- Peru (Peruvian) 37, 39, 40, 43, 51–54, 56, 57, 59, 65, 66
- Philadelphia Museum of Art*, see Institutions, Museums
- Philippoteaux, Paul Dominique 159, 436
- Photogrammetry 266, 363, 364, 380, 404, 406, 413, 414
- Photogram, The*, see Newspapers and Magazines
- Photography 4, 37–40, 42–44, 51–54, 69, 75, 172, 285, 322, 353, 386, 387, 401, 404, 407, 408, 412, 441, 442, 447–449, 453, 454
- Phygitel 231, 232
- Pico Island, Portugal 48
- Pierce, Franklin 59
- Pickett's Charge 436
- Pilatus, Mount, Switzerland (Mountain) 327
- Pizzo Centrale, Switzerland (Mountain) 329
- Placial identity*, see Identity
- Planetarium 81–84, 86–88, 90, 91
- Polar Film Club 301, 302, 305, 307, 394
- Ponting, Herbert 305
- Potter, Harry 208
- Potter, Russel A. 294, 299–301
- Potter, Sally 302
- Poundstone, William 300
- Pozzo, Andrea 319
- Preservation XIII, 79, 91, 137, 142, 152, 156, 177, 276, 289, 334, 356, 357, 361, 362, 372, 383, 390, 394, 395, 398, 399, 403, 413, 421, 443
- Printed Matter and Print Media
  - Books
    - Biographie Coloniale Belge 426
    - De Architectura (Vitruvius) 358
    - Description of Egypt 195, 199
    - Fish and Fishery Industries of the United States, The (Goode) 46
    - Florence and Baghdad: Renaissance Art and Arab Science (Belting) 443
    - History of the Hawaiian or Sandwich Islands (Jarves) 47
    - Kapital, das (Marx) 63
    - Narrative of Henry Box Brown (Stearns) 12
    - Narrative of the Life and Adventures of Henry Bibb 24
    - Narrative of the United States Exploring Expedition (Wilkes) 47
    - Oxford English Dictionary, The 94–96
    - Pale Fire (Nabokov) 292
    - Pencil of Nature, The (Talbot) 42
    - Respect for Acting (Hagen) 208
    - Sacred Spaces of New England: Cultural Heritage and the Panorama (Thompson) 274, 386, 418, 447–451
    - Selling the Congo 430, 431, 432, 437
    - Story of the Chicago Fire, A (Swing) 182, 183
    - Webster's Dictionary 95, 96
    - lithographs 19, 21, 26, 46
    - Ship on the North-West Coast Cutting in Her Last Right Whale, A 46
    - maps XIII, 19, 30, 41, 53, 91, 93–95, 97–99, 101–104, 233, 267, 315, 337, 339, 352, 355, 364, 368, 371, 372, 401–403, 414, 445, 449

- cityscape 19, 20, 27, 94, 98, 99, 101, 103, 183, 243, 441
- Complete Picture of the Newly Opened Port of Yokohama (Gaikaiko Yokohama no Zenzu) 102
- Panoramic Map of Peking in China (Beijing Zhanwang), A 95
- Panoramic View of London and the River Thames, A 98–101
- Revised Panoramic View of Yokohama (Sakai Yokohama Fukei) 102
- tactile 361, 370, 374, 377, 378, 381, 420
- paintings
  - Execrable Human Traffic (Morland) 24
  - Dam in Amsterdam, The (van der Heyden) 317
  - Hyperboloid-Shaped 155
  - Vanitas (Claetz) 312
  - landscape 15–17, 22, 93, 94, 97, 98, 101, 114
  - City of Charleston, South Carolina (Bennett) 18
  - View of Delft, A 312, 313, 318
  - panels 13, 16, 22, 24–27, 32, 41, 48–50, 60, 61, 109, 152, 342–346
  - Brand and Scourge 24, 25
  - Gorgeous Scenery of the West India Islands 25
  - Henry Box Brown Released at Philadelphia 24
  - Interior of a Slave Ship 24, 25
  - Interior View of Charleston Workhouse, with Treadmill in Full Operation 25
  - Nubians, escaping by Night 16, 24
  - Nubian Family at Auction, The 27
  - Nubian Family in Freedom, The 16, 24
  - Nubian Slaves Retaken 24, 26
  - Seizure of Slaves, The 24
  - Tarring and Feathering in South Carolina 27
  - Universal Emancipation 13, 24, 26, 27
  - View of Charleston, South Carolina 16, 25, 26
  - View of the Lake of the Dismal Swamp 16, 25, 29, 30
  - View of the Natural Bridge and Jefferson's Rock 18, 20, 26, 27
  - Washington's Tomb, at Mount Vernon 18, 20, 26, 27
  - Whipping Post and Gallows at Richmond, Va 27
  - poems 24, 31, 56, 63, 195, 199, 223, 265, 406, 407
  - ekphrastic 195
  - Guano Song 56
  - The Nubian Slave 17, 24
  - The Panorama (Whittier) 63
  - woodcuts
  - Garland for May Day, A 248
- Projections 82, 84, 90, 221, 336, 337, 364, 400, 412,
  - 360° 364, 380, 388, 392, 393, 394, 409, 410, 412
  - before-and-after 364
  - circular 410,
  - cylindrical 313,
  - equirectangular 339, 351, 352, 353
  - fulldome 82–84, 86–88, 90
  - geometric 351, 412, 441–443
  - hemispheric 171, 173
  - spherical 82, 311–313, 320, 339, 352
  - stereographic 343, 349, 352, 412, 441–445
- Propaganda, see also Colonial, Propaganda 105, 165, 174, 405, 406, 419, 420, 422–424, 428, 429, 431, 449
- Prophecy 56, 241–244
- Ptolemy, Claudius 84, 95
- Purrrington, Caleb 4, 37–41, 47–51, 58, 60–62, 70
- QR-Code 355, 371, 373, 345, 455
- Queens Museum, The*, see Institutions, Museums
- Queens, New York City, New York, USA 85, 228
- Rays of Sunlight from South America*, see Panoramas, Moving
- Reclus, Élisée 86
- Reed, Isaac N. 181–183,
- Respect for Acting*, see Printed Matter and Print Media, Books
- Restoration XIII, 137, 139, 142, 156–153, 155, 156, 163, 171, 172, 241, 265, 266, 362, 364, 372, 378, 376, 398, 399, 410, 433–440, 454
- Revised Panoramic View of Yokohama*, see Printed Matter and Print Media, Maps
- Riesenrundgemälde 433
- Roald Amundsen's South Pole Expedition*, see Film, Documentary
- Rogado, Giacomo Santiago 257
- Romania 81–90
- Rotundas*, see Panoramas
- Royal Army Museum*, see Institutions, Museums
- Roys, Thomas Welcome 62
- Ruskin, John 238, 317
- Russel, Benjamin 4, 37–43, 45–53, 58, 60–62, 64, 69, 70, 72
- Russick, John 177, 186
- Sacred Spaces 412, 441, 443, 444, 445

- Sacred Spaces of New England: Cultural Heritage and the Panorama*, see Printed Matter and Print Media, Books
- Safire, William 294
- Sakai Yokohama Fukei*, see Revised Panoramic View of Yokohama
- Sapeurs Pontonniers 172
- Scale Model 224, 225, 397, 404
- Scenes in the Life of an American Slave*, see Panoramas
- Scheffel, Josph Victor von 56
- Scientific American*, see Newspapers and Magazines
- Scientific Education 82, 86
- Scroll, see also Panoramas, Handscroll 95, 96, 98, 101, 246, 242, 244, 313
- Seattle, Washington, USA 211, 215, 221
- Sekula, Allan 4, 43, 44, 51, 52, 69
- Selim III. (Sultan of the Ottoman Empire) 449
- Selling the Congo*, see Printed Matter and Print Media, Books
- Semi-circle*, see Panoramas
- Shelley, Mary 300
- Ship on the North-West Coast Cutting in Her Last Right Whale, A*, see Printed Matter and Print Media, Lithographs
- Ships 24, 38, 41, 44–46, 48, 50, 53, 56, 60, 61, 64, 66, 71, 72, 108, 244, 319
- Kutusoff 51
  - U.S.S. St. Mary 70
  - Steamboat, (Steamships) 13, 22, 427
- Siege of Paris, The*, see Panoramas, Cycloramas
- Singapore Lake 205
- Sino-Japanese War*, see War
- Simulation 226
- Sloterdijk, Peter 82, 86, 90, 91
- Slave 10, 58, 66
- Fugitive Slave Act 7, 21, 26, 28
  - Slave trade 24, 25
  - African 24, 25
  - Arab Swahili 423
  - Trans-Atlantic 25
  - Universal Emancipation 13, 24, 26, 27
- Slavetrade, African*, see Slave
- Sluice complex 167, 169
- Smets, Sandrine 173
- Smith, James C. A. 9, 13, 26
- Smyth, Frederick James 98–101
- Société de Géographie*, see Institutions, Societies and Associations
- Sodium Vapour Lamps 145, 150
- Software 353, 362, 363, 366, 404, 408,
- Adobe Fresco 339, 345
  - Adobe Illustrator 349
  - Adobe Photoshop 340, 341
  - Unity, Game Engine 268, 408, 409
  - Unreal Engine 369, 376, 413
- Songlines: Tracking the Seven Sisters*, see Exhibitions
- Speculative Historiography 291–293
- Spherical Projection*, see Projections, Spherical
- Spielberg, Steven 205
- Spool 41
- Stadhuis, Amsterdam, North Holland, The Netherlands 311, 317, 319, 400
- Stanard, Mathew G. 419–422, 431
- Stave Churches 268, 375, 361, 363, 375, 380, 413, 414
- Steamboat*, see Ships, Steamships
- Stearns, Charles 12, 13, 15, 28
- Stein, Jay 203–205
- Steiner, George 169
- Stereopticon*, see Panoramas
- Stereopticon Cyclorama, The*, see Panoramas, Cycloramas
- Sterne, Jonathan 42
- Stockwell's Colossal Moving Panorama of the Mississippi River*, see Panoramas
- Story of the Chicago Fire, A*, see Printed Matter and Print Media, Books
- Strong, Thomas 24
- Styka, Jan 156, 357, 369, 370, 434
- Sullivan, Louis 183, 186
- Sun Sails 145–148, 151
- Świdnica, Lower Silesia, Poland 164, 355, 364–369, 371, 375, 400, 413, 414
- Swing, David 182, 183
- Synthetic Materials 145
- Szeged, Csongrád-Csanád, Hungary 156, 436
- Talbot, William Henry Fox 38, 42, 43
- Tam O'Shanter (Steakhouse), Atwater 238
- Temple, Lewis 62
- Ten Commandments, The*, see Film
- Textile Elements*, see Sun Sails, Canopy
- Thanksgiving 10, 240
- Thatcher, Margaret 106

- Theme Park 202, 205  
 Thompson, Seth 268, 380, 412, 441–445  
*Thun Panorama*, see Panoramas, Cycloramas  
 Thun, Bern, Switzerland 254, 257, 258, 263, 269, 278, 377, 381, 386  
 Tiananmen Square 106, 107  
*Toilets*, see Exhibitions, Installations  
 Toponym 97, 98, 101  
*Torrent, The*, see Film  
 Train, Joseph 285  
 Tram 193, 202–206, 208  
*Trans-Atlantic Slave Trade*, see Slavery, Trade  
*Travelling Kungkarangkapa Art Experience, The*, see Film, Short  
*Travelling Kungkarangkapa Walinynga Experience, The*, see Film, Short  
 Treaty of Les Verrières 140  
 Trump, Donald (President) 195  
 Turner, Nat 31
- Ufford, Adrienne Quarles van 266, 267, 323, 324, 379, 403, 404  
*UNESCO*, see Institutions, Organisations  
*Universal Emancipation*, see Slavery  
 Universal Studios 193, 202, 205–207  
*Unity, Game Engine*, see Software  
*Unreal Engine*, see Software  
 Utagawa, Sadahide 101, 102  
 Utility 355–357, 374
- Van Dyke, W. S. 305  
*Vanitas*, see Printed Matter and Print Media, Paintings  
*Velaslavasay Panorama*, see Panoramas, Moving  
 Velum 144–148, 150, 151, 155, 273, 274, 385, 398  
 Venice Charter 162  
 Vernon, Mount, USA 15–18, 20, 21, 26, 27, 29  
*View*, see Perspectives  
*View of Delft, A*, see Printed Matter and Print Media, Paintings  
 Viewing Platform 139, 143, 151, 155, 265, 285, 286, 325, 398, 401, 441, 453  
 Vignola, Emilia-Romagna, Italy 320  
*Villard-Cotard Globe*, see Panoramas, Globe  
 Villard, Théodore 86  
 Virginia, USA 7, 9, 13, 16, 18, 20, 21, 25–27, 29, 30, 32, 62
- Virtual Reality (VR) 83, 173, 174, 178, 183, 189, 232, 267, 268, 270, 335–340, 350, 352, 353, 355, 360, 361, 369–373, 375, 380, 387, 389, 404–410, 414, 421, 430, 431, 445, 454  
 Virtual Tour 268, 335–340, 351, 355, 361, 363, 364, 367, 369, 371–373, 375, 380, 407, 408, 413, 414  
*Visions of Paradise (Lunch with Mother)*, see Film  
 Visual Culture 37, 42, 43, 94, 386, 387, 401, 406, 412, 422, 423, 448, 449, 450,  
 Vitascope 283  
 Vitruvius, Marcus Pollio 356, 357
- Wagemans, Maurice 169  
*War Heritage Institute*, see Institutions  
 War  
 – American Civil War 40, 46, 57, 72, 115, 179, 281, 436  
 – Boer War 241  
 – Franco-Prussian War (1870/71) 139, 389  
 – Mexican War 115  
 – Memorial 165, 166  
 – Monument 167  
 – American-Philippine War 186  
 – Sino-Japanese War 106  
 – World War I 138, 141, 165, 167–171, 173, 174, 424, 429  
 – World War II 171, 207, 408, 426, 429, 435, 436  
 Washington, George 18, 20, 27  
*Washington Times*, see Newspapers and Magazines  
*Waterloo Panorama*, see Panoramas, Cycloramas  
*Webster's Dictionary*, see Printed Matter and Print Media, Books  
 Weigel, Erhard 85  
 West Adams, Los Angeles, California, USA 238  
*Western Electrician*, see Newspapers and Magazines  
*Westfront Nieuwoort*, see Institutions, Museum  
 Whaling 4, 37, 38, 41, 45, 46, 48, 50, 59–62, 64, 69–72  
 Wheary Peepers Trunk Show 217, 219, 220,  
*Whitney Museum of American Art*, see Institutions, Museums  
 Whittier, John Greenleaf 63  
 Wilcox, T. J. 286, 287  
 Wilhelm, Paul 183  
 Wiltshire, Stephen 227  
 Winter, John 285  
 Wishwood, Seattle, Washington, USA 215  
 Withers, Andrew 221

- Witt Mouton, Henry de 57  
 Wolcott, Josiah 13, 15, 22, 26  
*Wolverhampton & Staffordshire Herald*, see  
     Newspapers and Magazines  
*Wonder Room*, see Wunderkammer  
*World Columbian Exposition*, see Exhibitions, 1893  
     Chicago Columbian Exhibition  
 World Fair, see also Exhibitions 294  
*World War I*, see War  
*World War II*, see War  
 Wrocław, Lower Silesia, Poland 105–109, 138, 153,  
     156, 157, 163, 164, 355, 357, 375, 379, 380, 399,  
     400, 413, 414, 433–436, 440  
*Wrocław University of Science and Technology*, see  
     Institutions  
 Wunderkammer 297, 328, 327  
*Wylde's Great Globe of 1851*, see Panoramas, Globe  
 Wyld, James 231, 238  
*XD Space*, see Extended Dimensions  
 Yokohama, Kanagawa, Japan 101–103  
 Yser (River) 165–167, 169, 171–173  
 Zeiss 82  
 Zhao, Ziyang 105–108

