

PANORAMA

International Panorama Council Journal, Volume 2

2018

Memory and the Panorama

Selected Proceedings from the 27th IPC Conference

Edited by

Seth Thompson

Blagovesta Momchedjikova

Molly Catherine Briggs

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International Panorama Council

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Preface

Founded in 1992, the International Panorama Council (IPC) is a worldwide organization of panorama specialists, committed to supporting the heritage and conservation of the few existing panoramas dating from the 19th and early 20th century, and the promotion of knowledge and awareness of the panorama, including its current relevance and development. Since the organization's beginnings, annual conferences have been held around the world. The yearly IPC Conferences are intense encounters, discussing and connecting the past, present and future of the panorama phenomenon. IPC is a non-government and not-for-profit association, according to Swiss law.

In 2017, the peer-reviewed International Panorama Council Journal was established in order to stimulate and foster interdisciplinary research on the panorama and its related forms.

The focus of the second edition of the International Panorama Council Journal is the theme of the 27th International Panorama Council Conference, "Memory and the Panorama," which sought to examine the presence of memory and historical truth within the context of the panorama. Hosted by the Panorama 1453 History Museum with sponsorship from the Istanbul Metropolitan Municipality, the conference was held in Istanbul, Turkey, September 19 – 21, 2018.

On behalf of the International Panorama Council membership, we would like to thank Kemal Kaptaner (Istanbul Metropolitan Municipality) and Salih Doğan (Panorama 1453 History Museum) for their efforts in hosting a wonderful conference. We would also like to acknowledge the great work of Ruby Carlson, Dominique Hanson, Blagovesta Momchedjikova, Molly Catherine Briggs, Thiago Leitão de Souza, and Sylvia Alting van Geusau for their contributions to the conference and journal.

Seth Thompson
President

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Constructing National Identity through the Lens of the Painted Panorama: The Bourbaki Panorama in Lucerne, Switzerland

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Abstract

Using the Bourbaki Panorama, which depicts the French General Charles-Denis Bourbaki's army crossing Switzerland's border near Les Verrières in 1871, this paper examines the notion of identity narrative in nation-building and addresses the following questions: How does the Bourbaki Panorama reinforce Switzerland's national identity? How can identity narratives strengthen or challenge a nation's collective memory? How can these findings inform current and future practices in the development and interpretation of new and existing panorama projects?

Keywords

Bourbaki Panorama, national identity, collective memory, identity narrative, Franco-Prussian War

Introduction

In an increasingly global environment, with shifting geopolitical borders, ever-increasing migration, and the international standardization of information technologies and manufactured goods, there is a sense of uncertainty as to how national identity may be maintained or restored. Many nations have reacted to the perceived threat of globalization by cultivating an interest in nationalism in an effort to renew a sense of community and confidence.

Many of the few remaining panoramas from the nineteenth and early twentieth centuries can be used as a lens to understand national identity. Much like other history paintings, the panorama is a blending of myths, memories, and values. Altering facts to create a cogent narrative was common in paintings that depict significant historical events, such as *Washington Crossing the Delaware* (1851, New York, Metropolitan Museum of Art), one of the most iconic images in American history for reinforcing collective memory and national identity painted by Emanuel Leutze (German American, 1816-1968).

One goal of many panorama artists has been to represent an accurate account of places and events through rigorous research. Many of these panoramas depicted recent battle scenes relevant to the cities and regions for which they

were made as well as "exotic" locations, enabling people to compare their lives and traditions to others.

Lucerne's Bourbaki Panorama was painted under the direction of Édouard Castres (Swiss, 1838-1902) and completed in 1881. An identity narrative constructed to address Swiss nationalist themes, it depicts the 1871 event of General Bourbaki's French army crossing Switzerland's border near Les Verrières and disarming. [1] This paper will address the Bourbaki Panorama as a model of using national identity as a narrative for nation-building, the ability for identity narratives to strengthen and challenge a nation's collective memory, and practical recommendations for developing and interpreting painted and digital panorama projects.

Collective Memory, National Identity, and History Painting

When considering national identity and a nation's heritage, it is important to understand the notion of collective memory, which in its simplest form may be defined as a way that two or more members of a social group recall, commemorate, or represent their shared societal or cultural history. Collective memory is the result of socialization through education, traditions, and customs, including public ceremonies and monuments. [2] It is also important to consider how a group collectively forgets by excluding or silencing alternative perspectives or versions of events from a social group's memory. [3]

The concept of national identity has evolved into an effective social and political tool over the past two or three centuries because its collective memory and forgetting offers powerful narratives that help groups of people to identify with others in a social group, bringing shared experiences to a socially and economically diverse group of people.

In *Nationalism: Political Cultures in Europe and America, 1775-1865*, Lloyd Kramer writes, "Most analysts

of nationalism locate its emergence in late eighteenth-century Europe. This argument for historical specificity challenges a typical nationalist's view of national identities as very old or even primordial realities, and it places nationalism at the center of political and cultural modernization. Where nationalisms usually claim to represent the deep spirit and traditions of common people, historians usually find the creation of nationalist ideas in the writings of elite intellectuals and political activists." [4] National identity is a construction as opposed to being fixed or absolute.

Through a nation's endeavor to preserve its past, it creates an identity, from which emerges unity and a sense of self drawn from events and cultural symbols, both tangible and intangible. [5] A nation's identity and cultural heritage work hand in hand. State-sanctioned heritage reinforces a nationalistic agenda of unity and shared history. [6] In the eighteenth and nineteenth centuries, history painting provided a vehicle for commemorating contemporary events in a heroic and monumental style. A famous example is Emanuel Leutze's *Washington Crossing the Delaware*, which captures a pivotal event that changed the course of the American Revolutionary War (fig. 1). The crossing took place on the eve of December 25 and into the early morning on December 26, 1776, enabling Washington's troops to catch the German Hessian forces by surprise. Washington stands confidently in his boat, with his sword and the American flag beside him, leading his troops as they paddle through treacherous waters and what appear to be miniature icebergs. Leutze simplifies and dramatizes the historical event: the Durham iron-ore boats actually used in the crossing were much larger; Washington would have been seated rather than standing; and the flag depicted would not be used for another six months. [7]



Fig 1. *Washington Crossing the Delaware*, 1851 Emanuel Leutze, painting, The Metropolitan Museums of Art. Credit: The Metropolitan Museum of Art, New York.

Paintings such as Leutze's reconfigure historical events to create dramatic narratives that augment meaning and evoke emotion beyond the actual occurrences themselves. In *Nation and Nationalism*, Ernest Gellner reinforces this

idea: "nationalism uses the pre-existing, historically inherited proliferation of cultures or cultural wealth, though it uses them very selectively, and it most often transforms them radically." [8]

Washington Crossing the Delaware and the Bourbaki Panorama are both identity narratives, which I define for this discussion as deliberate constructions that contribute to an evolving story of a nation and instill patriotism and national unity.

The Bourbaki Panorama and National Identity

The panorama is a popular subgenre of history painting that sought to document places and events from both ancient and more contemporary times. These panoramas are barometers of the mores and interests of artists and their audiences for whom they were made, providing insight into the culture. Battle scenes were of particular interest to viewers and this tradition of painting continues in panorama production today as teaching tools in such countries as China, Turkey, North Korea, and Cambodia to instill a sense of collective history and national pride.

While Castres's Bourbaki Panorama is a depiction of war, it is atypical of other panoramic battle scenes, as it presents a humanitarian effort during a time of war. Completed in 1881, it depicts a historic event during the Franco-Prussian War in the winter of 1871, which would be a defining narrative of Switzerland as a nation. With no ability to retreat, the French General Charles-Denis Bourbaki (1816-1897) and his troops had two choices: surrender to the Germans or seek refuge in neutral Switzerland. Many of Bourbaki's soldiers were sick or wounded. Humiliated by impending defeat, Bourbaki attempted suicide, then was removed from command and replaced by General Justin Clinchant (1820-1881), who was ordered to lead Bourbaki's eastern army. Recognizing no alternative other than surrendering to Germany, Clinchant sought asylum for his troops in Switzerland. Over three days, 87,000 starving, exhausted, and disheartened Frenchmen plodded through the snow to cross the Swiss border, where they sought safe haven. At the army's points of entry, Swiss citizens helped to ease the French army's suffering as much as they could by providing food and aid with their limited resources. Soon afterward, Swiss authorities, local residents, and the recently founded Red Cross stepped in with further assistance (fig. 2). The Swiss government and its citizens worked collectively to ready households, churches, schools, and hospitals to aid the wounded and sick soldiers, providing treatment and nourishment. In addition, the Swiss provided the soldiers with clothing, books, and playing cards, as well as free concerts and political and

cultural lectures. Switzerland's treatment of Bourbaki's army is considered one of the greatest examples of wartime kindness and generosity to a foreign body. [9]



Fig. 2. *Bourbaki Panorama* (Detail), 1881, Édouard Castres, panorama. Credit: Author.

Commissioned by a Geneva-based entrepreneur and a Belgian company, the Bourbaki Panorama depicts this historical event in a single defining moment. Castres began preliminary studies for the project in 1876 before he began working on the final panorama in 1881. With the help of about ten assistants, it took four months to complete the 112-meter-long cylindrical painting. He was well suited for the project, as a number of his postwar paintings focused on military subject matter and he was a voluntary member of the Red Cross embedded in the French army when the event occurred, so he could provide first-person recollections. [10] Between the audience's viewing area and the painting is faux terrain, enhancing the immersive experience of the event.



Fig. 3. *Bourbaki Panorama* (Detail), 1881, Édouard Castres, panorama. Credit: Author.

On one side of the panorama, the exhausted and broken French troops, in tattered uniforms, trudge through the snow, surrendering their weapons in the expectation of aid from the neutral Swiss (fig. 3). On the other side, Swiss soldiers march into the Val-de-Travers valley with their

immaculate uniforms and equipment, ready to provide assistance and order for the internment. In another section of the panorama, the Swiss General Hans Herzog (1819-1894) and the French General Clinchant shake hands while on their horses as they come to an agreement regarding the internment. The Swiss humanitarian efforts, both civilian and military, are the focal point of the panorama. For example, in a field among countless others providing help to the deflated French military, a civilian woman assists a sick and wounded soldier (fig. 4). The International Red Cross logo is prominent at points throughout the panorama. Castres, who assisted the Bourbaki army in the battlefield as a volunteer for the Red Cross, was present for this border crossing and depicts himself accurately beside a Red Cross wagon.



Fig. 4. *Bourbaki Panorama* (Detail), 1881, Édouard Castres, panorama. Credit: Author.

Much as Leutze had, Castres embellished the event. For instance, there is no evidence that Generals Herzog and Clinchant met on horseback. Likewise the national Swiss uniform had been adopted by the army in 1869 as depicted in the painting, but in truth, many still wore the regional uniforms of the cantons, as before 1874 there was not yet a centralized Swiss military system, only cantonal contingents (fig. 5).



Fig. 5. *Bourbaki Panorama* (Detail), 1881, Édouard Castres, panorama. Credit: Author.

While the factual inaccuracies listed above exist within the panorama, perhaps they were intentional, providing a more cohesive narrative of national identity. Creating a contrast between the broken and fatigued French army and an ordered and disciplined Swiss army presents a position of strength and unity to the Swiss people. The depiction of Swiss civilians and military, together with the International Red Cross providing aid to the surrendered French army, reinforces the Swiss goal of remaining neutral and providing humanitarian assistance in times of both war and peace. Choosing to illustrate the generals' handshake further reinforces the Swiss position of neutrality and providing respite for the fallen (fig. 6).



Fig. 6. *Bourbaki Panorama* (Detail), 1881, Édouard Castres, panorama. Credit: Author.

Deconstructing National Identity

The purpose of national identity is to bring a nation together into a cohesive whole by unifying its citizens through an identification of a national culture and a way of life. This is accomplished through an arrangement of symbolic practices, the construction of narratives from historical events, and cultural heritage manifestations. A consequence of national identity as seen in history is that it has not only homogenized a group of people from potentially diverse backgrounds, it creates an “other,” which can easily lead to prejudice and stereotyping. [11]

While the United States' national identity includes democracy, individual freedom, and tolerance, intolerance may be found in some of its citizens' day-to-day actions. The ramifications of ethnically homogenizing a nation's identity may be seen through paintings that respond to *Washington Crossing the Delaware*. One such painting is Robert Colescott's socially charged *George Washington Carver Crossing the Delaware: Page from an American History Textbook* (1975, St. Louis, private collection,) in which the artist satirizes Leutze's painting of blackface figures in a brightly colored, caricature-like style, replacing the soldiers with racist African American stereotypes (fig. 7). In Colescott's painting, George Washington Carver, the

innovative agricultural scientist who was born into slavery, stands in for George Washington and leads a crew of black minstrels, cooks, maids, and fishermen. Using pointed social critique, Colescott (American, 1925-2009) brings out the complexity of the African American in slavery, inequality, and discrimination in the history and culture of the United States. [12]

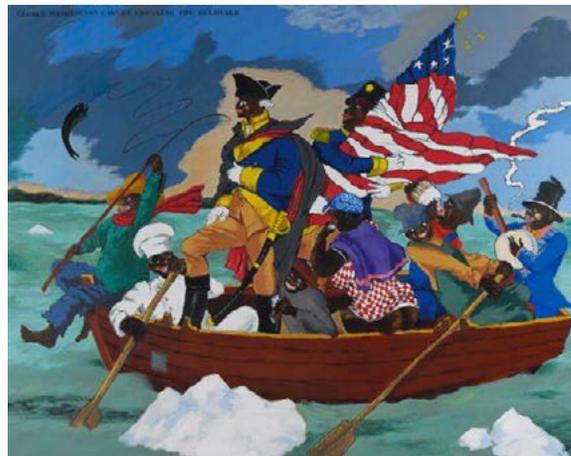


Fig. 7. *George Washington Carver Crossing the Delaware: Page from an American History Textbook*, 1975, Robert Colescott, acrylic on canvas, 84 x 108 in., Private collection, Saint Louis, © 2017 Estate of Robert Colescott / Artists Rights Society (ARS), New York, photo: Jean Paul Torno.

Another treatment is Roger Shimomura's painting, *Shimomura Crossing the Delaware* (2010, Washington D.C., Smithsonian National Portrait Gallery), which focuses its attention on Asian American struggles against xenophobia. In this painting, Shimomura (American, b. 1939) imitates *Washington Crossing the Delaware* in the graphic style of the nineteenth-century woodcuts of the Japanese artist Katsushika Hokusai. He places himself at the boat's helm among samurai warriors crossing the San Francisco Harbor with Angel Island, a processing center for many Asian immigrants, in the background (fig. 8). In 2010 Shimomura wrote, “I was born and raised in Seattle, Washington, a city where ethnic diversity is standard fare, however, for over the last 40 years, I have lived my life in the Midwest where the Asian American presence is still somewhat of a rarity. Since living in Kansas, I have found it to be routine to be asked what part of Japan I am from, or how long I have lived in this country. Just as common, subtle references continue to connect me to stereotypical ‘oriental’ traits, both physical and behavioral. Far too many American-born citizens of Asian descent continue to be thought of as only ‘American knockoffs.’” [13]



Fig. 8. *Shimomura Crossing the Delaware*, 2010, Roger Shimomura, acrylic on canvas, National Portrait Gallery, Smithsonian Institution; acquired through the generosity of Raymond L. Ocampo Jr., Sandra Oleksy Ocampo, and Robert P. Ocampo © 2010, Roger Shimomura.

These identity narrative commentary paintings are important for understanding the complexities and consequences of creating a homogenized national identity that advertently or inadvertently marginalizes minority populations within a country, creating adversaries through the construction of the other by alienating those who have different traditions and belief systems. In the essay “Memory and Identity: The History of a Relationship,” John Gillis acknowledges these ramifications when he writes, “Ironically, fierce battles over identity and memory are erupting at the very moment when psychologists, anthropologists, and historians are becoming increasingly aware of the subjective nature of both. These struggles make it all the more apparent that identities and memories are highly selective, inscriptive rather than descriptive, serving particular interests and ideological positions. Just as memory and identity support one another, they also sustain certain subjective positions, social boundaries, and of course, power.” [14]

When European nations were being formed in the nineteenth century, many writers of the time believed that nations should be founded on a shared language and ethnicity. For the most part, France and Germany subscribed to this notion as they sought to unify themselves in the construction of a national identity by using language, ethnicity, and shared history. [15] Nevertheless, not all European countries shared this sentiment. Switzerland’s rationale for becoming a nation-state consisted of different qualities that did not include shared language and ethnicity.

During the mid-nineteenth century multilingual Switzerland had a noncentralized military and an immigration policy that was determined by regional cantons rather than a national policy. [16] While the country lacked the ethnolinguistic homogeneity that such nineteenth-century political theorists as Giuseppe Mazzini believed was required to become a nation, they argued three major points to solidify their national identity: a

shared political history, a unified neutral and humanitarian vision, and a common natural heritage—the Swiss Alps. [17] The nineteenth-century Swiss philosopher Carl Hilty wrote in support of Switzerland as a polyethnic nation: “What holds Switzerland together vis-à-vis its neighbors is an ideal, namely the consciousness of being part of a state that in many ways represents a more civilized community; of constituting a nationality which stands head and shoulder above mere affiliations of blood or language.” [18]

In the subject matter presented in the Bourbaki Panorama it is evident that Castres sought to design a painting that did not merely depict an important historical event, but created a narrative that solidified the national identity of Switzerland, much as Leutze’s *Washington Crossing the Delaware* had for the United States. Patrick Deicher writes that the event depicted in the Bourbaki Panorama played “an important part in helping shape Swiss national identity. At the time, national identity included a very strong emphasis on solidarity and humanitarian activity. The founding of the Red Cross in Switzerland in 1863 is a part of this. The internment became fixed in the Swiss mind as a major achievement that helped to build the national identity.” [19]

While the painting depicts a unified and powerful national military under General Herzog, which many political theorists of the time argued was an important component of a nation-state, perhaps many local leaders were marginalized and remain unrecognized for their contribution to this important humanitarian event in Swiss history. Perhaps today what may be more interesting to consider is how Switzerland’s disparate ethnic communities came together in an effort to support the shared political values and institutions that have helped to shape Switzerland.

Concluding Remarks

While memories help us make sense of the world we live in, constructions of national identity make these memories tangible with the creation of heritage objects such as monuments, holidays, cemeteries, and museums to reinforce a nation’s perceived narrative. In her essay “Collective Memory and Forgetting: A Theoretical Discussion,” Cindy Minarova-Banjac writes, “Collective or social memory refers to shared perceptions of the past, where societies ensure cultural continuity by linking the past, present, and future in group narratives. How the past is remembered and interpreted plays an important role in the creation of individual and group identities, represented by oral histories, traditions, myths, and languages.” [20] Perhaps as nations move forward in the struggle to define themselves in an increasingly globalized world by re-

establishing a unified national identity, they should resist defining themselves using such qualities as ethnicity, religion and language, but rather through another set of common attributes—both tangible and intangible—much like the Swiss had in the 19th century.

Identity narratives are social and political, as they involve the coordination of individual and group memories whose outcomes may appear consensual when they are in fact bound together as much by forgetting as by remembering. Future research efforts by this author will be undertaken to further understand how more recent panorama painting initiatives in such places as Cairo (1988) and Istanbul (2009) compare to nineteenth and early twentieth century panorama projects, potentially providing additional insight into identity narrative constructions within the context of nation building.

Many of the remaining nineteenth and early twentieth century panoramas are important heritage documents that not only re-present significant events or places, but now serve as heritage artifacts that provide insight into the time and place in which they were constructed. As panorama organizations work to interpret these valuable artifacts, and as contemporary panorama artists design new panoramas that depict one's heritage, we must be aware of not only previously marginalized voices and communities who have contributed to the fabric of a nation, but also how others from outside a country may perceive events within a country's history differently.

Notes

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The Panorama of Rio de Janeiro

by Victor Meirelles and Henri Langerock:

Part 1 – A City Memory’s Representation or a City’s Invention?

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Abstract

This essay is related to the research project "The immersive experience in 360°: investigation, representation and digital immersion in the city of Rio de Janeiro in the 19th and 20th centuries", developed at PROUB in FAU-UFRJ, Rio de Janeiro/Brazil. This work will investigate this Panorama of Rio de Janeiro looking for memories and historical truths in its context: Which part represents a historical point of view? Which part is invention? How were the city and its landscape represented on the canvas? And specifically, were the remaining studies made from one single point of view? This is the most well-known Rio de Janeiro’s panorama, which project was idealized by the Brazilian painter Victor Meirelles de Lima (1832-1903) with the Belgian photo-painter Henri Charles Langerock (1830-1915). The Panorama was exhibited in Brussels 1888, Paris 1889, and Rio de Janeiro 1891-1896, with great recognition in all these cities. This paper will investigate this Panorama, its initial studies, its landscape and the architecture depicted, newspapers descriptions of its exhibitions, and mainly, distinguishing among memories, historical truths and verisimilitudes. In order to achieve this, digital and analogical systems of representations, sketches and computer graphics techniques will be established, specially, tridimensional models will be developed and applied.

Keywords

Panorama of Rio de Janeiro, Victor Meirelles, Henri Langerock, History, Bases for Immersive experiences.

Introduction: a brief history of the Panorama

The *Panorama da Baía e da Cidade do Rio de Janeiro* (Panorama of Rio de Janeiro’s city and bay) painted by Victor Meirelles de Lima (1832-1903) Henri Charles Langerock (1830-1915) was the third Panorama of Rio and the most well-known. It presents the city and its landscape in the end of 19th century. Besides this, other three Panoramas of Rio were elaborated: two before and one after it. The first was *The Panorama of Rio de Janeiro* by Félix-Émile Taunay (1795-1881) a French artist, represents a romantic city’s view, presented in Paris, in 1824, at the 3rd rotunda of Pierre Prévost (1764-1823); the second, *City of St. Sebastian, and the bay of Rio de Janeiro* by John

William Burchell (1781-1863), English naturalist traveller, represents a meticulously detailed city landscape, was presented in London, in 1828, at the Barker’s double rotunda in Leicester Square; the forth, *Panorama de Rio de Janeiro: le ville and la baie de 1910* (Panorama of Rio de Janeiro’s city and bay in 1910), by Louis-Jules Dumoulin (1860-1924), a French artist, represents the city’s development in the beginning of the 20th century, presented in Brussels, at the Universal and International Exhibition of Brussels, in 1910 [1]. It should be noted that these four panoramas of Rio de Janeiro describe the city’s central area, the old capital of the country, at different times. They offer a global image of the city in a verisimilitude vision. From its analysis, it is possible to understand a significant part of Rio de Janeiro’s history: landscape, architecture, successive urban transformations, changes in political and administrative power, and many other aspects. These panoramas tell Rio de Janeiro’s city history.

Rio de Janeiro, 1885: Meirelles meets Langerock and creates the partnership

Victor Meirelles de Lima was born in Santa Catarina, in Nossa Senhora do Desterro, now Florianópolis, in southern Brazil. Since his childhood, he showed talent for drawing and painting. He was invited to study at the *Academia Imperial de Belas Artes* (Imperial Academy of Fine Arts) when he was just 15 years old [2]. Due to his great performance, he received a travel award that allowed him carry out an academic exchange in several museums and painters’ ateliers in European cities, like France and Italy, for eight years working as a corresponding member [3]. Meirelles painted *A primeira Missa no Brasil* (The First Mass in Brazil), in 1860, to remarkable recognition. When he returned to Brazil, he joined his old school as the main professor of historical painting. Over the years, he received several government’s orders: *Moema*, in 1866; *A Passagem do Humaitá* (The Passage of Humaitá), in 1868-72; *O Combate Naval do Riachuelo* (The Naval’s Combat of

Riachuelo), in 1882, among others. His drawings and his technique demonstrate singularity and virtuosity [4]. Meirelles became the most important Brazilian painter of the 19th century. Was a recognized and experienced artist when he decided to realize his first panorama, around 1869 [5]. However, from the first moment, understood that do a Panorama was not a simple task. It would be necessary an experienced partner to help whit the artistic works and also to undertake the future Panorama. Ironically, Meirelles would find his partner in Rio de Janeiro.

Henri Charles Langerock was a Belgian photo-painter, an artist of recognized quality, but without great notoriety. Langerock was renowned for being an expert in landscape painting, who has traveled around Europe and North Africa, drawing and painting the main cities' landscape. And particularly: worked in the painters' team of the *Panorama of the battle of Tell-El-Kébir*, exhibited in London [6]. When Langerock arrived in Rio de Janeiro, to hold an exhibition at the *Academia Imperial de Belas Artes*, he already had three interesting experiences for Meirelles: expert in landscape painting, a photo-painter, and had participated in Panoramas' elaboration. He had the necessary features to become a promising partner.

It was at this time when Meirelles decided to invite Langerock to realize the Panorama of Rio de Janeiro. The Belgian painter accepted the invitation immediately, and together they started to elaborate how would be the enterprise and their partnership. In 1886, the two painters founded *Empresa de Panoramas Meirelles and Langerock* (Meirelles & Langerock Panoramas Company) with the purpose of undertaking and executing the *Panorama da Baía e da Cidade do Rio de Janeiro*. The two painters were founders and the main shareholders, with a participation of a dozen other small members. The company would have a term of six years, defined in contract [7].

As soon as they were able to collect the fund to start the enterprise, and to afford the Panorama's entire cost, the two painters devoted themselves entirely to the project. They decided to realize the Panorama from the *Morro de Santo Antônio's* view, presenting the most part of city's central area. The initial studies were did by *après-nature*, however, is reasonable to suppose that they may have also used some photographs. In six months, they finished and exhibited the studies at Meirelles' atelier, in Rio de Janeiro.

With the initial studies and the fund needed to realize the Panorama, the two painters traveled to Ostend, in Belgium's coast. After all, would be easier to complete the painting in Europe, where the Panorama would be exhibited, than to finish it in Brazil and have to transport it. In Ostend, the two painters worked tirelessly on the immense canvas in the last months of 1886, all through 1887, ending in March 1888. The initial idea was to go to London, but it wasn't possible because there weren't any rotundas available [8]. Faced with such impossibility, they decided to exhibit the canvas in the city of Brussels.

Brussels, 1888: the 1st exhibition and commercial disputes between the two partners

After finishing the canvas, the painters transported it from Ostend to Brussels. It had 115 meters in length by 14.50 meters in height. Finally, on April 4, 1888, at the old Boulevard Hainaut, now Avenue Maurice Lemonier, *O Panorama da Baía e da Cidade do Rio de Janeiro* was exposed for the first time. The rotunda was the *Grand Panorama National de Belgique* [9] (Fig.1-2). The Panorama was in exhibition from April 5 to October 16, 1888, about six months, totaling 50,000 visitors [10].

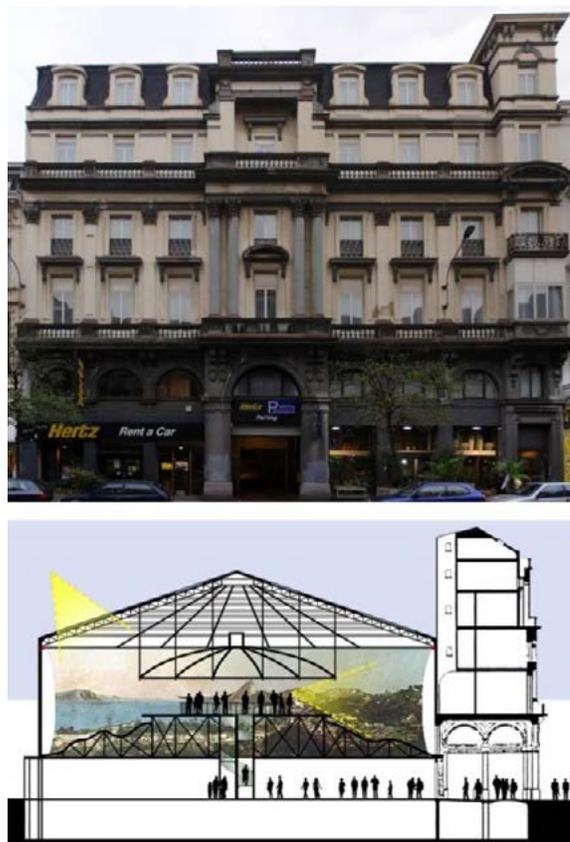


Fig.1-2. *Le Grand Panorama National de Belgique* in Boulevard Hainaut and cross-section interpretation about the Panorama of Rio de Janeiro, 2014, Private Collection.

The Panorama of Rio de Janeiro's exhibition in Brussels was moderately successful, when its presentation at the 1889 Universal Exhibition in Paris was considered. It had a good attendance, with an average of 280 people daily, a fact that would be extremely positive for the enterprise. However, the dividends only brought problems: Langerock demanded a higher profits' percentage obtained with the entrance tickets. Immediately, the impasse arose and the request made by the Belgian painter was not accepted by Meirelles and other partners.

The situation of disagreement took even greater proportions. Meirelles sued the partner in the Belgian Supreme Court. The lawsuit was judged and enforced the contract established when the company was created. In Rio de Janeiro, Mr. Emilio Hermann bought the rights of the Belgian painter [11]. The partnership between Victor Meirelles and Henri Langerock was finally broken up. The Brazilian painter traveled alone to Paris.

Paris, 1889: the 2nd exhibition at the Great Universal Exhibition

O Panorama da Baía e da Cidade do Rio de Janeiro was inaugurated in Paris, on March 14, 1889, before the official opening of the World's Fair. However, Meirelles was unable to expose the Panorama near of the Brazilian pavilion like was his initial idea. The solution was to choose a vacant lot, on Avenue Suffren [12], next to the *Champ de Mars*, not so far from the Brazilian pavilion, but outside the official perimeter of the Exhibition (Fig.3).

As in Brussels, the Panorama was a great success. The exhibition reached an average visitation of 200 to 500 people per day. The Panorama's presence during the Universal Exhibition was well-publicized in the French press with numerous compliments of Meirelles' painting works realized in the Rio de Janeiro's Panorama [13].

The critics' reception was very favorable and the Panorama received the gold medal in the category *Aplication usuelle des arts du dessin and de la plastique* [14]. However, in one hand, if the Panorama was very successful for critical press, in the other, visitation's average did not last for so long. After the official opening of the World's Fair, visitors reduced greatly, to 50 to 60 people daily [15]. The Panorama of Rio de Janeiro was not able to compete with Universal Exhibition's attractions. The Victor Meirelles' enterprise was in risk and a new idea emerged: take the Panorama to Rio de Janeiro. It would be the first time of a Panorama in Brazil.

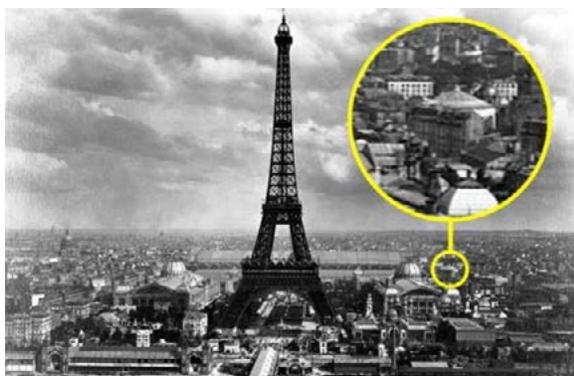


Fig.3. A panoramic view of Paris in 1889 and the Panorama of Rio de Janeiro in Av. Suffren, 2018, Private Collection.

Rio de Janeiro, 1891: 3rd exhibition and the first time in Brazil

On January 3, 1891, *O Panorama da Baía e da Cidade do Rio de Janeiro* was finally inaugurated. The first day was reserved for the press, and opened to the public on the next day [16]. The rotunda had a very particular and unprecedented architecture in the Brazilian landscape. The building was composed of an icosagonal volume [17], completely opaque, a large cylinder built of wood and masonry with no opening to the outside, except for the entrance door. It had about 36 meters in diameter, 15 meters high and occupied approximately 1020m² of built area, with an uninviting appearance. The Panorama came from two previous exhibitions and was marked by a very significant visitation. It was a great expectation to part of Cariocas and Brazilians: many people wanted to see the canvas that had been so successful. Until that time, they had only read comments in the newspapers or heard reports of who had seen it in Europe. Quickly, the Panorama had become the city's biggest entertainment spectacle.

Since the Panorama's opening, local newspapers have started to publish small notes with public's frequency. One of the first newspapers to make reference to its visitation was *Jornal do Comércio*, with the greatest circulation and visibility [18]. Certainly, this initiative was an important advertising tool for Meirelles and the enterprise to attract more visitors, consequently raising more dividends. Gradually, other newspapers also started to present the Panorama public's frequency, mainly: *O Paiz*, *Gazeta da Tarde*, *Diário de Notícias*, and *Gazeta de Notícias*.

From a long research, by consulting all these newspapers and its notes with visitors' numbers, day by day, was possible to state the Panorama's visitation in Rio de Janeiro surpassed the extraordinary record of 87,500 visitors in the first year of exhibition. It was approximately 17% of the city's habitants, an unprecedented mark [19].

Although the Panorama's existence in Rio de Janeiro was well-publicized in the press in the first year, just a few information about its architecture was discovered. Few photos had survived and no architectural drawings had ever been found. However, through some comments and critical reports from visitors, found in newspapers, it is possible to deduce and interpret the rotunda's interior and spatiality: it had a spiral staircase [20]; the observation platform featured a terrace on the *Morro de Santo Antonio* [21]; the distance between the canvas and the platform was not very large [22]; *faux-terrain* was composed of natural plants [23]; and finally, a central column to support the coverage [24] (Fig.4-5-6). New researches should be done to investigate how the immersive experience was offered by the Panorama in Rio de Janeiro.

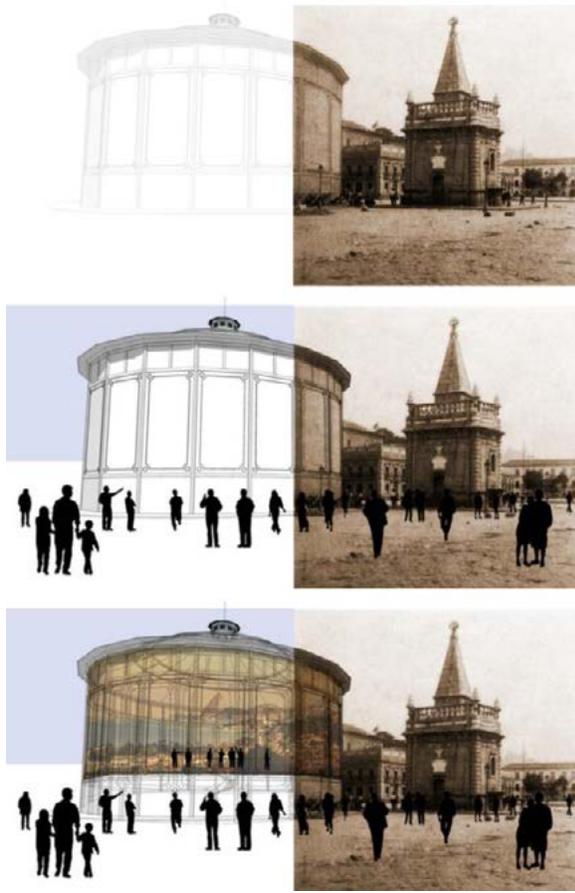


Fig.4-5-6. *The Panorama of Rio de Janeiro, in Rio de Janeiro, near to Master Valentim's fountain: Photography X 3D model based in newspapers' reports, 2018, Private Collection.*

The Panorama of Rio de Janeiro remained in exhibition for about 5 years. However, after the first year of exhibition, the visitors' frequency reduced gradually. Slowly, the city's greatest entertainment spectacle was no longer an attraction. The Panorama's enterprise was closed

Meirelles, by his personal initiative, decided to do other two Panoramas: *O Panorama da Esquadra Legal em 23 de junho de 1894 observada da Fortaleza de Villegaignon em ruínas*, inaugurated at the same rotunda, in 1896; and *O Panorama do Descobrimento do Brasil* inaugurated in another rotunda, in Santa Luzia's Street, also in the city's center. Nonetheless, the Brazilian painter did not achieve the same success of his first initiative: his last two Panoramas have been few months in exhibition, without international interest and appeal.

In 1902, a few months before his death, Meirelles donated his Panoramas to *Museu Nacional da Quinta da Boa Vista* (National Museum of Quinta da Boa Vista). They were inadequately stored, and after a few years, nobody knows exactly what happened with them. Victor Meirelles de Lima died at age 71, on February 22, 1903.

Unfortunately, just a few original documents survived: the initial studies prepared with Langreock, now in *Museu Nacional de Belas Artes* (National Museum of Beauty Arts); some letters from 1910, in *Arquivos da Escola de Belas Artes da UFRJ* (Archives of the School of Beauty Arts of UFRJ), today, *D. João VI* Museum, requesting to remove the Panoramas from the museum [25]; and two brochures, from the 1st and 2nd Panoramas exhibitions in *Museu Histórico Nacional* (National Historical Museum). An important part of Rio de Janeiro's History, Architecture and Landscape was lost with this Panorama disappearance.

This present work will begin a series of studies to investigate its History, and mainly, to try to rebuild, in an approximate way, the immersive experience offered by The Panorama of Victor Meirelles and Henri Langerock.

Objectives

In order to understand the Panorama of Rio de Janeiro, painted by Meirelles and Langerock, its history, its initial studies, and looking for memories and historical truths in its context, the main objectives of this work are:

- To analyze in detail the remaining studies;
- To identify in the studies the main buildings, squares, streets, the landscape and its hills and mountains pointed out in Panorama's description;
- To verify, approximately, the points of view used by Meirelles and Langerock when they did the studies;
- To elaborate a 3D-model of Rio de Janeiro city's center and check these possible points of view;
- To establish a methodological process to redraw this Panorama based on all data collected.

Theoretical Framework

In order to conceptualize and discuss the Panorama of Rio de Janeiro by Victor Meirelles and Henri Langerock, it is important to mention that this Panorama offered a quite special experience to its visitors: a beautiful landscape view of Rio de Janeiro, at end of 19th century, vibrant, with bright colors and splendid balance, presenting the city at dusk with all its surrounding nature. This is a *unique* immersive experience, probably the most important in the History of Panoramas of Rio de Janeiro. It can't be analyzed in a generic way, it must be understood through history, art history, and also now with the new possibilities of computer graphics's investigations.

To debate immersive experiences, these authors were selected: Ernst Gombrich (1909-2001), *Art and Illusion* (2004); Oliver Grau, *Virtual Art* (2003); and Gordon Calleja, *In-Game* (2011). These and other authors are discussed and analyzed in the PhD thesis *O panorama e a*

experiência imersiva em 360°: do espetáculo de entretenimento aos meios digitais (The panorama and immersive experience in 360°: from the spectacle of entertainment to the digital media), by Thiago Leitão, PROURB / FAU / UFRJ (2014). The same theoretical approach was developed in essay The Panorama-salon: the Google Cardboard of 19th century, in *International Panorama Council Journal*, Vol. 1, 70-79, 2017 [26].

These three authors can be understood as a single 'team' of researchers which form a set of investigations about immersive experiences in different moments in history: Gombrich sees the relationship between observer and painting as the center of experience, and painting as the great illusory media capable to dialog with the observer [27]; Grau seeks to understand how virtual art increasingly codify and interpret the immersive experience that was offered in 19th century, highlighted by Panoramas as the greatest immersive media; and also, how the 'illusion' has been changing into immersion, in total immersion [28]; Calleja debates about how immersion is discussed today, especially related and developed by video-games, without denying painting Panoramas nor virtual art as illusory media; for him, the observer becomes a user, enjoys the experience, and also is able to perform actions which can modify his own experience [29]. These authors discuss the idea of immersive experiences, in their own way, credit and identify its potential to a specific illusory media, but all their researches can be related to Panoramas.

In addition to the theoretical discussion about the immersive experience of history, art history and digital media, other important debate is needed: the *rebuild* of an immersive experience, especially through sketches and 3D models. In order to approach this discussion, the following authors were selected: Yadegar Asisi, specially for his Panoramas of *Rome CCCXII*, *Baroque Dresden 1756*, and *Pergamon*; and Naylor Vilas Boas, with his PhD thesis *A Esplanada do Castelo: Fragmentos de uma História Urbana* (Castle's esplanade: Fragments of an Urban History), PROURB / FAU / UFRJ (2007).

Yadegar Asisi is undoubtedly the greatest contemporary *panoramic painter - artist* [30]. On his three Panoramas cited, Rome, Dresden and Pergamon, the German artist used numerous sketches and 3D models, but with slightly different applications. In Rome's Panorama, based on the original Alexander von Wagner's brochure (1838-1919), Asisi could correct and adjust some of incongruities found in the image's brochure, such as: size, buildings' position, and proportions, among others. In this occasion, sketches and 3D models were used as *verification and validation processes* between the images presented with historical maps of Rome. In Dresden Panorama, Asisi established the point of view, as well as its composition, in choosing to hold the Panorama from the top of the main church. For this occasion, the 3D models,

completed by numerous sketches, were used as a *simulation*, to model the city's architecture in that time. And in the Panorama of Pergamon, Asisi combines these two situations: *simulation*, now, of a landscape, from an aerial photograph of a no longer existent point of view, with fragments' *verification* of the architecture, especially with Pergamon's altar. Thus, as Asisi points out, sketches and 3D models can be good tools for rebuild immersive experiences and Panoramas.

The Brazilian Professor Naylor Vilas Boas explores other potentialities about 3D models [31]: *synthesis*, ability to gather data and documents for its construction; *tridimensionality*, the possibility of offering an extra dimension to the original iconographic sources generating a spatialized view; and *versatility*, if the model is well elaborated it can generate numerous forms of representation. All these principles were developed by the researcher when he elaborated a historical city model of Rio de Janeiro's central area. Vilas Boas highlights 3D models as an important tool for historical research.

The theoretical and practical approaches are important, essential, and in this case, complementary. With them, is possible to understand, reflect and discuss what an immersive experience is and how it can be rebuilt. The teachings offered by these authors will be applied and developed throughout this and future works related to the Panorama of Rio de Janeiro by Meirelles and Langerock.

The first experience: the Panorama's rebuilt from the descriptive text x remaining studies

After all historical research, the starting point was to analyze the Panorama's remaining documents, in detail, mainly, the brochure with Victor Meirelles' text presented in the exhibitions and the six remaining painted studies.

The descriptive text doesn't present the 'key', nor numbers or letters that could indicate specific elements which would be presented in the Panorama. However, the text was divided according to the remaining studies. The first part of the text is referenced to the first study; the second text, to the second study; and so on. Analyzing each study and comparing them, it is possible to find some common elements, related to city's Architecture and Landscape, such as: churches, institutions, fortifications, streets and avenues, hills, and Guanabara's bay itself.

Once each of these elements was identified in the six remaining studies, the following survey was established: Study 1 with 30 elements found; Study 2 with 14; Study 3 with 23; Study 4 with 21; Study 5 with 23; and Study 6 with 10. In this analysis, the six studies together would indicate 126 elements to be identified in the Panorama. It is not possible to say that Meirelles followed this number, but certainly, the Panorama's key wouldn't be a bigger number.

The next moment was to compare the text of each study with the study. For Study 1, from the 30 elements pointed, only 21 were found; Study 2, from 14, only 8; Study 3, from 23, only 12; Study 4, from 21, only 11; Study 5, from 23, only 12; Study 6, from 10, only 6 (Fig.7). Thus, to identify all these elements pointed out by the text wouldn't be a simple task. In addition, many doubts and great imprecision were generated: from 126 elements pointed out, only 70 were identified. This method proved to be ineffective, since almost half of the elements were not found. A new method needed to be developed.



Fig.7. For instance: two images demonstrating the comparison between the studies' texts N° 01 and N° 02 with the studies N° 01 and N° 02, 2018, Private Collection.

The second experience: the Panorama's rebuild from another panorama x 3D Models

It can't be said that the previous experience was totally unsuccessful. It was important to establish the basis for the next investigation method: the precise elements' identification pointed out by the text and presented graphically on the six studies.

It is important to mention that the Panorama of Meirelles and Langerock was made from *Morro de Santo Antônio* in 1885, one of the four city central area's hills. A series of urban changes occurred in this area, in the late nineteenth, early, and mid-twentieth century. These changes occurred in the architecture, in urban form, and especially, in the city's landscape. The *Morro de Santo Antônio* itself, as visited by the two painters, no longer exists in the same way. This whole central area has been deeply modified during these 130 years.

However, another Panorama, no longer as a painting, but photographic, was realized in *Morro de Santo Antônio*: the panorama of the photographer Hubmeyer in 1913, exactly 25 years later than Meirelles and Langerock Panorama's first exhibition. Hubmeyer presents part of the city with some modifications and it's possible to do an immediate comparison with the painters' Panorama.

Fortunately, this panorama had presented a long descriptive text of its main elements. These were identified in the own photograph, through numbers and legends. After this, Hubmeyer's panorama has been used as an auxiliary base for elements' identification presented in the Meirelles and Langerock's Panorama.

Therefore, the comparison between these two panoramas became necessary: Hubmeyer's was made from a single point, composed by panoramic photographs; and the two painters' was realized by six studies, in six different places, as it is possible to realize when analyzing them in detail. But, how this comparison could be done? The answer was established by setting the remaining studies in the landscape presented by Hubmeyer. It was necessary to resize, resemble them, as close as possible, to Hubmeyer's landscape. The proportion of studies' by Meirelles and Langerock has always been maintained, never altered or distorted, only resized, and in a few cases, overlapped in Hubmeyer's landscape. Once the two panoramas could be compared the elements' identification could be done. This comparison proved to be a successful method: from 126 elements pointed out, only 7 were not found which represents a 95% success rate (Fig.8).

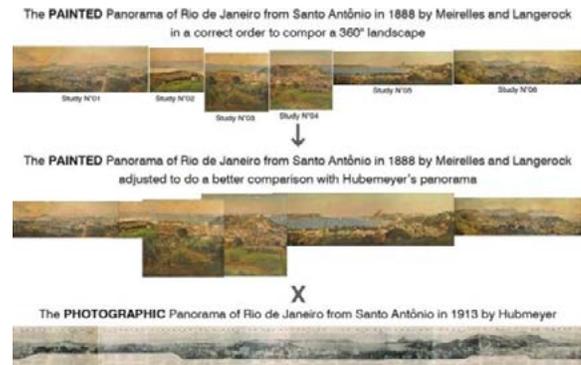


Fig.8. Demonstration of the original studies of Meirelles and Langerock's Panorama in a unique 360° landscape, and their resizing for better comparison with the Hubmeyer Panorama, 2018, Private Collection.

In order to rebuild the Panorama of Meirelles and Langerock, based on these elements' identification, trying to locate them spatially in the city has become a necessity and great challenge. The location, evidently approximate, of the six points used by the painters, would help to understand the composition of the six studies, and also, to realize a single circular image in 360°.

From this moment, the 3D models were constituted as the main methodological instrument for this work. They became indispensable and were used in three different scales: *architectural objects*, such as churches, institutions and fortifications; part of the *historical city's topography*, with the four central area's hills, *Morro de Antônio*, *Morro*

do Castelo, Morro de São Bento and Morro da Conceição; and the biggest, the *historical city's urban form*. It should be emphasized that the proper organization of these 3D models constituted an important challenge.

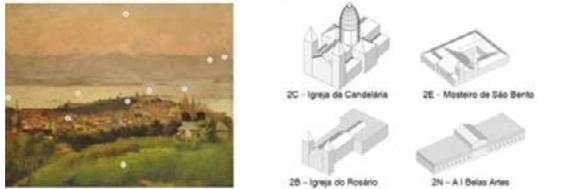
For the first scale of observation, the *architectural objects* were modeled without windows and ornaments (Fig. 9). For the second, a specific historical search had to be done. It was necessary to find the *contour lines* of the four hills, in 1888. Part of this problem was easily solved, since the hills of *São Bento* and *Conceição* were practically unaltered, it was just need to see the city's CAD files [32]. But the *contour lines* of *Santo Antônio* and *Castelo's* were only found in urban form projects in the end of 19th century. They were detached and redrawn in a CAD format. Once all the information was available, the hills were modeled in 3D (Fig.10). For the third scale, the *historical urban form*, was used the *Planta da cidade do Rio de Janeiro 1870* by the Engineer Leopoldo José da Silva, a very rare and precise historical map was found. It dates from 1870, almost 20 years before the Panorama of Meirelles and Langerock. However, it should be noted that in this period the city did not had major changes, and because of this, it could be used. It was done in 100 boards, but only 18 were selected containing the city's central area. It became the perfect base for urban 3D model (Fig.11).



Fig.11. Bases for the model's map: the current map in CAD x historical city map, 2018, Private Collection.

Once these three scales of observation were established, and with all 3D models finished, finally, it was possible to combine them. From Meirelles and Langerock studies was possible, by trial and error – a considerable part of this final process –, to find *the points of view* used by the two painters, and mainly, locate them at the urban model. The 3D Model's camera was set at observer's height, in such a way that he could 'walk' through the virtual *Morro de Santo Antônio*, seeing simultaneously the *architectural objects* modeled and Meirelles and Langerock's studies behind them. This possibility could help to identify, approximately, the painters' angle of view, and locate the remaining studies in the 3D model (Fig.12-13-14).

Study N° 02 – Morro da Conceição e Igreja da Candelária: painting and models



Study N° 03 – Morro Sto. Antônio e Iha das Cobras: painting and models

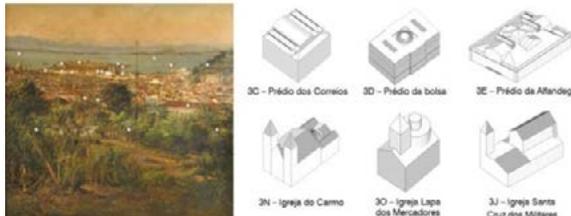


Fig.9. For instance: two images with the 3D models for the studies N° 02 and N° 03, 2018, Private Collection.

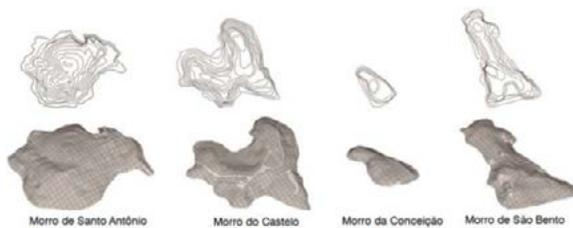


Fig.10. The city's central area topography: the four hills contour lines in 2D changed to 3D, 2018, Private Collection.

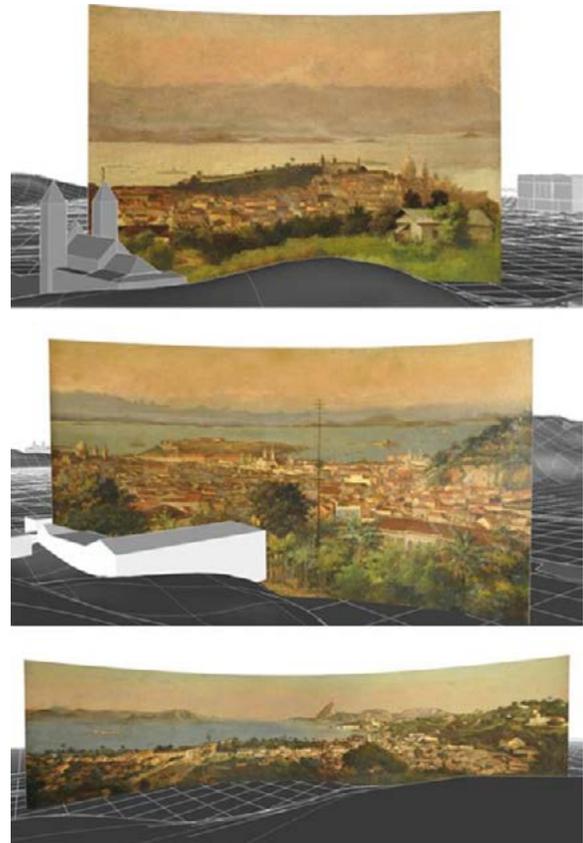


Fig.12-13-14. Three images demonstrating the studies N°02, N°03 and N°05 in the urban 3D model with Meirelles and Langerock's points of view, 2018, Private Collection.

This new method has generated important learning: the use of 3D models with *multiple scales of observation*. It can be applied and developed over a contemporary city, a historical city, or even in a city which no longer exists. And these three cases are exactly what Rio de Janeiro's city is: a city with a forgotten memory, or dispersed by old and rare documents, which can still generate new, or unknown, Panoramas and immersive experiences. Certainly Meirelles and Langerock's Panorama is such example. Further works will be done to continue this research process.

Concluding remarks and perspectives

It is possible to affirm that the greater conclusion of this work was the development of the process itself. The detailed analysis of the six studies by Meirelles and Langerock enable to identify almost all the elements mentioned in the descriptive texts: from 126 elements only 7 were not found. The 3D models were very important for rebuilt the historical city, since they allowed finding the *points of view* used by the two painters. The determination, in an approximately way, of these six points of view, was also fundamental to the success of this experiment. It allowed the studies to validate the 3D models and also to demonstrate the route taken by the painters in the old *Morro de Santo Antônio* when they were there (Fig.15). Certainly, the rebuild of the Panorama of Rio de Janeiro's immersive experience has not yet been fully achieved, but the present work allowed to structure an important method, to point out the new directions that should be followed.

In the light of the work realized, some perspectives have been presented for the following years: recompose the six Meirelles and Langerock studies into a single 360° immersive experience; identify the historical views of the two painters in the contemporary city, by *geolocation*, and then, create a base for current panorama compared with the historical one; experience these both panoramas, historical and current, with Virtual / Augmented Reality Glasses, and maybe, in a 360° multimedia installation; and specially, foster the discussion between students and researchers about immersion in Architecture and Urbanism.

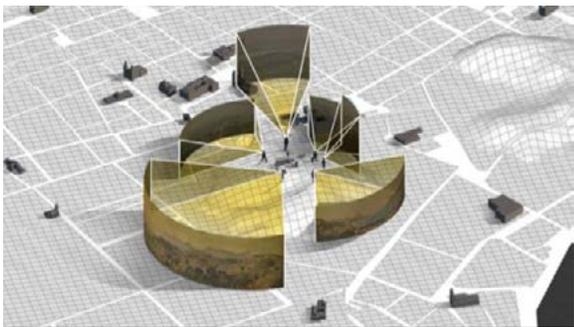


Fig.15. *Painters' six points of view and the walk through the Morro de Santo Antônio to realize them*, 2018, Private Collection.

Notes

1. Leitão, Thiago. *O panorama: da representação pictórica espacial às experiências digitais*. Dissertation (Master in Urbanism) – Universidade Federal do Rio de Janeiro, PROURB / FAU, 2009.
2. Pereira, Sonia Gomes. Victor Meirelles e a Academia Imperial de Belas Artes, p. 47-63. In: Turazzi, Maria Inez org.; Rosseto, Lourdes coord. *Victor Meirelles – Novas leituras*, São Paulo: Studio Nobel, 2009.
3. Rosa, Ângelo de Proença, et al. Victor Meirelles de Lima 1832-1903. Rio de Janeiro: Pinakothek, 1982.
4. Monica F. Braunschweiger Xexéo demonstrates the uniqueness and technique of Victor Meirelles when analyzing the original sketches of the artist's main works present in the MNBA. Xexéo, Monica F. Braunschweiger, Victor Meirelles – um desenhista singular, p.64-77. In: Turazzi, Maria Inez org.; Rosseto, Lourdes coord. *Victor Meirelles – Novas leituras*, São Paulo: Studio Nobel, 2009.
5. In a report sent to future partners of the Panorama, Victor Meirelles mentioned precisely "for more than 17 years I had cherished the idea of doing a Panorama" and "and only after a long reflection I decided to realize it". This report is dated from 1886, but in the text, the Brazilian artist relates to 1869, 17 years before. It is important to highlight that this period of time is previous to his second travel to Europe, when he decided to do a replica of *Comabte Naval do Riachuelo*. For more information, see: Leitão, Thiago. *O panorama e a experiência imersiva: do espetáculo de entretenimento aos meios digitais*. Thesis (Ph.D. in Urbanism) – Universidade Federal do Rio de Janeiro, PROURB / FAU, 2014.
6. Bibliographical note of Henri Charles Langerock published in the Belgian newspaper *Le Gand*, May 14, 1888. We found this information during our Master course in Urbanism co-realized at Hogeschool Sint-Lukas, Brussels, in 2007-2008. For more information see: Leitão, Thiago. 2014. *Ibid.*, 136-138.
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8. Meirelles, Victor. Relatório apresentado aos Srs. Sócios da Empresa do Panorama da Cidade do Rio de Janeiro pelo sócio gerente Victor Meirelles de Lima. Fundação Biblioteca Nacional, Rio de Janeiro: Imprensa MontAlverne, 1889.
9. This rotunda was disabled. The Panorama of Meirelles and Langerock was an exception in this rotunda. After Rio de Janeiro's Panorama, it was closed again for 12 years. The building underwent numerous renovations. Currently it is a parking garage.
10. Mello Junior, Donato. 1982, *Ibid.*, 341.
11. Meirelles, Victor. 1889, *Ibid.*, 10.

12. In his Phd thesis, François Robichon mentions that before the Panorama of Rio de Janeiro was presented at Avenue Suffren, it was installed in a "waiting" building on Avenue de la Motte-Picquet. The author comments that on September 11, 1888, a permission was requested for a provisional construction for Panorama by Architect Leon Daubourg. It is not clear what exactly happened. The Panorama of Rio de Janeiro probably arrived in Paris, and remained stocked in this temporary construction, but not exposed. Only in 17 of January 1889, a new permission was made for the rotunda's construction on Avenue de Suffren, No. 80, by the owners of Kaeffer et Cie. For more information see: Robichon, François. *Les Panoramas em France au XIXe Siècle*. 954f. Thesis (Doctorat de 3ème cycle) – Université de Paris X Nanterre, 1982.
13. Of all important reports found, two deserve to be highlighted: Germain Bapst and Paul Vibert. Bapst, Germain. *L'Histoire des Panorama et des Dioramas: extrait des rapports du jury international de l'exposition universelle de 1889*. Paris: Imprimerie Nationale, 30p, 1889; and, Vibert, Paul. *Souvenirs de l'Exposition universelle de 1889: Les panoramas géographiques of Paris*. Paris: Charles Bayle, p.23-32, 1890.
14. Unknown author. Exposition Universelle of 1889, to Paris. List of rewards. *Ministère du Commerce, of the Industrie et des Colonies*. Paris: Imp rimerie Nationale, p.120. 1889.
15. Meirelles, Victor. 1889, *Ibid.*, 17.
16. *O Diário de Notícias*. 1891. Newspaper of Rio de Janeiro. Biblioteca Nacional. Year VIII, nº 2013, January 2, 1891, 1.
17. *O Brasil*. 1891. Newspaper of Rio de Janeiro. Biblioteca Nacional. Year II, nº 226, January 2, 1891, 2.
18. Considera, Eliane. Uma modernidade bem-comportada: O panorama da baía e da cidade do Rio de Janeiro de Vitor Meireles e Langerock, In: *I colóquio Internacional de História da Arte. Paisagem e arte: a invenção da natureza, a evolução do olhar*. São Paulo: H. Angotti Salgueiro, p. 287-293, 2000.
19. This estimate is ours. Its accomplishment was possible through the analyzes of 'online newspapers' of *Hemeroteca Digital* (Journals Digital Library) of *Fundação Biblioteca Nacional* (National Library Foundation), and mainly, the data found about Rio de Janeiro's city population in 1890, as being, approximately, 520,000 inhabitants. In: Lessa, Carlos. *O Rio de todos os Brasis: uma reflexão em busca de autoestima. Coleção Metrôpoles*. Rio de Janeiro: Editora Record, p.162-163, 2001.
20. *Gazeta de Notícias*. 1891. Newspaper of Rio de Janeiro. Biblioteca Nacional. Year XVII, nº 138, May 19, 1891, 2.
21. *O Paiz*. 1891. Rio de Janeiro's Newspaper of Biblioteca Nacional. Year VII, nº 3175, January 3, 1891, 2.
22. *O Paiz*. 1891. Newspaper of Rio de Janeiro. Biblioteca Nacional. Year VII, nº 3183, January 11, 1891, 1.
23. *O Brasil*. 1891. Newspaper of Rio de Janeiro. Biblioteca Nacional. Year II, nº 312, April 18, 1891, 2.
24. It appears in the first play's scene of *O Tribofe*. Azevedo, Artur. *O Tribofe*, theatrical play, brochure, 1892.
25. The letters narrate a long bureaucratic episode between authorities. The Panoramas needed to be remove from the Museum, because there weren't conditions for its storage. This is the last precise information of Victor Meirelles's Panoramas. The three canvas destiny is unknown after October 31, 1910. Leitão, Thiago. 2014. *Ibid.*, p.150-151.
26. Leitão, Thiago. The Panorama-salon: the Google Cardboard of 19th century, in *International Panorama Council Journal*, vol. 1, 70-79, 2017.
27. Gombrich, E. H. *Art and Illusion: a Study in the Psychology of Pictorial Representation*. London: Phaidon Press, 6th edition, 2004.
28. Grau, Oliver. *Virtual Art: From Illusion to Immersion*. Cambridge, MA: MIT Press/Leonardo Books, 2003.
29. Calleja, Gordon. *In-Game: From Immersion to Incorporation*. Cambridge, MA: MIT Press, 2011.
30. Since 2003, Yadegar Asisi has been exhibiting Panoramas in Germany. Unlike traditional panoramas, Asisi stands out for developing new techniques for the Panoramas' realization. He uses the newest available resources of computer graphics and digital media, which he dominates as an architect, but also uses his graphic skills as a painter. His reinterpretation generates a rich immersive experience, surrounding the visitor in a playful, contemplative, educational atmospheres.
31. Vilas Boas, Naylor. PhD thesis A Esplanada do Castelo: Fragmentos de uma História Urbana (Castelo's esplanade: Fragments of an Urban History), PROURB / FAU / UFRJ (2007).
32. CAD: *Computer Aided Design*.

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The Miniature Metropolis as Memory Palace: Memory-Making at Panstereoramas

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Abstract

All panoramic and panstereoramic representations, regardless of whether they represent a famous battle, landscape, or religious scene, freeze a certain moment in time—in order to grasp and control it visually. As such, panoramas and panstereoramas serve as vessels for collective memory, recording significant moments in time and imprinting them onto memory. And yet, the stories captured in panoramas and panstereoramas almost always reveal a dominant ideology: a single person's, a team's, a government's. And so, panoramas and panstereoramas are responsible for creating and perpetuating certain collective memories (and not others). Here I examine how memory gets “made” at panstereoramas via the “memory palace”—which is both a metaphor for the collection of memories produced and preserved in/by models, and a technique for training artificial memory.

Keywords

Panstereorama, memory palace, mnemonics, the art of memory, *Panorama 1453*, *Panorama of the City of New York*, Cicero, Giulio Camillo.

Urbanscapes: Panoramas and Panstereoramas

As urban panoramic and panstereoramic representations capture a city in time and space, so do they capture a particular story about the city's development and developers. That story further dictates how we remember this city, and so panoramas and panstereoramas become valuable tools for studying the history of city memory- and identity-making.

This is evident at the *Panorama 1453*—the centerpiece of the Panorama 1453 Historical Museum in Istanbul, Turkey, which shows the conquest of the city of Constantinople by the Ottomans (See Fig. 1). The drawing is impressive and imposing: it covers the inside of a hemisphere 38 meters in diameter, and unlike standard 360-degree cylindrical painted panoramas, whose dome is cut open to let daylight in, its top is fully painted as well, making it difficult for the viewers to catch their breath when they first find themselves in the center of the

historical siege, as if they too are a part of the decisive battle. The panorama website confirms that this experience is purposefully staged: the painting provides “no place where the picture ends” and as a result, the visitor experiences “10 seconds of shock” when arriving at the 650 sq. meters central viewing platform, due to the inability to locate any “reference points such as the beginning and ending” in the painting, which could assist in grasping its “reality and dimensions.” [1], [2] In other words, in order to make the illusion at the painting complete, to guarantee the immersion of the viewers in the historical event, the museum relies on first disorienting the viewers, offering them no visual way out.



Fig. 1. The Fall of Constantinople, *Panorama 1453*. Credit: Panorama 1453 Historical Museum, Istanbul, Turkey.

I can testify to the accuracy of this immersion: when visiting the *Panorama 1453* for the first time with the International Panorama Council in September of 2018, I was overwhelmed by the image: the beauty of the crumbling walls, the gorgeous blue skies...as if these were not props in a gruesome battle depiction. The more I realized what I was seeing, the more I found it hard to breathe and make sense of it all; and the more I needed to step outside of this scene, in order to reflect on what was

going on in it and why I felt strangely fascinated by it. Battle sounds boomed all around me, and an actor dressed in a soldier's uniform walked tall and imposing on the platform, as if he had just stepped outside of the battle, to make the experience even more tangible. Was I caught in the midst of a gigantic video game? To take a break from this visual and auditory onslaught, I searched for my colleagues, dispersed on the viewing platform, observing, taking pictures, talking with each other and with our hosts about what they were experiencing. Conversing with my colleagues gave me the "breather" I so desperately needed—the reference point that allowed me to begin to process what I was seeing.

In addition to the 10,000 painted figures, the faux terrain boasts huge cannons (the biggest 3D replica in the museum weighs 1 ton), wheeling carts, other weaponry and barrels, which, together with the booming cannon ball sounds and the outfitted actor-soldier, contribute to the total immersion into the Conquest, staged for the visitor. "This place makes visitors feel as if they go out to a 3D outdoor space," says the museum website, despite the fact that they have already entered "an indoor space." [3]

Eight artists worked for three years to create this gigantic panorama crowded with soldiers, battle scenes, and a crumbling city fortress (ironically, one that had inspired other cities to build their own fortification devices), in order to best represent the 53-day siege and fall of Constantinople, and, consequently, of Byzantium—a glorious day for the Ottoman Empire; a horrific day for the Byzantine Empire. Led by 21-year old Sultan Mehmed II, "The Conqueror," the Ottomans fought the final and decisive battle on May 29th, 1453, in uncanny physical proximity to where the Panorama 1453 Historical Museum opened in 2009, in the Topkapi area, just across from where the remnants of the city fortress, in the real city, continue to draw curious tourists with cameras in hand.

The play with perspective at the panorama is intriguing: visitors view the circular painting from 14 meters away. Yet, there is still excruciating detail available to the viewer here, which, in standard painted panoramas, fades away with the distance. The detail provided here is due to the "use of computer graphics" in the creation of the panorama, which anticipates the visitor with the "high-resolution digital cameras": the greater detail may not be aiding in creating the illusion but it certainly will be satisfying those who will be zooming in on the details, with their digital devices, confirming that the experience is indeed interactive. [4] Even from that distance, it is clear that the young sultan, on a white horse, is slightly larger in scale than the rest of the figures, as are the men immediately surrounding him, as if to emphasize the ingenuity and perseverance of the victors. Yet the faces of the men immediately surrounding the sultan are those of the eight panorama artists, as if to remind us that no matter

how immersive, this panorama is still only a representation, and thus, literally, bears the mark (here, the facial features) of its creators (See Fig. 2).



Fig. 2. Sultan Mehmed II, Conqueror of Constantinople. *Panorama 1453*. Credit: Panorama 1453 Historical Museum, Istanbul, Turkey.

The story that the *Panorama 1453* tells natives and tourists alike is one of pride in the Ottoman past: the young Sultan brought an old and well-protected city to its knees, and although we see the agony of the old metropolis as its monumental city walls crumble before the unforgiving Ottoman cannons, we know that a new kind of resident will take root here: young, strong, and determined, who will rebuild this city into something unique; and so the power and ingenuity of the Ottoman ancestors visible in the museum are woven into the genetic makeup of the city of Istanbul and all Istanbulers! As it re-casts the memory of the conquest of Constantinople in the light of opportunity instead of horror, this narrative serves not only as a city and city resident's memory- and identity-maker but also as a national memory- and identity-maker. And thus the *Panorama 1453* becomes, as Barlas Bozkus calls it, "a ritual space for Turkish-Islamic sense of history," [5] which subscribes to the neo-Ottoman, neo-conservative tendencies (or "Ottomentality" (see Chien Wang Erdem) [6]) present in other Turkish museum sites from the last 10-15 years (i.e., *Miniaturk*, which opened in 2003; see Ipek Tureli [7] and Secil Yilmaz and V. Safak Uysal's [8]).

One may wonder if the same nationalistic message is also sent across to the viewer through a panstereorama, or a scale model, of the Conquest of Constantinople, since the Panorama 1453 Historical Museum exhibits also a scale model of the *Panorama 1453* (See Fig. 3). But at the model one cannot grasp the scale of the event, as one does inside the 360 degree painted panorama. This is due to the fact that unlike panoramas, panstereoramas (called also "relief models," [9] do not surround the viewer but rest on tables or floors, where the walking viewer circles around

them, in just a few strides. Often made of limewood or plaster, pansteroramas pride themselves on achieving illusion not through the play with perspective, like painted panoramas do, but through miniaturization. [10], [11] Such miniaturization makes the demise of Constantinople more compact and manageable, which too echoes the message of Ottoman might relayed at the 360 degree painted panorama. The 360 degree painted panorama and the miniature work in tandem then to reaffirm the total immersion in the Conquest, as well as to keep building city as well as national memories and identities.



Fig. 3. Pansterorama of *Panorama 1453*. Credit: Panorama 1453 Historical Museum, Istanbul, Turkey.

Panoramas and Pansteroramas: Found Memory Palaces

But while one-sided as representations (though fascinating) panoramas and even more so pansteroramas (due to the visitor's walk around them, which assists in the conjuring up of stories) help us create, transmit, and solidify narratives about cities and city identities. By replicating city buildings and environments, a pansterorama functions as a found memory palace of two kinds: a **metaphor** for the collection of memories that one can create, practice, and pass on; and a **technique** for remembering a speech (about the city or any other subject).

The Memory Palace: A Metaphor

Consider *The Panorama of the City of New York*, a pansterorama located in the Queens Museum, New York, legacy from the 1964/65 New York World's Fair. It contains 900,000 structures in a scale of 1:1,200, replicating their positioning all around the city's five boroughs, which, here, in the museum, cover 9,335 square feet (See Fig. 4). Initially based on geological and survey maps, and aerial photographs, the model is still a realistic representation of the city even though a major update (in

the early 1990's) and occasional inclusions of new miniature structures have transformed it into a hybrid city model (for instance, the Twin Towers (1973-2001) are still here, as is the miniature of the new stadium in Queens, Citifield, which opened in 2009).



Fig. 4. *The Panorama of the City of New York*, Queens Museum, New York. Credit: Nikola Bradonjic.

Furthermore, from its inception, the bridges on the *Panorama* are made of brass and are larger in scale than the rest of the structures, which points to the fact that the model tells a very specific story about New York City: a story about progress, connectedness, and cleanliness, quite related to the ambitions of the *Panorama's* instigator—the infamous city planner Robert Moses. [12] Moses prided himself on his input in consolidating the city's five boroughs: several of the main bridges were commissioned by him, as was the *Panorama* itself for the world's fair—which was Moses' way of emphasizing and immortalizing his own achievements for fairgoers and future generations alike, as he ensured that the model would remain on public view after the fair closed.

An outdated form of representing space, the scale model, unlike cinema (known at the time), was a convenient tool

of totality: it represented the city as a glorious product, not as a painful process, thus granting many of Moses' destructive choices in the city invisibility. What gets sacrificed in this perfect, exemplary story of the model (and thus, the city) is the dirt and conflicts but also the liveliness that any city possesses—none of these can be captured in a still representation.

The walking, pointing, and narrating around the *Panorama* initiated by the tour guide and followed by the visitors (or done spontaneously by the visitors on their own), bring the seemingly dead scale model representation to life: as visitors recognize places from the real city, remember experiences from the live city, or plan future expeditions around the metropolis. Little by little, the public sites on the model become the private sites of remembrance; the collective experiences give way to the individual ones; the city exteriority in the museum transforms into the interior of personal memories. So, the *Panorama* becomes the holder, the reservoir, the house, the palace of all these memories: public and private; collective and individual; exterior and interior; guided or spontaneous; orderly or messy...a robust collection of memories indeed!

The Memory Palace: A Technique

But the walking, pointing, and narrating around the *Panorama* is akin also to the memory palace as a mnemonic device: it can assist in creating narratives about the city, yes, but also any kind of narrative to be delivered in the right order. To understand how this works, one can read a valuable study on the subject, Frances Yates' *The Art of Memory*, where we learn that:

“The first basic fact which the student of the history of the classical art of memory must remember is that the art belonged to rhetoric as technique by which the orator could improve his memory, which would enable him to deliver long speeches from memory with unflinching accuracy.” [13]

Cicero and Rhetoric

Specifically, the “memory theater” or “memory palace” was a mnemonic system developed by ancient orator Cicero (106 BC - 43 BC) (See Fig. 5). It served artificial memory—the capacity of the mind unknown to us today because of computers, recorders, and printers yet crucial for the transmission of knowledge since ancient times:

“And the ancient memories were trained by an art which reflected the art and architecture of the ancient world, which could depend on faculties of intense visual memorisation which we have lost.” [14]



Fig. 5. Cicero. Statue. *Palace of Justice* (opened 1911), Rome, Italy. Credit: *Wikimedia Commons*.

To grasp the origins of “the art of memory,” that is, of artificial or “trained” memory, Frances Yates quotes from *Ad Herennium* about the significant distinction between these two capacities of memory: natural, “that which is engrafted in our minds, born simultaneously with thought,” and artificial, “a memory strengthened or confirmed by training.” [15] Yates re-tells the story about poet Simonides, as told by Cicero in his book on mnemonics, *De Oratore*. After chanting “a lyric poem in honor of his host” nobleman Scopas, Simonides was refused full pay for his work and was summoned outside the banqueting hall. In his absence, the ceiling of the banqueting hall collapsed, crushing all the guests to death. Although they were completely disfigured, Simonides was able to identify them on the basis of his memory of where each guest sat around the table, and so the relatives were able to take and bury their dead. Simonides then realized that to remember well, one should rely on an orderly arrangement and on

sight that generates images corresponding to the ordered places:

“He inferred that persons desiring to train this faculty (of memory) must select places and form mental images of the things they wish to remember and store those images in the places, so that the order of the places will preserve the order of the things themselves, and the images of the things will denote the things themselves, and we shall employ the places and images respectively as a wax writing-tablet and the letters written on it.” [16]

To train memory, Cicero himself used existing architecture (a building or a city neighborhood) as an organizer of places and intense images as repositories of information to be retrieved at a later time. By virtually revisiting (in an imaginary walk-through) the architectural sites, the orator could access the images they held—practices that have made Cicero’s method the prototypical theatrical experience:

“We have to think of the ancient orator as moving in imagination through his memory building whilst he is making his speech, drawing from the memorised places the images he has placed on them. The method ensures that the points are remembered in the right order, since the order is fixed by the sequence of places in the building.” [17]

If we are to create a hierarchy of importance, we see that memory is at the service of architecture, in other words, architecture is what’s crucial in summoning the correct order of the memorized speech. The body does not participate physically in the activation of the memorized speech through the architecture, only virtually.

Cicero
Architecture
Memory
Body

Cicero gives the following rules for places and images: places (loci) should be “easily grasped by the memory”: a house, an intercolumnar space, a corner, an arch,” should be ordered (should “form a series”), and be “remembered in their order”; images are “forms,” and thus copies or replicas, of “what we wish to remember,” and if we need to remember “the genus of a horse, of a lion, or of an eagle, we must place their images on definite loci.” [18] If one wishes to represent a certain event or a written paragraph by an image so that the image both encodes and evokes that event or paragraph, one need not look for commonplace but extraordinary images, “the striking and the novel,” [19] such as solar eclipses, which have the

capacity to impress themselves upon the memory for a long period of time.

The Panorama of the City of New York: A Mnemonics Tool

For Cicero, therefore, a panstereorama, such as the *Panorama of the City of New York*, as total city architecture, could have been the perfect mnemonics tool, where he could have encoded the various paragraphs of a speech on the ordered city neighborhoods and decoded them via an imaginary-turned-real walk around the periphery of the model (See Fig. 6). He could have even recognized mnemonics in the *Panorama*’s walking tour, practiced, unknowingly, by the tour guide, as her narrative unfolds according to the miniaturized city architecture that she takes her visitors around. Her practices of walking, pointing, and narrating not only enliven the model: she herself sub-consciously follows the order of the architecture on it, which prompts her to tell certain stories, as they unravel during the walk. [20]



Fig. 6: *The Panorama of the City of New York*, Queens Museum, New York. Credit: Queens Museum.

Yet Cicero would have gotten perplexed by the overlap between places and images at the *Panorama*, i.e., the Empire State Building is both a place (loci) and a famous image; by the activation of static public places seen on the model into dynamic private spaces of memories, due to the ramp walk on the circumference of the model (see both M. deCerteau’s *The Practice of Everyday Life*, where he claims that space is “practiced place,” as well as how a place has a fixed geographical location while a space doesn’t, [21]; and Momchedjikova, “My Heart’s in the Small Lands: Touring the Miniature City in the Museum,” [22]); and by the striding, gigantic human body dwarfing city architecture due to the transcendent quality of the peripheral, aerial walk.

An unusual hierarchy occurs at the panstereorama as a result of these processes, due to which memory is still at the service of architecture, as with Cicero, but architecture itself is at the service of the body—the physical movement of the body around the model:

Cicero	Panorama
Architecture	Body
Memory	Architecture
Body	Memory

That hierarchy leads to a crucial change in the process of memory-making at the *Panorama*: memories are awakened not only from a virtual walk through the architecture, as they were with Cicero, but from the actual human body, which moves around the model in real time and thus becomes itself the repository and unifier of public histories and private memories.

Giulio Camillo and *The Memory Theater*

The “memory theater” concept was resurrected and further developed in renaissance Italy by Giulio Camillo (1480-1544). Itself a partial revival of Cicero’s practice for training the memory via the ordered arrangement and retrieval of images through architecture, Camillo’s *Memory Theater* was a custom-made, purpose-built structure of wood, which housed no more than two standing people at a time (See Fig. 7).

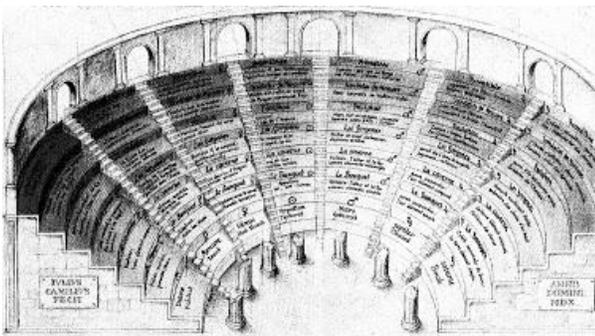


Fig. 7. Giulio Camillo, *L'idea del Teatro*, 1550. Credit: <http://bourbakisme.blogspot.com/2011/05/mp-memory-palace-giulio-camillo-lidea.html>

Here’s how Viglius describes the physical construct, after visiting it in Venice, in a letter to Erasmus in 1532:

“The work is of wood, marked with many images and full of little boxes; there are various orders and grades in it. He gives a place to each individual figure and ornament, and he showed me such a mass of papers that,

though I always heard that Cicero was the fountain of richest eloquence, scarcely would I have thought that one author could contain so much or that so many volumes could be pieced together out of his writings.” [23]

Camillo designed the theater first in Italy and later transported it to France in order to teach the art of mnemonics to the French king. By placing all knowledge in a single building, designed specifically for the purpose of remembering, Camillo invented the unity of memory and based that unity on cosmic order and images (which, according to Yates, proves the occult influences on Camillo [24]). His *Memory Theater* was a fully developed system of memory within a fully developed structure of memory, which explains why his model is considered the prototype of the museum (albeit called theater). His was architecture at the service of memory, meaning, that the memory was the unifying principle here, having its own architecture:

Cicero	Panorama	Camillo
Architecture	Body	Memory
Memory	Architecture	Architecture
Body	Memory	Body

In this theater, the spectator could remember the whole universe, by following the specific order in which information had previously been catalogued in the structure of the theater: in an ascending seven-layered semi-circle, divided into seven ascending rays, all radiating from the very center. That information was available to the spectator to retrieve, recite (like Cicero), and store back into place.

“The Theater rises in seven grades or steps, which are divided by seven gangways representing the seven planets. The student of it is to be as it were a spectator before whom are placed the seven measures of the world “in spettacolo,” or in a theater. And since in the ancient theaters the most distinguished persons sat in the lowest seats, so in this Theatre the greatest and most important things will be in the lowest place.” [25]

The spectator himself was located on the “stage” of that theater, which was at the very bottom of the structure, surrounded by the ascending catalogues of information, as if in an inverted Vitruvian classical theater (or a semi-360 degree panorama!). Says Yates:

“That there would be no room for an audience to sit between these enormous and lavishly decorated gangway gates does not matter. For in Camillo’s Theater the normal function of the theater is reversed. There is

no audience sitting in the seats watching a play on the stage. The solitary ‘spectator’ of the Theater stands where the stage would be and looks towards the auditorium, gazing at the images on the seven times seven gates on the seven rising grades.” [26]

Here is Viglius’ explanation as to why Camillo called his memory invention a “theater,” defining a practice of crucial importance to us, “corporeal looking”:

“He pretends that all things that the human mind can conceive and which we cannot see with the corporeal eye, after being collected together by diligent meditation may be expressed by certain corporeal signs in such a way that the beholder may at once perceive with his eyes everything that is otherwise hidden in the depths of the human mind. And it is because of this corporeal looking that he calls it theater.” [27] (Camillo’s instructions on how to make the *Memory Theater* work, *L’Idea Del Teatro* (1550), appeared posthumously. [28]).

The Panorama of the City of New York: A Memory Theater with a Twist

What Viglius identified as “corporeal looking,” we refer to today as imagination, memory, and, with the development of the internet, virtuality. And thus occurs the point of convergence between the *Memory Theater* of Camillo and the *Panorama* of Moses. Camillo describes “corporeal looking” as a quality that is beyond simple looking and that reveals to one secrets otherwise unknown (unseen). He believes that the human being is “divine,” possessing god-like abilities, including taking in a comprehensive view from above. His *Memory Theater* is “a vision of the world and of the nature of things seen from a height, from the stars themselves and even from the supercelestial founts of wisdom beyond them.” [29]

Paradoxically, at the very bottom of the *Memory Theater*, at its sunken stage, the spectator entertains an all-encompassing, aerial, transcendent view. This “corporeal looking” is akin to what one experiences while taking in the view of the miniature metropolis at the *Panorama* but from an ascending, elevated, and circumferential ramp—an idealized, ideal, god-like view of the city in its totality, available nowhere else. This difference has the following implications: while Camillo’s spectator is surrounded and dwarfed by the architecture of knowledge, the *Panorama*’s visitor surrounds and dwarfs the architecture of the city. Consequently, the visitor of the *Panorama* can, initially, access only the public exterior of the city he is dwarfing while the spectator in Camillo’s *Memory Theater*—the carefully catalogued interior of the theater that dwarfs him.

Furthermore, at the *Panorama* the “corporeal looking” is complimented by a transcendent walk above and around

the miniature city, a feature unknown to the spectator in Camillo’s *Memory Theater*, where the “corporeal looking” is static: it does not involve the radical movement of the spectator around the repositories of memories: the exercise of retrieving images from their appropriate places is limited (the space itself is small) and mostly virtual—of the mind and imagination—not of the body, as with the *Panorama*. (A few decades later, the *Memory Maps* of Giordano Bruno (1548-1600) introduce motion into memory, but it is still the motion of one concentric circle against another, not of the viewer. See Frances Yates’ *Giordano Bruno and the Hermetic Tradition*.)

As a result, in Camillo’s *Memory Theater* there is no transformation of memories, from public to private, from exterior to interior, from static to dynamic, as is the case at the model due to the moving body of the visitor. The *Panorama* helps bring about memories that are not public, ordered, and deliberately stored, as in Camillo’s *Memory Theater*, but personal, chaotic, and spontaneous. By Camillo’s standards for training artificial memory, the *Panorama*, therefore, cannot function as a memory palace. At the same time, although considered a theater, Camillo’s mnemonic device is not really theatrical, while the *Panorama* truly is. The *Panorama*’s integrated experience: the transcendent view and walk, the changes in light, the moving plane, the pointing and narrating all help animate the *Panorama*, transforming it from a still model to a dynamic performance.

An Experiment: The Memory Palace Technique Today

Learn a text by using the *Memory Palace Technique* and a model or map of a city, as if you were Cicero! Follow these mnemonics steps.

Mnemonics Steps

Step 1: Choose Text

ISTANBUL

A room in the house, İstanbul in the room
A mirror in the room, İstanbul in the mirror
The man lit his cigarette, an İstanbul smoke
The woman opened her purse, İstanbul in the purse
The child cast a fishing line, I saw,
And he started to draw it, İstanbul on the line
What kind of water is this, what kind of İstanbul
İstanbul in the bottle, İstanbul on the table
It walks with us, stops with us, we are puzzled
She is on one side, I am on the other, İstanbul in the middle
Once you fall in love, I understand
Wherever you go, there you see İstanbul.

--Umit Yasar Oguzcan (1926-1984)

Step 2: Choose Sites/Sights and Sequence (Consult a city model/map and locate memorable places/structures on it (See Fig. 8); decide on a sequence of places to encode parts of text in.

Sequence of Sites/Sights: 1. Miniaturk, 2. Galata Tower, 3. Suleymaniye Mosque, 4. Grand Bazaar, 5. Serpentine Column, 6. Hagia Sophia.



Fig. 8. Istanbul Tourist map. Credit: Turkish Airlines.

Step 3: Deposit parts of text onto specific Sites/Sights (See Fig. 9):

MINIATURK:

A room in the house, İstanbul in the room
A mirror in the room, İstanbul in the mirror

GALATA TOWER:

The man lit his cigarette, an İstanbul smoke
The woman opened her purse, İstanbul in the purse

SULEYIMANIYE MOSQUE:

The child cast a fishing line, I saw,
And he started to draw it, İstanbul on the line

GRAND BAZAAR:

What kind of water is this, what kind of İstanbul
İstanbul in the bottle, İstanbul on the table

SERPENTINE COLUMN:

It walks with us, stops with us, we are puzzled
She is on one side, I am on the other, İstanbul in the middle

HAGIA SOPHIA:

Once you fall in love, I understand
Wherever you go, there you see İstanbul

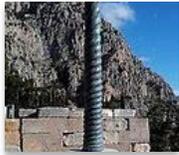
Miniaturk	Galata Tower	Suleymaniye Mosque
		
<ul style="list-style-type: none"> • A room in the house, İstanbul in the room • A mirror in the room, İstanbul in the mirror 	<ul style="list-style-type: none"> • The man lit his cigarette, an İstanbul smoke • The woman opened her purse, İstanbul in the purse 	<ul style="list-style-type: none"> • The child cast a fishing line, I saw, • And he started to draw it, İstanbul on the line
Grand Bazaar	Serpentine Column	Hagia Sophia
		
<ul style="list-style-type: none"> • What kind of water is this, what kind of İstanbul • İstanbul in the bottle, İstanbul on the table 	<ul style="list-style-type: none"> • It walks with us, stops with us, we are puzzled • She is on one side, I am on the other, İstanbul in the middle 	<ul style="list-style-type: none"> • Once you fall in love, I understand • Wherever you go, there you see İstanbul

Fig. 9. Sequence of Sites/Sights with Text Deposits. Credit: Microsoft SmartArt/Various online images

Step 4: Learn parts of poem, one by one;

Step 5: Virtually recall Sequence of Sites/Sights, retrieve memorized parts of poem, in order to recite whole text in proper order!

Step 6: Share your amazing skills with family and friends! Have them try the *Memory Palace Technique* as well!

Concluding Remarks

Many of you practice the *Memory Palace Technique* today without even realizing it: when you go to the grocery store and visit the same aisle, looking for the groceries you get every week, you are in essence practicing the *Memory Palace Technique* in a contemporary way: physically re-visiting the place where you hope to find and retrieve the image/the product you normally get. A big confusion occurs if a product is not in its usual place: it can throw your virtual shopping list in a panic. Yes, some people make real shopping lists, others rely on the *Memory Palace Technique*, to fulfill a virtual shopping list. I know I do. Do sellers also know of the memory palace? Do they use it to their advantage: placing newer items to the old ones, so you can be interested and buy more, new stuff? Or do they misplace the stocking of items on purpose, so you get

confused, and end up buying unnecessary stuff, while looking for what you really need? I invite you to visit the grocery store where you normally shop, without a written shopping list in hand, and to see if you can gather most of what you need simply by visiting the areas where you know that specific groceries await you.

When you decide to move beyond your personal needs, you can try and see how a panorama model of any city can help you remember stories about that city but also any other story. Of course, you will realize that the challenge with panstereoramas is that they always record the city as a product, never as a process, which prompts us to think of stories of the city also as a product, not a process. But stories are processes: they get created and re-created, molded, shifted, censored, promoted. Thus, no matter what story we learn to tell at panstereoramas, or what stories are naturally evoked in us as we circle models, we should remember that these stories are, like panstereoramas, fascinating but incomplete. They represent just one way of viewing or remembering the city, and should be used together with other representations, live experiences, and other stories (complementary or contradictory), in an effort to create a more comprehensive story about the city and those who live in it.

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Battle Panoramas Fighting for Relevance in the 21st Century: *The Panorama of the Battle of Murten, Tyrol Panorama, and The Bourbaki Panorama*

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Abstract

In the first decade of the 21st century, three surviving military history-themed 19th century panorama paintings in Switzerland and Austria (*The Panorama of the Battle of Murten* (1476), *Tyrol Panorama* (1809), *The Bourbaki Panorama* (1871)) underwent sustained efforts of restoration and repositioning in order to adapt them to an age very different to that of the time of their creation. It is a delicate task to balance the requirements of staying true to the original artistic aspirations, the historical events depicted, and the demands of a modern audience—all under the constraint of financial viability and sustainability.

Keywords

19th century panorama paintings, battle panoramas, military history, *The Panorama of the Battle of Murten* (1476), *Tyrol Panorama* (1809), *The Bourbaki Panorama* (1871)

Introduction

The star attraction of the Swiss national exhibition in 2002, “Expo.02,” was the recently restored *Panorama of the Battle of Murten* (1476), (Morat, in English). The painting was exhibited inside a floating steel cube, designed by the French star architect Jean Nouvel, on Lake Morat itself. When the exhibition closed, the steel cube was dismantled and the panorama was put back in storage. Repeated attempts to find a permanent home for it failed, despite prominent institutional fund-raising efforts. Once out of public sight, the panorama lost the momentum necessary to win the status of a public attraction. The fight for relevance for this and many other surviving Central European battle panoramas is an on-going struggle, both in terms of finance and audiences. This article will highlight how three surviving late 19th century Central European battle panoramas have fared up to the early 21st century and how they cope with changes in technology and society.

Battles and battlefields have long been objects of artistic interpretation and re-interpretation. [1] Battle and historical events panoramas were one of three main popular types in

the 19th century. The other types were city and landscape panoramas as well as religious events panoramas (i.e. the Crucifixion of Christ). The *Panorama 1453* in Istanbul, Turkey, which depicts the Conquest of Constantinople by the Ottomans in 1453, is part of a renewed interest in panorama paintings at the beginning of the 21st century.

Between Western Europe and the rest of the world, one can distinguish a different kind of appetite for creating new and exhibiting old battle panoramas. In Central Europe, most existing battle panoramas, often survivors from the late 19th and early 20th century, are struggling to get continued funding and attention. Seldom are new battle panoramas being created in Central Europe. The few that are, like Yadegar Asisi’s *Leipzig 1813* and *Dresden 1945*, focus on the effects of war on the population and the respective cities, not the fighting men. As a type, they are closer to city panoramas (albeit under very special and dramatic circumstances) than classic battle panoramas. In the *Leipzig 1813* panorama, for example, the actual fighting is taking place in the distance, near the horizon, while the focus is on civilians and soldiers milling around in the city. In contrast, a non-historical battle panorama such as an event from *Lord of the Rings*, *Game of Thrones*, or *Star Wars* would find a big audience in Europe. The struggle in Central Europe arises for panorama paintings that depict historical battles.

Battle of Murten, Tyrol, and Bourbaki Panoramas

The first panorama painting, *The Panorama of the Battle of Murten* (1476) (separate articles on it and the *Bourbaki Panorama* appear in this issue [2]) was completed in 1893 and was the pinnacle of a wave of renewed public interest in the Burgundian Wars created by the 400th anniversary of the battle in 1876. [3] The battle happened because the Swiss, then called the Old Confederacy, used the political turmoil between France, Germany, and Charles the Bold,

the Duke of Burgundy, to occupy territories belonging to Charles and hoping that European politics would keep him busy. Alas, he tried to retake these places but was three times severely defeated, ultimately losing his life in battle. The Swiss expanded and incorporated French speaking territories into the Old Confederacy. At the time of the creation of the panorama painting in the 19th century, the city of Morat was firmly within Swiss territory, which allowed the battle to be re-defined as a valiant national defense against a foreign invader. The panorama was exhibited in Zurich, Geneva, and Morat. After 1924, the painting was put in storage in Morat until its restoration for its Expo.02 appearance. [4]



Fig 1. Sarntal flagbearer calling for reinforcements, 1896, Detail from *Tyrol Panorama*. Copyright: Tiroler Landesmuseen.

The second painting, *Tyrol Panorama* (1809), called also *The Giant Panorama Painting (Rieserundgemälde*, in German), features the 3rd Bergisel battle of 1809, in which the Tyroleans defeated a joint Franco-Bavarian army at Bergisel, overlooking the city of Innsbruck, Austria. [5] The victory did not help the Tyroleans a lot, as Habsburg Austria lost the overall war of 1809 against Napoleon and had to hand over control of Tyrol to Napoleon as part of the peace treaty (See Fig. 1). The

Tyrolean insurrection was crushed and its leader executed. Completed in 1896, the panorama was exhibited also in London and Vienna (during World War I), but mainly stayed in Innsbruck where the surviving original rotunda became a historic monument in itself, which was recently featured in its own episode in an Austrian public radio series about 100 important Austrian buildings. [6] When the panorama painting was relocated to a more touristically important spot in a new building, IPC fought against this relocation but could not prevent it. [7]

The third panorama painting, *The Bourbaki Panorama* (1871), does not show a battle but the outcome of a failed campaign. [8] During the Franco-Prussian War of 1870, a French army was cut off and rescued itself by being interned in Switzerland. It was one of the first missions of the recently founded International Committee of the Red Cross, a prominent Swiss institution headquartered in Geneva. 87,000 French soldiers were interned and cared for in Swiss cities and villages until they could return home. The panorama and the interned French army bear the name of the French commanding general Charles Denis Bourbaki (1816-1897). Created in 1881 by a Swiss humanitarian aid volunteer and eyewitness of the event, it was first exhibited in Geneva before it went to Lucerne in 1889. Restored and modernized between 1996 and 2004, *The Bourbaki Panorama* was reopened, close to other prominent touristic points of interests in the city. [9]

All three panoramas discussed, have been recently restored. Their artistic conservation is thus assured. As the timeline below shows (See Fig. 2), the fate of *The Panorama of the Battle of Murten* (1476) differs from the other two: It has been in storage for most of its existence and is still awaiting a permanent exhibition space while the *Tyrol* and *Bourbaki* panoramas have become established attractions in their respective cities.

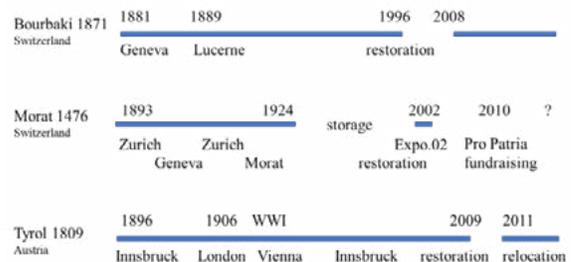


Fig 2. Timeline for the three panoramas, own illustration.

The Panorama of the Battle of Waterloo (1815) in Belgium, which was restored for the 200th anniversary of the battle, and *Marold Panorama* (1434), about the Hussite battle of Lipany, in the Czech Republic, which is in dire need of renovation, but has not yet been granted the necessary funding, are not the subject of this paper.

Change, Memory, and Truth

All three panorama paintings under discussion have been produced as commercial attractions, as popular educational entertainment offerings. Like Hollywood blockbusters, the panoramas were investment vehicles for their owners, targeting mass audiences. This explains the “guest appearance” of Tyrolean folk hero Andreas Hofer in the panorama painting, which is a historical inaccuracy. While they strived for historical and topographical accuracy (a point featured prominently in their marketing materials), this was limited by the state of the research at that time and the availability of resources, e.g. a key Venetian eyewitness account of the Battle of Morat was only discovered in the 20th century. A century later, the trade-offs the producers made, have different impacts on how we perceive the panorama paintings. The *Bourbaki* and *Tyrol* panoramas have become icons of the events they depict and entered the respective collective memory of Switzerland and Austria. This is not the case for *The Panorama of the Battle of Murten*, as its inaccessibility made it less commonly known and less frequently used in textbooks and other publications.

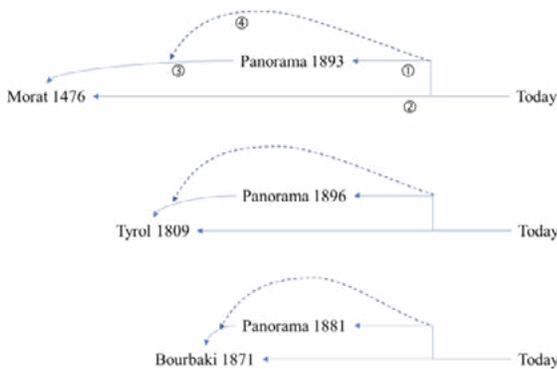


Fig 3. Four different levels of perception, own illustration.

When modern audiences see a panorama painting, beyond its artistic merits, there are four different levels of perception (See Fig. 3): The first and foremost level is how a modern audience perceives the artwork created one hundred years ago (1). The second level is how a modern audience perceives and interprets the historical event depicted (2). The third level is how the creators of the panorama painting viewed those historical events themselves (3). The fourth level is how we perceive the creators’ views on those historical events (4).

First Level – Modern perception of the original artwork: Both the *Bourbaki* and *Tyrol* panoramas are fairly accurate historical depictions of their events. *The Bourbaki Panorama* explicitly shows the horrors and sufferings of

war, whereas the *Tyrol Panorama* mostly shelters viewers from any blood and gore. *The Panorama of the Battle of Murten* presents the biggest difference between the gaudy atmosphere of soldiers in bright uniforms running around and the brutal butchering of the actual battle. There is a distinct “Where is Waldo?” element to the painting.

Second Level – Modern perception of the original event: The classic 19th century history of nation-building and patriotic warriors has decisively gone out of fashion. *The Bourbaki Panorama* features an early example of a humanitarian action and the effects of war on the losing side. Thus, there is no difference in the interpretation then and now of the events depicted in *The Bourbaki Panorama*. Likewise, the *Tyrol Panorama* offers only a small gap in how we see the event today. We now know about the futility of the uprising and its unobtainable goals of turning back the clock to a pre-French Revolution era. The biggest difference in the understanding of the events depicted is again with *The Panorama of the Battle of Murten*: What was once seen as an act of budding national defense is today recognized as part of an aggressive Swiss expansion. Today, we also know that the odds were stacked heavily in favor of the Swiss, as Charles the Bold was severely outnumbered. The victory was not as miraculous as 19th century audiences might have believed.

Third Level – perception of the original event by the creators of the panorama: *The Bourbaki Panorama* depicts a near-contemporary event. Its creator’s interpretation was even more modern than that of the audience at that time. The panorama served as a teaching tool to help audiences understand the importance and value of humanitarian assistance. At the time of its creation, the *Tyrol Panorama* was part of a wave of redefining local identities within the Habsburg Empire. The panorama showcases Tyrol as a longstanding faithful, self-reliant defender of the empire. While no witnesses of the events were still alive, its memories were still vivid, so that the gap between the actual events and the painting is small. The historical sources for *The Panorama of the Battle of Murten* had only been collected for the 400th anniversary of the battle. At the time of the creation of the panorama, the history of the battle was still being rediscovered and reinterpreted. The creators strived to provide an accurate rendering of the events, even though their analysis of the sources remained incomplete. Thus, the very prominent depiction of the Duke of Somerset in the panorama was based on Swiss sources. The actual Duke of Somerset had been killed in the battle of Barnet 1471, so it could only have been a pretender at best, as the title of the prominent Lancastrian supporters was not renewed under the English King Edward IV (whose sister was married to Charles the Bold). Even so, the Duke would not have fought under the royal “three lions” banner.

Fourth Level – Modern perception of the creators’ interpretation of the original event: Today’s understanding of how the Victorians or people living in the “Belle

Epoque” viewed the world is growing. Alas, it has become harder to agree with the militarism and nationalism that were integral parts of their society. [10] *The Bourbaki Panorama* is closest to a modern interpretation. There is little a modern creator would have to change to suit modern tastes and interpretation. A modern version of the *Tyrol Panorama* would probably temper the religious fervor, though it played a large part in the motivation of the original participants in the battle.

The *Tyrol Panorama* celebrates the “Tyrol myth,” the regional Tyrolean identity encapsulated by Andreas Hofer, the freedom fighter of the 1809 insurrection. Its sub-conscious themes are still relevant today: The battle depicts a fight against the centralization Franco-Bavarian efforts, which easily transfers to a modern aversion against European Union bureaucracy. Tyrol, then and today, is often sold out politically by Vienna, as depicted by the glorious but tragic victors in the *Tyrol Panorama*. The painting also acquired a new meaning of Tyrolean unity after the division of Tyrol, a consequence of World War I.



Fig 4. *Humanitarian Assistance*, 1881/2008, “Faux Terrain” detail from *The Bourbaki Panorama*. Photographed by the author. Copyright: Bourbaki Panorama Foundation

The Bourbaki Panorama, apart from its breathtakingly beautiful cold winter landscape, then and now, showcases Swiss neutrality and the humanitarian services provided by the Red Cross. Less well known is the fact that it was one

of the first major actions of the reorganized Swiss federal army. Only in 1852, after the “very civil (Swiss) Civil War” of 1847 [11], were the different contingents of the Swiss cantons equipped with a national uniform and properly organized as a federal army. Fortunately for Switzerland, this hastily assembled army was spared to be tested in battle. [12] Like the *Tyrol Panorama*, the main message of *The Bourbaki Panorama* is as relevant today as it was during the time of its creation.

The Panorama of the Battle of Murten has seen the biggest change in perception: Originally, it was celebrating the 15th century “golden age” of the Swiss territorial expansion towards the South, East, and West by the near invincible Swiss foot soldier (“Alter Krieger,” old warrior), equipped with a pike and halberd. One of the painters of *The Bourbaki Panorama*, Ferdinand Hodler, memorialized the end of that golden age in the Swiss retreat after the defeat in the Battle of Marignano (1515), in a then-controversial but now iconic painting in the main hall of the Swiss National Museum in Zurich [13]. In contrast to Denmark, Austria, and France in the second half of the 19th century, Switzerland had been spared a German invasion (even though it came close to being invaded). The panorama painting’s sub-conscious message, especially to spectators from the German Empire, was to provide a teaching moment about what happened to an over-confident invader (“Don’t tread on me”). With the end of the Cold War and the downsizing of the Swiss army, this aspect has become much less relevant today. The Swiss 2021 education plan called “Lehrplan 21” de-emphasizes the Burgundian Wars and *The Panorama of the Battle of Murten* (1476) does not appear among the seven core dates of Swiss history that all Swiss pupils have to learn by heart. Instead, the political crisis of 1481 was chosen with its appeal to internal unity and a stop to territorial expansion (which was, in practice, not heeded by the members of the Old Confederacy).

The modern view on the Burgundian Wars and the Battle of Morat has greatly changed, compared to how the panorama creators imagined the battle. The modern understanding of armor and equipment has quite dramatically improved, so that the figures depicted in the panorama painting are more reminiscent of Bruegel or Bosch than how they would look like according to modern interpretation of the historically correct Swiss and Burgundian soldiers. The actual battle quickly turned into a massacre and an orgy of looting – quite a contrast to the strange, almost fair-like and un-bloody encounter depicted in the panorama painting.

Location, Location, Location

Another crucial element in staying relevant is the location of a venue. For battle panoramas, a natural choice would be a location that is near the location of the battle itself,

like with the Waterloo, Constantinople, or Gettysburg panoramas, or indeed the *Tyrol Panorama* in its current location. The Tyrol Panorama was moved from its historic rotunda in the valley to a new building in a more scenic and historic place that happens to be one of Innsbruck's main tourist hotspots. This guarantees a steady stream of visitors who can choose and combine their program out of a mix of different offers on hand.

The Bourbaki Panorama is far from where the historical event took place, but close to other historic monuments and places of interest. *The Lion Monument* is a must-see attraction in Lucerne, whereas the much smaller *Alpineum* nearby, with its collection of Alpine panoramas and dioramas, is an ideal complement to *The Bourbaki Panorama*. To attract more visitors, it would be helpful to increase the visibility of *The Bourbaki Panorama's* rotunda and especially its entrance, so that more tourists would discover it on their stroll from *The Lion Monument* to the lake.

As previously mentioned, *The Panorama of the Battle of Murten* is currently in storage. The occasion of Expo.02 should have been used to finance a permanent home close to the battlefield and venue of the exhibition. One argument against a location near Morat is the city's tiny size that attracts only a limited number of visitors, too few to viably sustain a panorama financially. Other locations such as at Berne's History Museum or Gruyères Castle have been proposed, but every time, the initiative failed to be realized due to budget and time constraints. Having a properly financed building available in a location frequented by many first-time visitors is a crucial element in the battle for relevance.

Conclusion

The three panoramas discussed are survivors. In contrast to many other battle panoramas of the 19th century, they attracted sufficient attention and interest to be restored and placed in upgraded exhibition spaces (with *The Panorama of the Battle of Murten* still struggling to do so as well). Having won the physical battle against decay and exposure, it is important to stay relevant to modern audiences. The interpretation and perceptions of the historical events have changed since the creation of the panoramas. The messages and marketing have to be adapted to modern audiences using the latest technology, in order to attract the eye and capture the minds of audiences who can learn from these important cultural monuments.

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Rebirth of the Panorama of the Battle of Morat: A Forgotten Memorial to a Crucial Event in European History

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Abstract

The Panorama of the Battle of Morat in 1476 bears witness to a largely forgotten part of European history. It was created in 1893 by Louis Braun (German, 1836-1916) and exhibited in Zurich and Geneva between 1894 and the First World War. It was acquired by the town of Morat in 1924, but rarely unrolled, and was then abandoned until restored for the Swiss National Exposition at Morat in 2002. It now lies rolled up awaiting a permanent exhibition site. Charles the Bold of Burgundy was arguably the most powerful potentate of the fifteenth century. He dreamed of uniting his vast possessions from the Netherlands to Savoy and consecration as sovereign. His army entered into conflict with the Swiss, especially from Berne and Fribourg. After a defeat in Grandson, Charles besieged the strategic town of Morat. Morat was protected by high walls and resisted for twelve days, allowing the Swiss to assemble an army which attacked the Burgundians by surprise resulting in their defeat. Six months later Charles was killed at Nancy, ending his empire building. Western, French speaking, Switzerland was annexed by Berne and Fribourg, the Netherlands by Germany and Burgundy by France.

Keywords

Panorama, Battle of Morat, Burgundy, Charles the Bold, Louis Braun, Gruyères.

Introduction

The Panorama of the Battle of Morat on 22 June 1476 bears witness to an inescapable part of European history. It was created in ten months in 1893 by Louis Braun (German, 1836-1916), the prestigious painter of panoramas, who was also a specialist in the painting of horses. However, it was abandoned for many years before being restored and resurrected for its spectacular presentation at the ephemeral Swiss National Exposition at Morat in 2002. Sadly, since then, this magnificent painting lies rolled and stored in a military hangar. The 550th anniversary of the battle is fast approaching. We must strive to find a solution to save this forgotten treasure.

The Battle

The Panorama of the Battle of Morat depicts the major battle of 22 June 1476, a crucial date in European history. [1] Charles the Bold (1433-1477), Duke of Burgundy, was arguably the most powerful potentate of the fifteenth century. He dreamed of uniting his vast possessions that extended from the Netherlands in the north, through what is now Belgium, Luxembourg, Northern France (including Lorraine), Burgundy, to the borders of Savoy and Northern Italy. He dreamed of creating a Middle Empire, like a second son of Charlemagne, between France and Germany, and of consecration as a king. He had the most powerful army in Europe, with artillery, a thousand English archers with longbows, and armoured cavalry, much stronger than France or Germany at the time. He entered into conflict with the Swiss Confederates, above all Berne and Fribourg, who wanted to expand their territories to the west because of the trade routes from Munich to Zurich then across the Swiss Plateau to Geneva and Lyon.

After a first defeat against the Swiss three months earlier in Grandson, on the north shore of Lake Neuchâtel, Charles retreated to the south where he found refuge near Lausanne and the chance to reform his army. He advanced again, this time to the south of the lake toward Berne and besieged the intervening town of Morat with a powerful army of 25,000 men. He swore to destroy Berne and Fribourg. This was seen as a deadly danger for the Swiss, who feared for their independence. Morat was fortunately well protected by high walls, and resisted the siege for some twelve days under the leadership of Adrian von Bubenberg. This allowed the Swiss to also assemble an army of similar size and recruit allies from Lorraine and Alsace. They also received financial help from the King of France, Louis XI.

On 22 June the massive Swiss army, gathered in the forests around the town, attacked the besieging

Burgundians by surprise. The result was a terrifying carnage and a total debacle of the Burgundian army. Braun's painting seizes the moment when the attackers are in the process of routing the Burgundians and he depicts all in extreme detail, from the individual soldiers with their various weapons, as well as the flight of Charles and even that of some of the women camp followers. We see the corpse of the English Duke of Somerset, struck down by a bolt from a Swiss cross bow.

Six months later, Charles lost his life at Nancy. It was the end of his dream of empire building. A well-known expression that dates from soon after the battle of Nancy states:

„Karl der Kühne verlor bei Grandson das Gut, bei Murten den Mut, bei Nancy das Blut“

(“Charles the bold lost his wealth at Grandson, his valour at Morat, and his life at Nancy“) [2]

As a result, the western, French speaking, part of Switzerland was progressively annexed by Berne and Fribourg, and Burgundy by France. The final result was a remodelled western Switzerland, but major changes in political power in Europe as a whole.

The Panorama



Fig 1. Centre portion of the panorama. [3].

In the nineteenth century, before the era of cinema, an important art form was the painted panorama, in which landscapes and historical events were depicted for the public and presented in rotundas. Rare are the nineteenth century panoramas that survive in Switzerland today. Only three are on public exhibition. The oldest is in Thun, and there are the Bourbaki Panorama in Lucerne, and the Crucifixion in Einsiedeln. In the late nineteenth century panoramas were often financed by businessmen. The principal shareholders of the Zurich Panorama Society, that sponsored the Morat panorama, were brothers Adelrich and Martin Gyr from Einsiedeln.

The Morat panorama measures about 10 by 100 meters, that is some 1000 square meters, originally painted on ten canvases. It was displayed in a specially conceived rotunda in Zurich from 1894. It was exhibited in Geneva from 1897 to at least 1904 and returned to Zurich during or just before the First World War. It was offered to the town of Morat in 1919, and the local council acquired it in

1924, but it was rarely unrolled and never presented to the public until the Swiss National Exposition in 2002 (Expo.02). It had already become a forgotten memorial to a forgotten event.

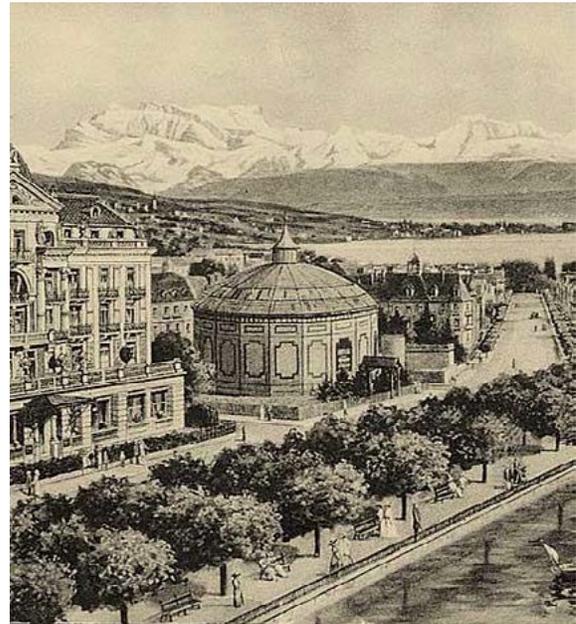


Fig. 2. Site of the rotunda exhibiting the panorama on the Utoquai in Zurich from 1894.

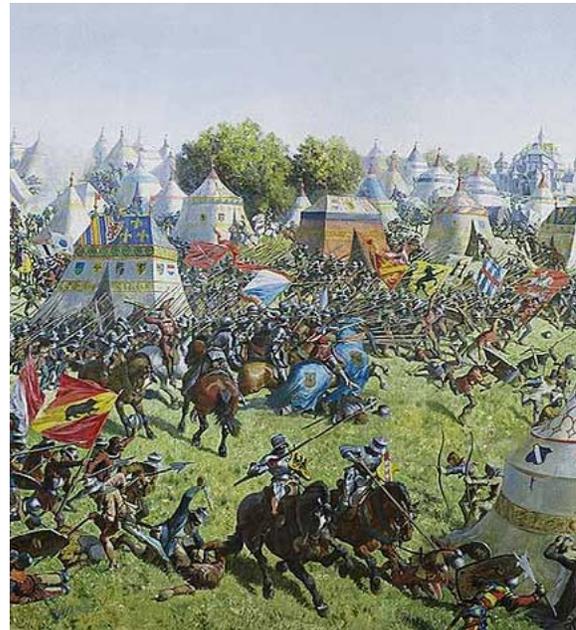


Fig 3. The Confederates charge through the Burgundian camp, their vanguard surprising Charles's troops and the main body and the rear-guard wreaking havoc.



Fig 4. *English longbows and crossbows.*

The Restoration

Restoration was begun in 1996 in Berne. [1] The condition of the panorama was found to be good, except for nail holes, some mould, a few tears and damage by rodents. Some folds had been caused by rolling the hyperboloid (with curvatures in two directions) canvas on wooden cylinders. The panorama was in three sections, and in the Von Roll factory in Berne they were laid out on a curved former with access by a mobile platform. The canvas was cleaned, the deformations smoothed, surface defects repaired and strips of fabric added to reinforce the upper and lower edges. From May to December 2001 the three sections, weighing 1.5 tonnes, were suspended vertically on frames that measured 12 meters high and 35 meters long. The sections were tensioned with weights, retouched where necessary, and rerolled.

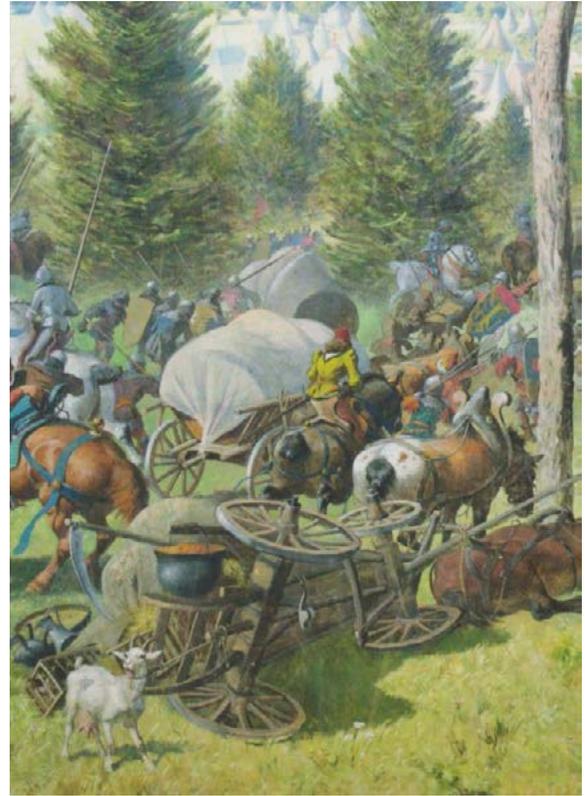


Fig 5. *In the general disorder of the Burgundian flight a wagon turns over.*

Expo.02

The Swiss National Exposition of 2002 (Expo.02) was held on and around the Three Lakes (Neuchâtel, Bienn and Morat). [3] At Morat the exhibition consisted of a floating steel monolith designed by French architect Jean Nouvel (born 1945). The panorama was mounted in the Monolith. However the Monolith was created to be ephemeral and the panorama was removed, rolled yet again and ever since it has been stored in a military hangar.



Fig 6. *A Burgundian horseman flees - with his lady*

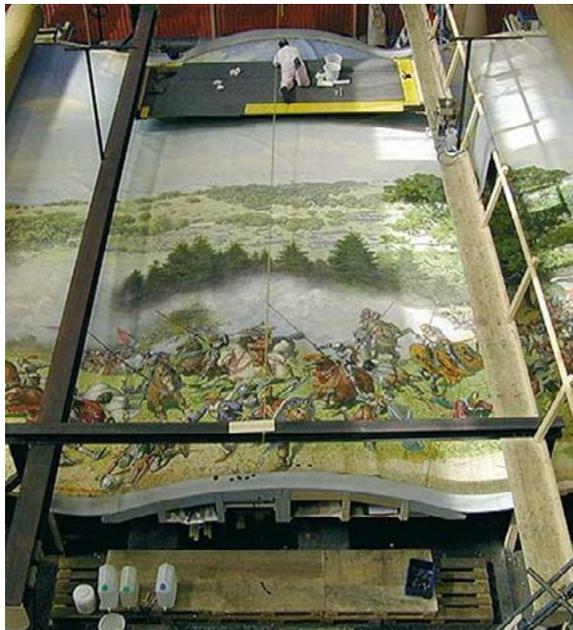


Fig 7. *Restoration in 2001.*



Fig 8. *The Monolith, Expo.02.*

The Foundation, and the Association of Friends of the Panorama of Morat

The *Foundation of the Panorama of Morat* was created in 1996 to facilitate the preservation and display of the panorama, and it was on the initiative of the Foundation that it was restored and presented at Expo.02. The Foundation now aims to make it permanently accessible to the public again. In 2014 a group of people from western Switzerland, all lovers of Swiss history, discussed how best to support the Foundation. The result was the *Association of Friends of the Panorama of Morat (AFPM)* founded in February 2015 in the context of the Swiss Heritage Society and later recognised as of public utility. Its aim is to help the Foundation find and finance a site for the panorama's public exhibition in optimal conditions.

Feasibility studies and the search for a site

The AFPM has financed feasibility studies of possible exhibition sites and of interesting architectural combinations for a rotunda that would display the panorama and also house other audio-visual performances. Thematis of Vevey, specialists in cultural engineering, proposed a fresh approach to the presentation to attract and maintain the interest of the public. Their study relies on modern management with no annual deficit, according to principles of sustainable tourism. [4] Nine possibilities for sites for permanent exhibition were studied: some were abandoned either for technical reasons or because of lack of commitment by the authorities. It is particularly regrettable that solutions in Morat itself, some of which

were very interesting, were not acceptable, at least for the moment.

One attractive proposition is to build a rotunda at the nearby village of Gruyères. A justification for a site at Gruyères is that its castle houses relics of the Burgundian Wars, and notably that a contingent of soldiers from Gruyères, the Valais and the Pays d'En-Haut (that later became part of the Canton of Vaud) participated in the Battle of Morat commanded by Count Louis de Gruyères. Gruyères is a major national site, with the town itself, its castle, the HR Giger Museum and the very popular Maison du Gruyère, attracting large numbers of visitors annually, for among other reasons, to watch the making of the world-renowned cheese. There is even a plan to improve public transport by the development of the railway, with a station on site.

The year 2018 is the European Year of Cultural Heritage. The AFPM will participate in the competition for funding for a temporary travelling exhibition beginning in 2019 to remind the wider public of the existence of this important witness to our past.

Conclusion

It must be remembered that the Burgundian Wars were profoundly European in nature and extent. They saw the involvement of England, France, Germany, the Netherlands and Flanders, Savoy, Northern Italy, Lorraine as well as Switzerland. The implosion of the Duchy of Burgundy changed the face, not only of France and Switzerland, but of Western Europe. So it is opportune for a public reminder of an event that created a multilingual Switzerland and changed the map of Europe. This is a major argument for the quest for a permanent home for the panorama, particularly as the 550th anniversary of the battle approaches. Unless steps are taken to preserve this artefact and remove it from its present unsatisfactory housing, it may soon be too late to save it. The backing of relevant authorities and the commitment of various partners is essential for the realisation of our resolve to rescue this unique major work of art from abandon and to remind posterity of the events it commemorates.

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Internet Resources

- <http://www.panoramamorat-1476.com/>
- <https://www.murtenpanorama.ch/en/home/index.php>
- <http://www.npmedia.com/panorama/angl/english.htm>

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Author Biographies

Gaston Maillard was born in Fribourg, Switzerland and studied medicine in Switzerland, France and England. He specialised in plastic surgery and worked in the University of Miami. He was associate professor in reconstructive surgery in Lausanne and taught there for 30 years. He has conducted humanitarian missions in Iran, Afghanistan and Zaire. His publications include some 200 papers and four books. He retired from active surgery in 2007 and has been President of the Association of Friends of the Panorama of Morat since 2015.

Laurence Garey is a retired neuroscientist and anatomist. Native of Peterborough in England, he spent his career in Oxford, London and Lausanne, but also in Berkeley, Singapore, and the United Arab Emirates, working on brain research and teaching human anatomy. He is interested in the history of medicine and anatomy, and is a member of the Institute of Humanities in Medicine of the University of Lausanne.

The Borodino Panorama: Current State and Plan for Development

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Abstract

This paper reviews the perspective plan for Museum-panorama the Battle of Borodino (Moscow/Russia) with focus on art restoration of the panorama painting. The basic idea of the Open restoration project is to use the restoration process as an opportunity to diverse audience experience in the museum. The Open restoration approach is to develop participatory practices and to be helpful in preserving and promoting the panorama art throughout Russia.

Keywords

The Borodino panorama, restoration, museum marketing, participatory practices, audience engagement.

History

The Borodino panorama was created by the battle painter Franz Roubaud (1856-1928) in 1912, in honour of the centenary of Russian victory over Napoleon in the 1812 war campaign. The panorama canvas (115 meters in length and 15 meters in height) depicts the dramatic episode of the battle between the Russian and French armies near Borodino village on September 7, 1812. The panorama was inaugurated in a specially designed rotunda in Moscow in 1912 [Fig.1]. Five years later the canvas was removed. A new building for museum purposes was constructed in Moscow in 1962. There the restored Borodino panorama was installed and the museum started its work [Fig.2].



Fig 1. *The Borodino panorama rotunda in Moscow.* 1912. Foto. Museum-panorama the Battle of Borodino

Since 1962 more than 32 million guests have visited the Borodino panorama. The 1812 war entered the Russian history as Patriotic war. It proves the great significance of this glorious event for collective memory in Russia. Additionally the high art value of the Borodino panorama allows to explain its popularity as cultural heritage.



Fig 2. *New building for the Borodino panorama.* 1962, Moscow. Foto. Museum-panorama the Battle of Borodino.

Over the last 56 years the Borodino panorama has only once been under a large-scale restoration. It happened in 1967 after the fire accident occurred inside the museum. The most part of the canvas and artificial scenery were damaged. The restoration was completed by the team of artists from the famous soviet Art Studio named after M.Grekov [Fig.3].



Fig 3. *Restoration of the Borodino panorama.* 1967, Moscow. Foto. Museum-panorama the Battle of Borodino.

Survived fragments of the painting were duplicated on a new canvas. The restoration process was limited with very short deadline. Totally it took a few months and at the end of 1967 the museum was opened for the public again.

Current situation

In 2014 the current state of the canvas was thoroughly inspected. This research revealed some serious defects of the painting [Fig.4]. Actually the Borodino panorama canvas consists of two parts: original fragments by F.Roubaud and the reconstructed fragments made by M.Grekov Studio in 1960-s. Natural ageing of the original fragments caused their delamination from the new layer on which they were duplicated in 1960-s. Shape of the whole painting is considerably unbalanced because of the strong deformation at the places where the original fragments were joined the new canvas.



Fig 4. *Inspection of the panorama canvas.* 2014. Foto. Museum-panorama the Battle of Borodino.

The research identified a range of issues required to be solved for the preservation of the panorama. Among the present tasks are:

- to set a stable environmental conditions such as temperature and humidity,
- to improve the hanging system of the painting, to organize the access to the back side of the painting,
- to provide the art restoration of the canvas.

An extensive repair for the museum building started in December, 2017. The purpose of this work is to reconstruct the outdated engineering facilities including heating, conditioning and water supplying. Thanks to it the temperature/humidity conditions inside the panorama hall will be stabilized. The museum is to open for attendance in the middle of 2019.

The next steps are to look after the temperature/humidity conditions during 2019-2020 years and to determine the technique for safeguarding and preserving the panorama

painting itself. And after that it's intended to conduct the art restoration works. The total period for restoration can be estimated up to 2-3 years.

Open restoration: idea, opportunities, expected results

It is known that facing the restoration problems any museum usually moves away from public vision. Such long-term closing of the Borodino panorama will also lead to the economic losses, reputational risks and falling out of tourist and cultural context. As a decision the Borodino panorama is going to set up a project named the Open restoration. The idea is to implement the restoration works of the panorama while the museum is still on operation and visitors are attended. There are many successful examples of similar projects in the world restoration practices.

The possible technique of the restoration involves the division of the panorama canvas into several sectors without closing the whole scope of the painting. So the public attendance can be possible.

The Open restoration will help to increase the public loyalty to our cultural institution. This project gives incredible opportunities for us to encourage visitors' engagement in restoration process. The museum intends to switch from traditional practices to the participatory ones which are more relevant at the present days.

The fact of restoration turns out to become an additional informative reason in promoting the panorama. Cultural events for visitors are considered to serve as a platform for experiments. The museum can offer not only ordinary tour to the panorama which is under reconstruction. It can offer the detailed review about the used restoring methods. Visitors' programs can become diverse including restoration workshops, discussion panels and others [Fig.5].



Fig 5. *Visitors at the Borodino panorama.* 2017. Foto. Museum-panorama the Battle of Borodino.

Special web-site could be one of the media for communicating between the Open restoration and the public. Online-translations or podcasts can provide an exciting content about the course of the restoration.

The great potential for the further development of this project can be derived from the collaboration with the specialists of other Russian panorama-museums. The 'Sector of Museum-custodians of panoramas and dioramas' as an official group of the Russian Committee of Museums was established in April 2018. Thus we are able to keep in touch with skilled restorers, art historians and museum curators from Volgograd, Sebastopol and other Russian cities.

In marketing aspect the estimated results of the project are to raise a total amount of visitors, to strengthen customer loyalty and to increase return visits.

On our opinion if this project is implemented successfully the Museum-panorama will gain the experience of preserving the cultural monument – the Borodino panorama – in combination with audience engagement and participatory events. We think the reception of the Borodino panorama can be positively changed when individuals feel involved in creating their own new memories about the actual history of the panorama.

economics. She also served as a member of research groups preparing the publications and exhibitions about Franz Roubaud (1856-1928), famous Russian battle painter and author of three battle panoramas. She participated in some museum projects promoting the panorama art history.

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Author Biography

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“As It Is and As It Was”: Pompeiorama and the Resurrection of a Buried City

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Abstract

Pompeiorama was a special attraction inaugurated in Naples in 1869 and exported to Europe and United States. It combined realistic views of the ruins of Pompeii with images of the same buildings as though they were completely restored, with fountains, marbles, and actions imitating customs and habits of the people of Pompeii. This immersive experience accomplished the impossible project of “reconstructing” the famous town under the volcano. The restorations were taken from the plans of the archaeological site, and interpreted according to the surviving remains. Much like panoramas and dioramas, Pompeiorama offered the illusion that the spectator could find himself wandering among the ruins.

Keywords

Pompeiorama, memory, Giacomo Luzzati, *The Last Days of Pompeii*, photosculpture, panorama

In *Um Filme Falado (A Spoken Film)*, Manoel De Oliveira, 2003), a movie about a trip made by the Portuguese Rosa Maria with her daughter Maria Joana, there is a short but significant sequence located in Pompeii. During the trip, the family visits the ancient town buried in 79 A.D. by the ash of Mount Vesuvius. In the main square, the Forum, the mother shows her daughter an archaeological handbook with a graphic reconstruction of buildings: the effect is created by layering perforated and shaped figures portraying ancient architectural elements over photographs of the monuments as they look today, in order to highlight the differences between the raw beauty of the ruins and their opulent appearance in the past. Rosa Maria leafs through the instructive text for the benefit of Maria Joana, comparing the double views of the temple of Apollo and the double views of the Forum.

The performance calls to mind a typical experience lived by modern tourists, thanks to amusing pop-up books and even virtual reality restorations and 3D headsets (Fig. 1). In its spontaneous *naïveté*, the sequence enacts an impossible “resurrection”, a short-circuit between past and present that in De Oliveira’s film is also a metaphor of a journey at the origins of civilization.

The present essay intends to address a restricted portion of the ample history of such a delight consisting in

bringing Pompeii back to life, a prodigy come true with pictures that proposed a hypothetical restoration of the ruins. Since its discovery, taking place in 1748, Pompeii was systematically illustrated with drawings, paintings, watercolors, scale models by artists from all over Europe. (Fig. 2)



Fig. 1. *Tourists in Pompeii with VR headsets*, 2017, Photograph by Massimiliano Gaudiosi.



Fig. 2. *House of the Tragic Poet Restored*, from William Gell, *Pompeiana: The Topography, Edifices and Ornament of Pompeii, the Result of the Excavations since 1819, 1832*, vol. 2, plate 37.

Between the XIXth and the XXth century, the site became a lab in which the most important techniques of imagery were verified: a time span of a hundred of years of excavations comprises perspective views more and more accurate, optical instruments, miniatures of the city and images taken from aerostat balloons. A history of the representation of Pompeii in the media “can serve as an example for a general history of the visualization strategies used in a specific historical epoch.” [1]

The Pompeiorama

In order to investigate a fragment of such a complex repertoire, the next paragraphs will focus the attention on the form of entertainment known as *Pompeiorama*. Installed in Naples in October 1869, it consisted of a set of dioramic views of the ruins engaging the visitor in a unique tour of Pompeii as never seen before, insomuch as the entertainment was in the modern times and Pompeii existed in the past. Through a sequence of images, a sort of virtual visit offered the chance to see a double version (one in ruins, and one rebuilt) of the remains.

Pompeiorama was launched in a period in which the restoration of the Roman town had an incredible echo thanks to the support of the Italian government, the impact of scholars such as William Gell and Giuseppe Fiorelli and the world success of Edward Bulwer-Lytton’s novel *The Last Days of Pompeii* (1834). After its opening in Naples, the exhibition moved to United Kingdom, at the Crystal Palace in Sydenham (1870), to Rome, Florence and Milan (1872), then to France at the Conference Hall in boulevard des Capucines in Paris (1874) and, a few years later, United States hosted a copy of the Neapolitan views at the Fairmount Park in Philadelphia (1878) and at the G. B. Bunnell’s American Museum in New York (1879).

Pompeiorama intertwined impressive connections between memory of the ruins and the dream of the return to light of a buried city, an evidence of how the popularity of Pompeii largely rested on the romantic impulse to travel back across time. Just like classical archaeology and other attempts as diverse as cinema and spiritualism, Pompeiorama aimed at the materialization of the intangible past.

Rebuilding a City

Until then, a panoramic exhaustive sight of Pompeii was not a conventional image, even though, in the decades before Pompeiorama, there are examples of scale models, photographs and panoramas of the Roman town. The desire of a faithful replica of the excavations was already a priority in 1785, when Giovanni Altieri elaborated a cork model of the Temple of Isis: by using a 1:18 ratio he was able to duplicate minute details respecting the authenticity of the Egyptian sanctuary. Another artist, Domenico

Padiglione, active in Naples between 1820 and 1830, made a small carved wooden version of the Villa of Diomede.[2] Padiglione even realized a model of the quarter of Theaters including the Temple of Isis in 1820, today visible in London at the John Soane’s Museum, and having obtained authorization to make the cork model of the entire city, he entrusted its construction to his eldest son, Felice. This 1:100 model of Pompeii, today collected in the National Archaeological Museum of Naples, was manufactured in several stages from 1861 onwards and features accurate watercolor reproductions of the painted walls. The model “gives an aerial view of the city, with its streets, *tabernae*, houses, squares and public buildings.”[3]

Panoramas of Pompeii

If in the second half of the nineteenth century photography and dissolving views spread as a privileged mean of representation of the “City of the Dead” for conferences and lectures, in the first half such a role was assigned to panoramas: landscapes were successfully shown in London by John and Robert Burford, and in Germany by Carl Georg Enslen. Two Burford’s Panoramas of Pompeii were respectively exhibited in the Strand (December 1823-March 1827) and at Leicester Square (May 1824-March 1825). [4] Wood engravings of the first and the second panorama, published in a booklet, furnish an idea of the original paintings and the point of view taken by the artists. (Fig. 3) In Germany, Carl Georg Enslen was specialized in small-size panoramas and in 1825, just like John Burford, spent a period in Pompeii for his sketches, with which he conceived five panoramas of the ruins. Enslen’s panoramas were one meter high with a length between 3,7 and 5,6 meters. The paintings, disposed in semicircle, were observed through magnifying lenses which enlarged the images three times their dimension, [5] a system that will be also employed in the Pompeiorama. If on the one hand both Burford’s and Enslen’s panoramas adopted a point of view from the top of the Tragic Theatre, putting the observer in an advantageous place with perspectival effects, on the other hand the site lacked an elevated position able to get a glimpse on the entire city. The novelty of Pompeiorama also relied on a surprising bird-eye view got thanks to a very high scaffolding erected in 1868 by Giacomo Luzzati with the permission of the local authorities. [6]



Fig. 3. Details of the *View of Pompeii* at the Panorama, Strand, (1823). Engraving. From Thomas L. Donaldson, 1823-1824. [7]

Picturing the Past

The *Casina pompeiana* (Pompeian House) is a little rectangular pavilion located in the Public Gardens of Naples; this neoclassic structure, perfectly in harmony with its destination, was designed by the architects Luigi and Stefano Gasse in 1869. [8] The edifice was also known as Pompeiorama, from the dioramic views of Pompeii arranged by the photographer Giacomo Luzzati and visible inside with an admission of one Lira. [9] The pictures, obtained mixing different techniques – gouaches, photography and a system called photosculpture which allowed reliefs in papier-mâché, sketched the principal monuments in their actual condition and in what may be supposed to have been their original state. The virtual restoration of the ruins, as well as the reproduction of decorations, enactments, costumes, etc., was carried on analyzing frescoes and mosaics preserved at the National Museum of Naples, with the purpose of a scientific method and an instructive entertainment. As Luzzati's son declared: "foreign visitors use to repeat: in Pompeii they saw Pompeii, and at the Pompeiorama they understood it." [10]

Three categories articulated the installation: images of the present-day ruins, with a general panorama of Pompeian excavations taken from a tower fabricated for that purpose; imaginative restorations of the same sites; and finally twelve scenes illustrative of Pompeian life enhanced with painted three-dimensional figures, and completed with historical episodes loosely evoking the Bulwer-Lytton's novel culminating with the wake of the eruption. According to Mirella Romero Recio, by means of some optical artifices, it instilled in the visitors the impression of entering in the old Campanian city, sharing with its inhabitants different instants of the everyday life in separated spaces: the experience did not only concerned the examination of archaeological findings, it rebuilt them for spectators in search for realism and strong emotions. [11] The illusion was obtained peeping at the pictures and the photosculptures through magnifying lenses, an effect similar to the old cosmorama. [12] Photosculpture was a system invented in France by François Willème and first came to public notice in 1861. The process aimed at making, with mathematical exactitude, lifelike statues using photographic profiles taken from sequential positions encircling the subject of the portrait; with the help of a pantograph, the profiles "were transferred into a three-dimensional matrix from which a mold could be made, and the finished or nearly finished statue was cast." [13] Luzzati patented his own simplified form of photosculpture, developing the system for the creation of realistic monuments exposed in the Pompeiorama. [14] An article devoted to the Crystal Palace exhibition remarked that "in addition to the exactness which ordinary photography gives, the objects stand out in such bold relief that the spectator finds it

difficult not to imagine that he is verily in the midst of the famous scenes which history, poetry, and painting have made familiar to us." The visitor was invited to look through fifty glasses: unlike vanishing optical delusions such as Phantasmagoria, "which for a moment amuse, while they deceive the eye," the spectacle featured "a series of scientific productions which instruct while they delight [...]. Photosculpture makes each view practically a model, and all the models are in a geometrically proportionate scale." [15] A visitor of the Parisian version reported that each model approximately measured fifty centimeters in height and width (twenty inches x twenty inches). The relief was put in front of a painted canvas that, through an optical illusion, seemed blending with it. Relief and canvas were placed behind a huge magnifying glass:

When one looks through this glass, the image in relief gets enormous proportions: it is no longer a model good for an architect's desk, it is the nature itself in all its reality, in all its real proportions. Neither panorama, nor diorama, nor stereoscope achieve similar effects: one feels that air circulates through the columns, that one could climb the steps, passing under these vaults. [16]

If the act of seeing through glasses recalls the cosmorama views of the early nineteenth century, the presence of scale models and reliefs reminds the panstereorama, an urban *maquette* portraying cities in miniature for public amusement. [17] Supposedly, Pompeiorama mixed features and visual techniques from different "oramas": like panstereoramas it displayed a 3D model, but the scenery was based on a 2D painted view; the experience from a precise central position, typical of panoramas, was matched with a bird's eye view on a flat and more horizontal display; like in urban scale models the objects were smaller than the viewer, but magnifying glasses considerably enlarged them.

From Naples to New York

Descriptions about the Pompeiorama in Naples are rare and usually incomplete, but thanks to the migration of the exhibition to London, Rome, Milan, Florence, Paris, Philadelphia and New York, which aroused the attention of reporters, many information can be integrated confronting multiple sources. The installation contained paintings, photographs, scale models and reliefs, and the number of pictures could slightly vary according to the location, which probably forced the exhibitors to adapt the space available. The works exposed in 1878 in Philadelphia, at the Pompeian Museum of the Memorial Hall, Fairmount Park, consisted of a set of thirty-four large cabinets of views purchased in December 1877 in Naples for \$20,000 by Mr. John Welsh, former commissioner of the Centennial Exhibition of 1876. This assortment was a facsimile of a selection of the Neapolitan Pompeiorama,

executed by the painter Cesare Uva, author of the original landscapes visible in the Casina Pompeiana. According to Jon L. Seydl twenty-two views, mounted on a support, were oil on paper measuring 27 inches x 39 inches. The final twelve views were the same size, but oil on canvas, mounted on stretchers, with painted reliefs in front of the paintings. [18] A booklet printed for the visitors offered a quite detailed exploration of the thirty-four images; a similar booklet available for the Milan version listed forty-five pictures, largely corresponding to the works visible in Fairmount Park. [19] Another meticulous explanation of Pompeiorama is documented in *Viaje a Egipto* by Lázaro Bardón y Gomez, whose 1870 excursion in the Casina Pompeiana broadly corroborates the contents of the pamphlets from Milan and Philadelphia. Bardón y Gomez focuses on twelve pictures corresponding to the scenes of Pompeian life and the eruption of Vesuvius. [20] Confronting and fusing together the abovementioned sources with elements from newspapers articles about the Crystal Palace and the Parisian exhibition, the contents of Pompeiorama can be summarized as in the list at the end of the essay.

Analyzing such a list, one can infer that Pompeiorama was updated during its presentation in the different locations, according to the archaeological discoveries and according to the last activities of Mount Vesuvius, as exemplified in Sydenham. The Crystal Palace's version was located in the vestibule of the Pompeian Court, part of an ambitious overview of the nineteenth century knowledge opened in 1854: "a sequence of courts that showed the artistic and architectural achievements of past epochs, from Egypt to the Renaissance. Among these was the Pompeian Court, assembled as a replica of a Pompeian house which allowed visitors the chance literally to inhabit the Roman past." [21] (Fig. 4)

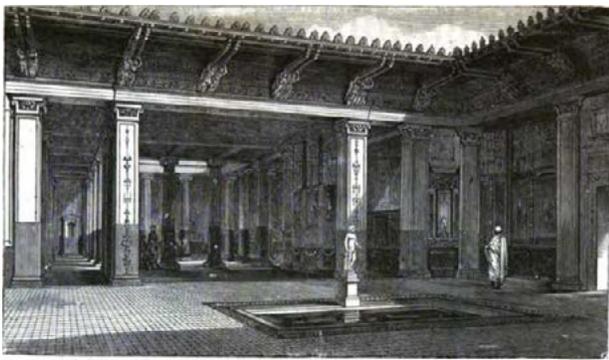


Fig. 4. *The Pompeian Court at the Crystal Palace*. Engraving from Samuel Phillips, *Crystal Palace. A Guide to the Palace&Park* (London: Bradbury and Evans, 1854), 99.

This life-size model of a Pompeian house, housing a collection of copies of paintings from recent excavations, was a perfect background for Pompeiorama. In addition, in Crystal Palace four models of the buried city were

displayed: the general map of the city, the model of the House of the Tragic Poet, depicted in Lytton's novel as the house of Glaucus, the House of the Faun and the Basilica. The model of the city was on a scale of one in 1,000, and the others of one in 100. [22] In June 1872, a year later the inauguration, the exhibition was updated with new views of the last eruption of Mount Vesuvius occurred a couple of months before, on April 25, received from Naples by Giacomo Luzzati and added to the collection with specimens of the lava stone. [23]

Time and History in the Pompeiorama

Marc Augé suggested that the contemplation of ruins supplies the traveler with an experience of time without history, an intuition of untemporality: "to contemplate a ruin is not to make a journey into history, but to live the experience of time, of pure time." [24] According to the French anthropologist, the landscape of the ruins alludes to a variety of pasts, but it does not evoke any kind of past: it influences nature with a temporal sign, and nature, on the other hand, dehistoricizes ruins attracting them toward untemporality. Through the spectacle of the ruins, the observer becomes fleetingly aware of such a time without history. [25] As a virtual parade of ruins, Pompeiorama cannot be compared to the thought-provoking perceptual impact discussed by Augé. Nevertheless, it seems to involve the nineteenth century visitors in a peculiar experience of the ruins in which both pure time and history awareness could coexist. The visual comparison of the ruins "before and after" virtual restoration caused a cross-temporal vertigo, as frequently reported by coeval witnesses. Simultaneously, the configuration of a specific timeline cannot be underestimated. Pompeiorama was, just like other public peep media, a manifestation of a culture of attractions. As Tom Gunning underscored working on early films, the cinema of attraction is based on its ability to *show* something. Rather than being a primitive experiment of narrative continuity, it composed a series of plotless *tableaux* strung together with little connection. [26] If Pompeiorama provided spectators with visual shocks and curiosities, the goal comprised at the same time an evident form of narration: a logical succession of views, multiple references to *The Last Days of Pompeii*, created a *narrativization* and a vague diegetic universe. The spread of the novel by Bulwer-Lytton contributed to establishing the myth of Pompeii, reinforced and disseminated in the form of pictures and adaptations on the stage: after the publication and translation of the book in several languages, local guides, showing visitors around the remains, told stories inspired by the novel, such as the idea of a city destroyed as a God's punishment for its wickedness. [27] Live performances, exhibitions, panoramas, etc., expected audiences to be familiar with the plot and the characters of the novel and with famous

illustrations, a strategy evidently actualized in the Pompeiorama as suggested by an English newspaper:

It is useless to remark on the interest which any who have read Lord Lytton's novel must feel in gazing at the scenes which he has so ably peopled. Here is the house of Glaucus, and a little further on is the amphitheatre where the gladiators contended before the Rausa, the Aedile, while Clodius and Glaucus betted on the results. [28]

A visitor of the Philadelphia display mentioned, among the most exciting moments, "Glaucus in the arena of the amphitheatre, condemned to wrestle with a lion." [29] Descriptions and booklets suggest the existence of an underlying logical sequence, culminating with the eruption of Vesuvius of 79 AD. The juxtaposition with modern eruptions of the same volcano could establish a strong connection between past and present. Even though the visitors freely wandered across the halls, the arrangement of cabinets, the list of monuments in the booklets and advertisings could outline an imaginary path, an interplay of visual instruments and narrative arts creating consecutive emotional experiences.

Notes

- Valentin Kockel, *Pompei 360°*. *I due panorami di Carl Georg Enslin del 1826* (Milano: Electa, 2006), 10 (my translation).
- Adriana Rossi, Pedro M. Cabezos Bernal, "Il valore paradigmatico del Grande Plastico di Pompei/The Paradigmatic Value of the Great Model of Pompeii," *Disegnare Idee Immagini*, Year XXVIII, n. 55, (December 2017), 62.
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- Valentin Kockel, *Pompei 360°*, 32; Stephan Oettermann, *The Panorama: History of a Mass Medium* (New York: Zone Books, 1997), 225.
- Gustavo Luzzati, *Pompei com'era e qual è. Descrizione popolare* (Napoli: Tipografia Gazzetta di Napoli, 1872), 37.
- Thomas L. Donaldson, *Description of a View of the Ruins of the City of Pompeii, and Surrounding Country, Now Exhibiting in the Panorama, Strand* (London: J. and C. Adlard, 1823); Thomas L. Donaldson, *Description of a Second View of the Ruins of the City of Pompeii, and Surrounding Country; Representing the Tragic Theatre, Covered Theatre, Temple of Isis, Small Forum, Now Exhibiting in the Panorama, Leicester-Square* (London: J. and C. Adlard, 1824).
- Yvonne Carbonaro, Luigi Cosenza, *Le ville di Napoli* (Roma: Newton Compton, 2008), 260.
- Karl Baedeker, *Italie; manuel du voyageur. Troisième Partie. Italie méridionale et la Sicile* (Leipzig: Karl Baedeker Editeur, 1877), 83. If the overall project, with photos and photosculptural figures, was devised by Luzzati, paintings were created by the landscape painter Cesare Uva. On Luzzati's activity see Piero Becchetti, *Fotografi e fotografia in Italia, 1839-1880* (Roma: Quasar, 1978), 86. The Casina Pompeiana changed its destination in autumn 1875, when the structure was purchased by the artist Federico Maldarelli, who turned the building into a studio. Nicola D'Arienzo, *Napoli d'oggi* (Napoli: Luigi Pierro, 1900), 238.
- Gustavo Luzzati, *Pompei com'era e qual è*, 38 (my translation).
- Mirella Romero Recio, *Pompeya. Vida, muerte y resurrección de la ciudad sepultada por el Vesubio* (Madrid: La Esfera de los Libros, 2010), 234-235.
- Peep shows were commonly exhibited at fairs since the early eighteenth century; some of the boxes contained miniatures and "mass produced perspective prints known as *vues d'optique* were certainly common. Most of them depicted identifiable locations, turning itinerant peep shows into a virtual voyaging medium." Erkki Huhtamo, "Toward a History of Peep Practice," in *A Companion to Early Cinema*, ed. André Gaudreault, Nicolas Dulac and Santiago Hidalgo (Oxford: Wiley-Blackwell, 2012), 35. On cosmoramas see the abovementioned article and H. Audiffret, "Cosmorama," in *Dictionnaire de la conversation et de la lecture*, vol. 17 (Paris: Belin-Mandar, 1835), 354-356.
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24. Marc Augé, *Le temp en ruines* (Paris: Galilée, 2003), 38-39 (my translation).
25. Ibid., 39-40.
26. Tom Gunning, "The Cinema of Attraction: Early Film, Its Spectator and the Avant-Garde," *Wide Angle Journal*, 8, 3, (1986), 63-70.
27. William St Clair and Annika Bautz, "Imperial Decadence: the Making of the Myths in Edward Bulwer-Lytton's *The Last Days of Pompeii*," *Victorian Literature and Culture*, 40, (2012), 370-371.
28. "The Last Days of Pompeii," *The Morning Post*, July 9, 1870, 3.
29. Julia A. Wood, *My Northern Travels. The Results of Faith and Prayer* (Ashland: Brethren Publishing House, 1887), 120-121.

A List of Views Included in the Pompeiorama

Ruins and Restorations

Civic Forum (before and after Restoration)
 House of M. Lucretius (before and after Restoration)
 Temple of Fortune (before and after Restoration)
 House of the Faun (before and after Restoration)
 House of Cornelius Rufus (before and after Restoration)
 Public Baths (before and after Restoration)
 Edifice of Eumachia
 Triangular Forum
 Tribunal (Basilica)
 Villa of Diomedes
 Temple of Venus
 Temple of Jupiter
 Temple of Isis
 Temple of Mercury
 Pantheon
 Fullonica
 Bakery and Mills
 Tragic Theater
 Comic Theater
 Amphitheater
 Street of the Public Seat (Herculaneum Street)
 Street of the Tombs
 The House of the Tragic Poet
 Restoration of the House of Alconio
 Restoration of the House of Ariadne
 Restoration of the House of Pansa
 Restoration of the House of Cornelius Rufus
 New excavations (1860, 1870, 1872)
 General Panorama of Excavations (From a tower)

Scenes of Pompeian Life. Eruption of Mount Vesuvius

Festival in the House of Arrius Diomedes
 A Solemn Sacrifice at the Temple of Jupiter
 Nuptial Ritual in the Temple of Venus

Chariot Race with two Horses
 Criminal Judgment in the Basilica
 Funeral of a Pompeian Nobleman
 Public Market at the Triangular Forum
 Election of Deputies in the Civic Forum
 Combat of Gladiators in the Amphitheater
 Glaucus in the Arena of the Amphitheater, Condemned to Wrestle with a Lion
 Quarrel between the Pompeians and the Nuceriai
 Banquet for the Anniversary of Augustus
 The Battle of Alexander the Great vs Darius (mosaic)
 Last Days of Pompeii
 Last Eruption of Vesuvius, April 25/26, 1872
 Restored Panorama of Pompeian Excavations
 General Map of the Excavations

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Author Biography

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A Fad That Faded

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Abstract

In the 1880s it was thought that the cyclorama had come to stay. Panorama catalogs and newspapers described the paintings as permanent exhibits. But by 1903 a fire insurance guide advised agents to decline to insure panoramas or their rotundas, as the “buildings are unsuited for any other use and are undesirable.” Yet other ways of employing the structures were being discovered. Panorama rotundas were reused as theaters, skating rinks, zoos, bicycle-riding schools, garages, libraries, etc. By 1885 New York’s 59th Street and Madison Avenue rotunda was a roller skating rink, with the panorama of the *Battle of Yorktown* still on display. One of the oldest panorama buildings (built 1840), located in Philadelphia at Ninth and George (now Sansom) Street, became Alfred M. Herkness’s Horse and Carriage Bazaar in 1847. Proudly Herkness detailed its history in the company’s fiftieth-anniversary booklet. But by the time the building was demolished in 1915, the panorama phenomenon existed mostly in the memories of those who had viewed the paintings. Only an occasional newspaper article mentioned former cyclorama buildings, and most of them gradually disappeared.

Keywords

Panorama, cyclorama, rotunda, Alfred M. Herkness, fad

A Fad That Faded

fad (*n*) An intense and widely shared enthusiasm for something, especially one that is short-lived; a craze. [1]

The panorama craze appeared in the United States more than once, each time waning before the next revival of interest. The circular panorama was popular in the early 1800s, for instance, and then faded away. It received new attention in the mid-1870s when the Colosseum and its old panoramas, *London by Day* and *Paris by Night*, were displayed first in New York City and then at the Centennial Exposition in Philadelphia. A more sustained revival of the circular panorama—in the United States usually called a “Cyclorama” to differentiate it from the better-known moving panorama—occurred in the 1880s. In 1885 the

Inland Architect and Builder reported that panorama buildings were being constructed in four major American cities. Advertisements often wrote of a panorama as being “Permanently Located.” But the fad for the paintings died away once again.

At the turn of the century, the panorama became an object of nostalgia and pleasure, something people felt fondness for because it was becoming obsolete. [2]

A 1903 guide for fire insurance agents recommended that they decline to insure “Panoramas, Cycloramas, Cinemetrographs [*sic*], Etc.” Its author warned: “Extravagant claims are often made on large paintings where only a small surface is injured by fire or smoke. Buildings are unsuited for any other use and are undesirable.” [3]

Despite the latter claim, many panorama buildings *were* repurposed, as indicated in a newspaper article written the same year. They were used for exhibiting cycloramas (of course), a horseback-riding academy, bicycle riding, roller skating, pugilism, and an automobile show, and turned into a polo rink, a society circus, and a zoo. These were all listed as “enterprises that failed.” [4] The reporter did not mention Leedy-Cooley Manufacturing, which made drums in a factory in the basement of an Indianapolis cyclorama (1898).

The Indianapolis building whose history was recalled in that article had been built in 1888 for the cyclorama of the *Battle of Atlanta*. Later the *Battle of Gettysburg* was shown, but was not successful, and the building was put to the other uses mentioned. In 1903 it was razed so that a new trolley terminal could be built. It was blown up by dynamite; a large crowd that had gathered to watch the destruction panicked when a large part of the building collapsed. [5]

Many other panorama rotundas were demolished too, as their urban settings made the land they occupied more

valuable than they were. In addition, the building type itself—circular, windowless, and unpartitioned—was not easily adapted for other purposes. Nevertheless, some were converted to other uses. Space does not permit a review of the histories of more than a few of these buildings, but I hope to present some interesting examples.

The garage, or “automobile stable,” was a common use for former rotundas. The New England Electric Vehicle Company in 1899 remodeled the earliest Boston Cyclorama building as a central station for its operations—leasing electric vehicles as taxicabs and recharging storage batteries for the vehicles (the first real commercial use of electric vehicles). [6] But the idea was ahead of its time, and the company was not successful; its remaining vehicles were sold to a company that hoped to substitute gasoline for electricity to power automobiles. Later the building became the home of the Boston Flower Exchange. It is now an arts center. [7]

Washington, D.C.’s cyclorama building housed the Washington Electric Vehicle Transportation Company in 1906 and was later used as a garage by the Treasury Department. In contrast, the Boston rotunda which had housed *The Battle of Bunker Hill* was incorporated into the Castle Square Theatre and Hotel; 1933 photographs showing that complex in the process of demolition reveal the skeleton of the rotunda. [8] In London, the so-called Niagara Hall, which had housed the *Niagara Falls* panorama painted by Paul Philippoteaux, became a skating rink in 1895, with Edward J. Austen’s 1893 panorama, *Niagara in Winter*, remaining as a backdrop. Seven years later the rink closed; the panorama was sold for £200, and the building became a garage capable of storing around 230 electric vehicles. A later automobile company added a repair shop. The building survived the Second World War, but was later demolished. [9]

In Brussels *Panorama Parking* is housed in what was Castellani’s panorama building. Some original details can still be seen, like the iron ring from which the painting was suspended and the ventilator controls. Similarly, the Toronto, Canada, Cyclorama building “spent the remainder of its days enslaved by the automobile,” surviving until 1976. Built in 1887 by the Toronto Art Exhibit Company near Union Station, the building had housed the panoramas *The Battle of Sedan*, *The Battle of Gettysburg*, and *Jerusalem on the Day of the Crucifixion*. A collection of replicas of noted paintings was exhibited as well. From 1899 the Petrie Machinery Company used the building—and covered it with advertising—until it was converted to a car repair shop and then a Ford showroom in the 1940s. Subsequently it served as a parking garage and a rental car outlet (note the added windows). [10]

Another Brussels panorama building is now a mosque. It was not the only building to become associated with religion when repurposed. The Chicago rotunda that had

exhibited the *Battle of Gettysburg* became the Old Globe Theater before it was acquired by the International Bible Students Association and renovated for the showing of a “Photo Drama of Creation”—a moving picture of scenes from the Bible. Later the building became a theater again. It was demolished in 1927. [11]

The cyclorama building in Baltimore, Maryland, was used for services by evangelist Dwight L. Moody: the churches of Baltimore had invited him to spend three weeks there, and the Cyclorama building, which could hold five thousand people, was nearly full at every service. Constructed to show the *Battle of Gettysburg*, the building became in turn a roller rink, a bicycle-riding school, and the venue for a dog show. In 1901 Bostock’s “zoo” (actually more of a circus) was occupying the building when it was destroyed by fire, burning all of the animals to death, except an elephant and a camel. A faulty electric wire started the conflagration in the wooden-framed building, which was sheathed in corrugated iron. [12]

Frank C. Bostock (1866–1912) found that cyclorama buildings were well-suited to his animal performances. Already in the menagerie business when he came to America in 1893, he began traveling with his wild animal performances, competing with Hagenbeck’s Trained Animal Show, apparently acquiring the right to use the name Hagenbeck himself a few years later. Indianapolis (1900), Boston (1892 and 1902), and New York were only some of the other locations where cyclorama buildings were used for animal shows. [13] Wherever Bostock or Hagenbeck presented their animals, newspapers printed lurid reports of animal trainers threatened by wild beasts, bitten by poisonous snakes, etc. All survived, except a young cage cleaner in Indianapolis who was actually killed by a tiger.

In 1893 Hagenbeck’s show appeared in the former *Battle of Montretout* building in New York. (The *Battle of Montretout*, renamed the *Siege of Paris* in 1882, was the work of Henri Felix Philippoteaux, father of Paul Philippoteaux). Begun by the Belgian Panorama Company in 1881, the building was one of the first constructed when the so-called “panorama revival” reached the United States with French and Belgian promoters vying for success. After the exhibitions of the *Battle of Tetuan* and the *Battle of Vicksburg*, the structure was auctioned off. For a time it was used as a studio: the *Cyclorama of Custer’s Last Battle*, or *The Battle of the Little Big Horn*, was painted there, with Georges Washington (brother-in-law of panorama painter Paul Philippoteaux) one of the artists working under Ernest Pierpont. By 1891 the New York building had become Tattersall’s, a horse auction venue. [14] For the 1893 Hagenbeck animal show, Tattersall’s was redone as an amphitheater that could seat up to eight thousand people. [15] *The Battle of Montretout* building was not the only structure built in New York to house

panoramas. The New York rotunda, built at Madison Avenue and Fifty-ninth Street by a French panorama company for the *Surrender of Yorktown*, opened in 1882. But two years later, the building was advertised for lease. It became a roller skating rink with the panorama still on the walls. It reverted to use as a panorama rotunda when French painter Theophile Poilpot's *Monitor and Merrimac* panorama was installed in 1886, followed two years later by *Jerusalem and the Crucifixion* by Poilpot's former assistant Kowalsky. In 1889 the building was converted to the Lenox Lyceum, a music hall, and in 1908 to the German Theatre, with decorations by Alphonse Mucha. [16] This did not succeed and the building became a conventional theater; then a movie playhouse. It was destroyed in 1929. Tragically it seems that Mucha's works were still inside.

Two New York panorama buildings were built for "a nomadic life," having been prefabricated to be portable. One was the Colosseum, first erected in New York in 1873 by R. W. Kennard, son of a British railroad contractor, at Thirty-fifth Street and Broadway to exhibit two old panoramas from London's Colosseum: *London by Day* and *Paris by Night*. John Crump of Philadelphia prepared most of the building's iron skeleton, which was covered by corrugated iron. [17] At the center of the building was an iron tower holding a steam-operated elevator which carried visitors to the top of the building for a panoramic view of the city. [18] The building was moved to Philadelphia for the Centennial Exposition of 1876, but by then the building had been forfeited to the owners of the land on which it stood. Upon its removal, one correspondent wrote, rather unkindly, "The city has gotten rid of a disfigurement during the past week, in the removal of the Colosseum to Philadelphia." [19] Although the building reopened in Philadelphia in July of 1876, the *Paris by Night* panorama was not on display until September. In April of 1877 it was put into storage, while the building remained open, housing a magician and a Punch and Judy show among other amusements. Later the building became a public market; in 1879 it was taken down and supposedly moved to Boston. Another prefabricated iron panorama building was originally installed in Brooklyn and later moved to New York City. From the beginning, the *Battle of Gettysburg* panorama was to be shown in Brooklyn for "a limited time only." The *Brooklyn Eagle* newspaper wrote that "the building and painting are portable, and if there are indications of a wane in the popularity of the exhibit its transfer to another city will be easy." [20] The building was of iron, with a tin roof and galvanized iron cornice; it was designed and built by the New Jersey Steel and Iron Company of Trenton, New Jersey. The panorama, painted by Paul Philippoteaux and his staff at a panorama studio in Mott Haven, the Bronx, opened to the public in Brooklyn in 1886. Subsequently both panorama and building moved

to Manhattan, at Nineteenth Street and Fourth Avenue, where they opened to the public in December of 1887. In 1892 the *Gettysburg* painting was sent to Washington, D.C., and the *Falls of Niagara* panorama installed in its place. This was not a success, and two years later both the building and the Niagara Falls cyclorama were advertised for sale. According to a newspaper story, the building was disassembled and taken up the Hudson River to Sing Sing, where it was to be incorporated into the Blakslee foundry. [21]

Philadelphia was the location of one of the longest-surviving panorama buildings, and its original function was never forgotten. In 1840 the circular, brick building opened at the corner of Ninth and George (now Sansom) Streets. Called the Colosseum (sometimes spelled Coliseum), the building was patterned after the original panorama rotunda in Leicester Square and had two "circles," one above the other, enabling the exhibition of two panoramas at the same time. It opened in November, showing two of Robert Burford's panoramas, painted from sketches by Frederick Catherwood.

Traveler, artist, and architect, Catherwood had moved to New York in 1836. Much of the city had recently been destroyed by fire, so an architect could find work readily. He imported several of Burford's panoramas, showing them in New England before bringing them to Philadelphia. *Jerusalem* and *Thebes* were displayed in Philadelphia for nearly two years; then both were removed to Catherwood's own panorama rotunda in New York, a two-level wooden building at Prince and Mercer streets. Both the building and the panoramas were destroyed by a fire in August of 1842. It was conjectured that the building had been struck by lightning, which caused an explosion of the main pipe supplying the gas for illumination.

The Philadelphia building lasted longer, housing a panorama of Rome and the *Bay of Islands* before closing in 1846. Then in 1847 auctioneer Alfred M. Herkness (1818–1898) took over the building as his venue for auctioning horses, cattle, harness, and vehicles. An 1848 lithograph titles the site the Alfred M. Herkness Philadelphia Horse & Carriage Bazaar. Herkness, his son, and then his grandson continued in business there until about 1913. Herkness's building narrowly escaped destruction by fire in 1854, saved by its brick walls and metal roof, and the labor of those helping to prevent the spread of the flames. Herkness was successful: his sales of Jersey cattle alone amounted to nearly a million dollars between 1878 and 1886. Mr. Herkness was proud of his building: at the fiftieth anniversary of the business in 1897, the company published a booklet about the bazaar, detailing its history as a panorama rotunda. Surviving features mentioned in the text included "the central pole that supports the centre of the dome, [and] marks of the spiral stairway by which visitors reached the viewing point from which to enjoy the

beauties of the pictures.” [22] Interestingly enough, another circular building, the Fifth Baptist Church, was located close by.

Advertisements placed by Herkness’s Bazaar in 1907 show “automobiles at public sale” as well as horses and carriages. By 1911 no horses were mentioned, only automobiles. In 1913 it was announced that the building was to be demolished; it had been sold by the estate of Alfred M. Herkness. A newspaper article memorialized it as a cyclorama building and landmark.

Poor panorama, the joy of our grandparents, relic of the Biedermeier era: today it is the cinema that makes our nerves tingle. We want to be dazzled by the dancing eyes that watch us from a chalky screen and not be staring, silent and calm, into a black box through a lorgnette. The only people who still go are noisy children, poor couples who, the honeymoon over, want to wallow in memories, retired officers come to seek battlefields that correspond to the colonial wars of their fantasies. You can also take a lady to a panorama, and if you place yourself so that you are the first to see the images, you can describe what she is about to see in an agreeable and informed way. [23]

These days we may look through virtual reality goggles rather than a lorgnette, and perhaps even the cinema is becoming a relic. The panorama, today often proclaimed to be a forerunner of virtual reality, is still with us, giving viewers the sense of “being there.” New panoramas, often located on historic sites and associated with history museums, are still being painted. These include Istanbul’s 1453 panorama and the new panorama at Bursa. And fortunately, we still have some of the nineteenth-century panorama rotundas, although few still house the remarkable panoramic paintings for which they were designed.

Notes

1. Oxford University Press, “Fad,” English: Oxford Living Dictionaries, accessed November 17, 2018, <https://en.oxforddictionaries.com/definition/fad>.
2. Bernard Comment, *The Panorama*, trans. Anne-Marie Glasheen (London: Reaktion Books Ltd, 1999), 257.
3. Francis C[ruger] Moore, *Fire Insurance and How to Build* (New York: Baker & Taylor Company, 1903), 456–57.
4. *The Indianapolis News*, July 25, 1903.
5. *Indianapolis Journal*, August 7, 1903.
6. *Iron Age* 63 (June 8, 1899): 33; E. S. Mansfield, “The Electric Vehicle in Boston,” *General Electric Review* 25, no. 4 (April 1922): 234.
7. Boston Center for the Arts, “History,” accessed June 7, 2005, <http://www.bcaonline.org/aboutthebca/history.html>.
8. E.g., *Castle Square Theater coming down*, January 1933, <https://ark.digitalcommonwealth.org/ark:/50959/5h73rf501>, and *Castle Square Theater coming down*, January 23, 1933, <https://ark.digitalcommonwealth.org/ark:/50959/5h73r370>, both by Leslie Jones and owned by the Boston Public Library, www.digitalcommonwealth.org/. Other photographs of the demolition by Jones are searchable in the same database.
9. “Niagara Falls in Winter,” *Pick-me-up* 10, no. 259 (September 16, 1893): 396. For the history of the building as a garage, see [Kathryn A. Morrison], “The Niagara Garage, Westminster,” *Building Our Past* (blog), accessed December 17, 2017, <https://buildingourpast.com/2017/11/30/the-niagara-garage-westminster/>.
10. Marathon Realty Company, Ltd., *A Street Called Front* (Toronto, 1983); Chris Bateman, “A brief history of the Cyclorama Building in Toronto,” *blogTO* (blog), January 6, 2012, http://www.blogto.com/city/2012/01/a_brief_history_of_the_cyclorama_building_in_toronto/.
11. *Our Temple* (Chicago: International Bible Students Association, n.d.), <https://archive.org/details/OurTempleChicagoIbsa>.
12. “Menagerie Burned,” *Troy New York Daily Times*, January 31, 1901. This was one of many newspaper articles about the tragic fire.
13. University of Sheffield, “Frank Charles Bostock (1866–1912),” National Fairground and Circus Archive, accessed September 3, 2018, <https://www.sheffield.ac.uk/nfca/projects/frankbostockbio>.
14. *King’s Handbook of New York City* (Boston: Moses King, 1893), 812–13.
15. “Unmuzzled Beasts Run Free,” *New York Times*, December 1, 1893.
16. “Studio-Talk,” *International Studio* 39 (November 1909–February 1910): 164–65; H. W. Frohne, “The German Theatre in New York,” *Architectural Record* 24, no. 6 (December 1908): 400–416 (see especially the photos by A. Patzig).
17. “The New Colosseum,” *Manufacturer and Builder*, 6, no. 2 (February 1874): 42.
18. *Financier* 4 (October 25, 1873): 224. The safety elevator was a fairly new contrivance, only recently modified to move passengers rather than goods.
19. “Correspondence,” *American Architect and Building News* 1 (March 25, 1876): 102.
20. *Brooklyn Eagle*, February 13, 1887.
21. *Eastern State Journal*, White Plains, N.Y., July 14, 1894.

22. *50th Anniversary: Herkness' Bazaar, Philadelphia: March 17, 1847-March 17, 1897* (Philadelphia: Alfred M. Herkness & Co., 1897).
23. "Famous Old Cyclorama Building To Be Torn Down," *Philadelphia Record*, June 7, 1915.
24. Max Brod, *On the Beauty of Detestable Images*, 1913, quoted in Bernard Comment, *The Panorama*, trans. Anne-Marie Glasheen (London: Reaktion Books Ltd, 1999), 257.

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Immersion, Chromatics, and Atmospheric Effects: Recalling Period Perception in Turrell's *Celestial Vault* and Mesdag's *Panorama*

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Abstract

The nineteenth-century panorama consisted of a 360-degree painting rendered at the scale of architecture to provide virtual experiences at the scale of landscape. The medium's period effects are especially accessible at the *Mesdag Panorama* (1881) in the Hague, Netherlands. And while the sailing ships and maritime activity that Hendrik Willem Mesdag (Dutch, 1831-1915) depicted in his immersive view of the nearby seaside village and dunes at Scheveningen have passed into history, today a similarly naturalistic landscape of vegetated dunes lies just a few miles southwest, at Kijkduin. The views afforded by this broadly horizontal landscape share numerous characteristics with the virtual views inside Mesdag's panorama. Indeed, Kijkduin's panoramic character motivated an immersive twentieth-century earthwork by the American land artist James Turrell (American, b. 1943). *Celestial Vault* (1996) directs the viewer's attention toward the sky, whereas panoramas direct the view across a virtual ground plane, but Turrell's project nevertheless demonstrates many of the key elements of panoramic experience. Landscape historian John Stilgoe defines that culture of looking as the study of "chromatics." This paper distills a period interest in perceiving perception that enlivened the Mesdag Panorama (and others like it) and informs Turrell's ongoing investigation of the same issues.

Keywords

Immersion, Chromatics, Mesdag Panorama, Land Art, James Turrell, Landscape, Architecture, Confinement

Recalling Period Perception

Much more than a round painting, the nineteenth-century panorama was a multi-media VR production in which a 360-degree painting rendered at the scale of architecture offered virtual experiences at the scale of landscape. Numerous examples survive to the present day, but they do not necessarily deliver accurate period experiences, for no matter how well-preserved such a canvas may be, our means of apprehending it are necessarily of the present. That is, we sense the world through twenty-first-century cognitive frameworks, and panoramas are often, and with good reason, curated to appeal to present audiences' sensibilities. But when we are invited to step outside our habits of perception and interpretation and into the

sensibilities of period audiences, we can begin to sense the panorama's capacity to induce transporting virtual experiences as our predecessors once might have, and in so doing to access a period visual culture in which reflective, embodied opticality served as a tool for accessing new knowledges, resources, and terrains.

The present paper is drawn from the third chapter of my recent dissertation on the affiliation of nineteenth-century designed landscapes with panoramic media. In order to isolate the architectural and curatorial features that transform circular canvases into virtual places, the paper illustrates the specifications described in two early panorama patent applications by walking the reader through Hendrik Willem Mesdag's (Dutch, 1831-1915) 1881 *Panorama of the Dunes at Scheveningen* in the Hague, Netherlands. Then it walks readers through a nearby landscape similar to the one that Mesdag represented, where a late-twentieth-century earthwork by the American land artist James Turrell sensitizes present-day visitors to landscape phenomena in a nineteenth-century manner that I characterize as the panoramic mode. In so doing, the paper highlights the key features of panoramic perception and reflects on the cultural significance of Turrell's earthwork and its landscape site.

A panorama is a device where you step inside a building in order to admire a virtual outdoor view that seems to surround you. The panorama's period effects remain remarkably accessible at the Mesdag Panorama in the Hague, which occupies its original rotunda and has been continuously curated in much the same manner as when it opened in 1881. The Mesdag Panorama's fidelity to a pair of original panorama patents illustrates its period specificity. In order to demonstrate this, I will compare it with the text of Robert Barker's (Irish, 1739-1806) 1787 application for a British patent and with the diagram that accompanied Robert Fulton's (American, 1765-1815) 1799 application for a French patent.

The panorama shown in Fulton's cross section (figure 1) is immediately surrounded by trees, but the people inside don't see the trees, nor do they see the walls of the building. Rather, they perceive an open vista that extends to the horizon in every direction. The landscape that looks

so real to them is, of course, just a painting. In his earlier, 1787 application for a British patent, Robert Barker explains that his hybrid invention of art and architecture offers just such a continuous 360-degree view and is painted in realistic light and shade. [1]

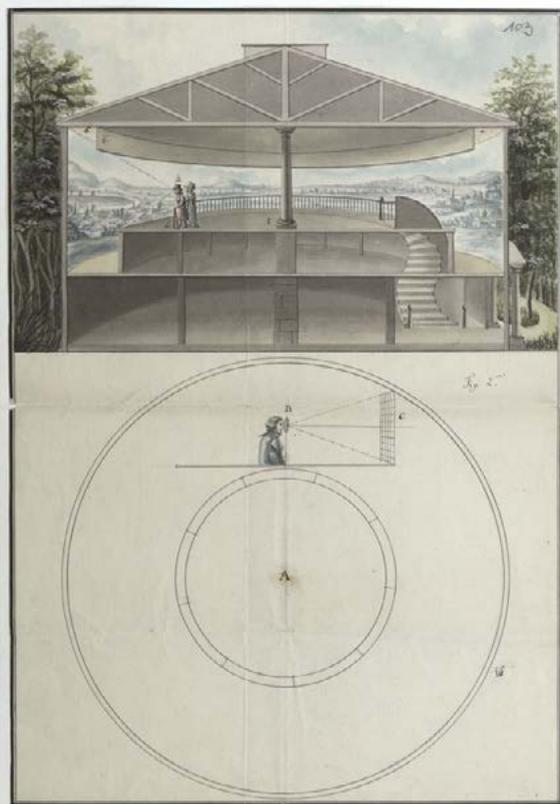


Figure 1. Diagram of a Panorama from Robert Fulton's 1799 French patent application. Image, Archives INPI.

The canvas is hung against the walls of a circular building, where it receives daylight from a circular skylight. A railing confines visitors to a central viewing platform whose distance from the painting prevents perception of the its texture and brushstrokes. A canopy hides the canvas's upper edge; the platform's ground plane conceals the canvas's lower edge. Hidden fans circulate a current of air throughout the building, and as Barker intones, all this makes visitors feel "as if they are really on the spot." [2]

The Mesdag Panorama

By 1880, when Hendrik Willem Mesdag was commissioned to paint a panorama of the seaside at the Dutch fishing village of Sheveningen, he was already well-known for convincing seascapes and closely observed scenes of everyday street life. A museum devoted to his work stands in downtown the Hague. This museum also houses his panorama, and here at the outset we encounter

one of this panorama's few anachronisms. Typically, a panorama rotunda's windowless mass would advertise its transporting presence to passersby, but here the rotunda is no longer visible from the street: the museum, built decades later, hides it from view. [3]



Figure 2. Mesdag Museum, view from the front gallery toward the panorama entrance. Image, the author.

Upon entering the museum, the entrance to the panorama is visible at the terminus of a series of three well-lit picture galleries (figure 2). It appears as the very dark space on the right. An adjacent hallway is lit by a series of incandescent bulbs, but the hallway leading toward the panorama exhibits comparatively fewer sources of illumination. This leads to an almost completely dark tunnel (figure 3). As you enter, your pupils dilate and your skin registers the close stillness of the interior atmosphere.

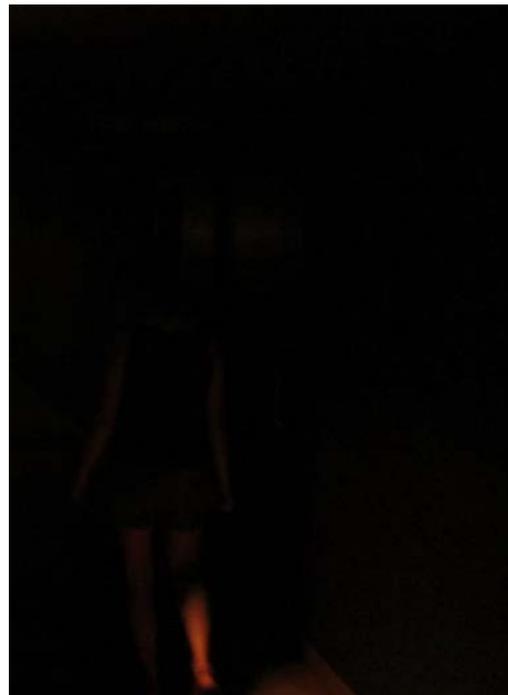


Figure 3. Mesdag Panorama, figure entering dark passage that leads to the platform. Image, Walter R. Wilson.



Figure 4. Mesdag Panorama. The pattern of the floorboards shows how the platform's declination is achieved. Image, the author.



Figure 5. Mesdag Panorama, natural light with cloud shadows. Image, the author.



Figure 6. Mesdag Panorama, view of fenestration from beneath the platform. Image, the author.

The skylight's frosted panes diffuse the light to prevent the structure's iron mullions from casting shadows

against the canvas surface. If you really try, you can distinguish the difference between two and three dimensions, but even so, you can't help feeling that you are standing on an open-air platform. That is, even when you know exactly how the illusion works, you can't completely shake its perceptual effects.

The Celestial Vault

Unlike the preponderance of panoramas, which typically depicted far-off places, the Mesdag Panorama stands just a few kilometers from the dunes and seaside that it represents. And while the sailing ships and maritime activity that Mesdag depicted have passed into history, and Scheveningen has been heavily developed as a resort complex, a naturalistic landscape of vegetated dunes remarkably similar to the scene Mesdag painted lies just a few miles southwest, at Kijkduin. Crisscrossed by lightly demarcated trails, Kijkduin affords extensive 360-degree panoramic vistas from numerous elevated points.

The character of the site is continuous with the character of the sites typically selected for depiction in panoramas. Indeed, Kijkduin's panoramic character motivated an immersive twentieth-century earthwork by the American land artist James Turrell (b. 1943). Nestled high in the dunes, Turrell's *Celestial Vault* (1996) exhibits many of the characteristics of panoramic experience, including such immersive features as the distancing effect of a tunnel approach, inducement of reflexive perception (perception of perception), supplementation by explanatory graphics, a confounded distinction between surface and depth, and textual and designed foundations in nineteenth-century media and viewing practices.

Turrell's project has two parts. It consists of a pair of viewing stations designed to frame the sky and the landscape and bring the visitor to awareness of her own process of perception. Functioning as a smaller version of his ongoing, incomplete project *Roden Crater* in Arizona's Painted Desert, *Celestial Vault* first invites the visitor to notice that the sky looks like a dome, and then to notice the dome while perceiving the larger landscape. Landscape historian John Stilgoe explains that this kind of looking was fundamental to nineteenth century visual culture. He writes,

Until the turn of the [twentieth] century, noticing the interplay of light and dark and the myriad effects of interacting color across the landscape meant engaging in the study of chromatics, sometimes called gentleman's chromatics or ladies' chromatics by professional artists, but often called meteorology by well-educated people who knew that weather included far more than rain or wind. A stunning collection of "atmospheric effects," everything from mirages to double rainbows to over-the-horizon glimpses called looming, figured in the education of well-to-do children lucky enough to get beyond the one-room

schoolhouse and prepare themselves for analyzing art, especially painting. [4]

Stilgoe continues,

So long vanished that even historians of the visual retrieve its fragments with difficulty, education in visual acuity explains both the origins of careful tourism and the care with which many people not only designed and built houses and gardens but supported efforts to beautify cities, suburbs, and even villages. Educated people looked acutely and valued landscapes and paintings and even furniture that rewarded scrutiny. [5]

What I want to do is walk you through the project and then comment on how it references the period culture of looking that attended panoramas. Standing with the roadway at our back, we see that steps are cut into the vegetated dunes face (figure 7).



Figure 7. Ascent to the Kijkduin, near the Hague, Netherlands. Image, the author.

Upon ascent, the trail traces the crest of the dune. Traffic on the road below is visible, but too far away to hear. The North Sea and the beach appear in the distance. Eventually we get just high enough to see Turrell's earthwork ahead as the path meets an unnaturally green geometric form (figure 8). As we draw closer, it becomes recognizable as an earthen crater, though we can't see into the depression (figure 9). Up ahead, the path begins to descend.

At a fork in the path, we can turn left or right, and if we haven't studied an aerial view we won't know which way leads to the entrance, nor even that there is an entrance to the strange landform observed a few paces ago. But no matter which way we go, we will eventually arrive at an opening where a tunnel cuts through the massive wall of the crater. At the other end, green turf is visible (figure 10).



Figure 8. *Celestial Vault*, 1996, James Turrell. Astronomical optical illusion/art installation. Path approaching the concave ring. The Hague, Netherlands. Image, the author.



Figure 9. *Celestial Vault*, 1996, James Turrell. Astronomical optical illusion/art installation. Path approaching the concave ring. The Hague, Netherlands. Image, the author.



Figure 10. *Celestial Vault*, 1996, James Turrell. Astronomical optical illusion/art installation. Entry tunnel to the concave ring. The Hague, Netherlands. Image, Walter R. Wilson.

A monument stands in the center of the grass-covered crater (figure 11). Because it has rained recently, a puddle surrounds the monument. The stone object seems to be the focus of the design: it appears that the monument is the art work. And yet, there is a blankness about a form that seems like a memorial or a tomb stone yet bears no markings. The only variation in its geometric shape is the curved hump at either end. In order to understand what the design is about, it will help to step back outside the crater for a moment.



Figure 11. *Celestial Vault*, 1996, James Turrell. Astronomical optical illusion/art installation. The Hague, Netherlands. Image, Walter R. Wilson.

A sign stands beside the tunnel entrance. In Dutch and English, its main caption reads, “Lying back on the bench you experience the sky like a dome.” The text beneath elaborates,

In the dunes near the Hague, where the presence of light can be so tangible, the American artist James Turrell has created a place to gaze at the sky. If you lie down on the bench with your head back the sky takes on the appearance of a dome, resting on the edge of the elliptical bowl. On top of the dune there is another bench, with a view of a similar celestial dome, but then from horizon to horizon. In his work Turrell is inspired by the Dutch astronomer Marcel Minnaert (1893-1970), who wrote extensively about this. The material nature of light—as if you can touch it—and the shape of the sky cannot be explained as a physical phenomenon, but are the result of your own observation, an impression created inside your own head. The *Celestial Vault* is not a sculpture in the landscape, but a tool to look at light and color. [6]

Beneath the text appear two graphics. The one on the left is captioned “Celestial Vault.” It shows the crater in cross section, with the monument in the middle. A figure lies atop the monument; another figure sits at its foot. A dotted line traces a dome that arcs over the crater. The diagram on the right is captioned “Panorama in the Dunes.” Here, an identical monument stands not in a crater

but on a summit. Figures occupy the same positions as before. Here, a dotted line traces a wider arc over the landscape. Whereas the former diagram describes what you might perceive in the crater, this one describes an effect that, once you’ve learned what to look for, you can see from a more expansive position.

Passing again through the tunnel into the crater, it is now apparent that the plinth is designed to hold two figures (figure 12). The curves at either end are designed to support your neck. Its angle positions your feet higher than your head, and as your head tips back, your gaze is directed high into the sky. It’s impossible to convey the visceral effect that this has on you when you’re there, and this is true of not only all of Turrell’s work but of panoramas as well. What happens here is that the gradient in the sky somehow resolves into a dome, as though you’re seeing not limitless space but an arched surface standing over you, a dome that is anchored to the edge of the surrounding landform.



Figure 12. *Celestial Vault*, 1996, James Turrell. Astronomical optical illusion/art installation. Path approaching the concave ring. Image, Walter R. Wilson.

The signage outside the crater mentions the Dutch astronomer Marcel Minnaert (1893-1970). Turrell hand-annotated Minnaert’s 1937 book *Light and Color in the Outdoors*. [7] The pages that interested him describe an atmospheric phenomenon that Minnaert refers to as “the apparent flattening of the celestial sphere.” [8] Minnaert explains,

When you are outside and look up at the sky, you do not get the impression of a limitless space above you, nor that of a hemisphere hovering above you and the earth. It looks more like a vault whose height above you is much less than the distance between you and the horizon. It is an impression, no more, but to most people a very convincing one. Its explanation is psychological and not physical. [9]

The local Stroom Art Council, which coordinated the earthwork’s construction and curation, published Turrell’s annotations in its exhibition catalog. [10] Turrell’s notes show that he is thinking about how we formulate an

understanding of reality on the basis of sense impressions. Another of Minnaert's diagrams helps explain why Turrell's central monument is shaped the way it is. An arch described by a solid line shows the apparent shape of the celestial vault as a generously proportioned dome to a viewer lying flat on the ground, while a dotted line indicates the shallower arc that we perceive when standing up.

Minnaert's reclining figure lies flat on an unarticulated plane, but Turrell's monument positions the viewer not parallel to the ground plane inclined back by a few degrees. The arched headrest tips the viewer's chin up and away from the chest, and in this position, as the viewer gazes directly upward, rather than slightly obliquely, the impression of an architectural dome emerges.



Figure 13. *Celestial Vault*, 1996, James Turrell. Astronomical optical illusion/art installation. Path approaching the convex ring. The Hague, Netherlands. Image, the author.

It is not necessary to lie on a plinth to gain this effect. James Turrell has been photographed lying directly on the ground inside the bowl of Roden Crater in order to observe the visual impression of celestial vaulting. And while a crater definitely helps to gain such a position and to block out the distractions of the larger landscape, any inclined plane is a good place to lie down, tip your head back, gaze up at the sky, and see it as a dome. It's easiest to perceive this on an overcast day when the sky shows visible texture.

Celestial Vault's second viewing station sits higher in the dunes. The monument emerges as you climb the path (figure 13). Here, the monument is the only object (figure 14). Whereas the grading in the lower viewing station limits the view so as to distill the celestial vault, this second viewing station urges the viewer to find the phenomenon in a broader context. *Celestial Vault* teaches visitors how to avail themselves of the strange chromatic phenomena that Minnaert described and then deploy their recalibrated senses in other places, and in this sense it functions as a shorthand for the artist's oeuvre. All of Turrell's works are designed, in one way or another, to induce the viewer to perceive the extraordinary in the

ordinary and then to perceive the wonder that is perception itself.



Figure 14. *Celestial Vault*, 1996, James Turrell. Astronomical optical illusion/art installation. Monument at the concave ring. The Hague, Netherlands. Image, the author.

Chromatics, Confinement, and Reflexive Perception

The overarching object of regard in *Celestial Vault* is neither the monument nor the landform nor the tunnel. The overarching object of regard is the viewer's own process of perception. When the visitor lies on the plinth, perception itself is the object of regard. This process of reflexive perception is also intrinsic to the appeal of panoramas, which intrigue first by offering virtual access to distant locations and events, then by sustaining wonder at the paradox of their simultaneous convincingness and impossibility, and finally by provoking curiosity about how they take their effects.



Figure 15. *Celestial Vault*, 1996, James Turrell. Astronomical optical illusion/art installation. Monument at the concave ring. The Hague, Netherlands. Image, the author.

It's possible that Turrell's project was attractive to the Hague's Stroom Art Council in part because the council

represents an audience for whom the nineteenth-century panorama remains a familiar and culturally-relevant medium. No publications on *Celestial Vault* or Turrell's body of work mention nineteenth-century media, nor the nearby Mesdag Panorama, but when we consider the overlap between the sites they engage, the sensations they evoke, and the traditions they spring from, a connection is legible.

Barker's invention, typified by the Mesdag Panorama, relies in part on the viewer's confinement to a viewing platform. Barker may initially have conceived of the device as a consequence of another kind of confinement. Many sources say that Barker first conceived of the panorama while admiring the view from Calton Hill in Edinburgh. This story surfaces again and again in period publications, including Barker's obituary and his son's obituary, and it is rehearsed in much of the literature on the medium. [11] But writing in 1963, Olive Cook suggested a different source of inspiration. She writes, "the invention of the Panorama is usually attributed to Robert Barker, an Edinburgh painter. In about 1785 he was put into prison for debt and was confined to a cell lit by a grating let into the wall at the junction of wall and ceiling." [12] I traced her argument to an 1895 publication that explains,

life in a Scottish Debtors' Prison was very different from that in the Fleet, whose inmates, of whatever station, were compelled to herd together [this alludes to the fact that Barker's skills at perspectival analysis had gained him employment with the Scottish Navy]. In his Edinburgh prison-house, at all events, Robert Barker had a cell to himself. This cell was so feebly lighted by means of a small air-hole in one of the corners, that the only way in which he could read the letters that came to him was by holding them up at arm's length against the part of the wall which was opposite the air-hole. By so doing the words not only became perfectly distinct, but the effect produced was very striking. It then occurred to him that if a picture were placed in a similar position it would produce a still more wonderful effect. [13]

It is worth noting that Barker patented the panorama in the same year Jeremy Bentham published his concept of the panopticon. [14] The panopticon was a new kind of prison that used the immersive structure of vision to coerce inmate behavior. The idea was that one jailer could occupy a central cell from which all the other cells would radiate both horizontally and vertically. In this manner, the jailer could supervise every inmate, and by the careful control of lighting, prisoners would be unable to tell whether or when the jailer was looking at them. As such, the building was a machine for inducing the prisoners' experience of total and constant surveillance. Bentham described the panopticon as "a new mode of obtaining power of mind over mind, in a quantity hitherto without example." [15] Elsewhere, in a

letter, he described the Panopticon as "a mill for grinding rogues honest." [16]

If it seems that we've come too far to recover the thread of affiliation with Turrell's *Celestial Vault*, consider the artist's comments on his early experiential sources for an artistic practice that confounds visitor perceptions of the distinction between flat surfaces and deep spaces by manipulating light:

As a result of my attitude during the Vietnam war I spent time in the penitentiary, and, to avoid being assaulted or raped, I would do things that got me into solitary. Solitary confinement was not a good thing, but at least there was safety, and I sought to get in there to be safe. Once you are there, it's tough because the cell isn't long enough to lie down or tall enough to stand up: it is meant to be physically confining. At first, as a punishment, they make it extremely dark, totally dark, so that you can't see anything. However, the strange thing that I found out was that there never is no light. Even when all the light is gone, you can still sense light. In order to get away from a sense of claustrophobia or the extremeness of the punishment, the mind manufactures a bigger space and it doesn't take long for this to happen. I realize that people who suffer from claustrophobia haven't experienced this: they haven't 'gone through' and reached the other side. If you are in an elevator or a place where you feel that you just must get out, a way to handle this is to get the mind to build a bigger space and then you are able to reach the other side. [17]

A Panoramic Mode

Today, we think we know the difference between pictures and places, between sensory illusions and actual geography. But as the case of a nineteenth-century visual culture dominated by immersive media shows, the media we consume shapes our very grasp of the shape of space itself. Panoramas did more than reflect period conceptions of landscape and nature; they shaped a popular, panoramic mode of understanding nature and urban space as visually constructed and consumable quantities. Recognizing Turrell's *Celestial Vault* as a panoramic landscape underscores the long reach of a nineteenth-century formulation of naturalistic landscape as comprising, in equal parts, phenomenological attention and proscribed movement. Reading *Celestial Vault* alongside the panorama demonstrates the fluidity between image and place that informed period understandings of place and continues to shape our grasp of the world today even as the technologies of representation continue to change.

Notes

1. The image that accompanied Barker's patent application is now lost, but Fulton's diagram corresponds with Barker's specifications and will serve in its place.
2. Barker, Robert. "XX. Specification of Mr. Barker's Patent for Displaying Views of Nature at Large, by Oil-Painting, Frefco, Water-Colours, &c." *The Repertory of Arts and Manufactures: Consisting of Original Communications, Specifications of Patent Inventions, and Selections of Useful Practical Papers from the Transactions of the Philosophical Societies of all Nations, &c. &c.* Vol. IV. London: Nichols and Son, 1796 165-167.
3. For comments on the panorama rotunda's "hailing function," see Griffiths, Alison. *Shivers Down Your Spine: Cinema, Museums, and the Immersive View*. New York: Columbia University Press, 2008, 41. The rotunda is visible only from above; an aerial view reveals the rotunda's frosted glass skylights. Frosting the glass is necessary to diffusing the sun's light across the canvas surface.
4. Stilgoe, John. *What is Landscape?* Cambridge, MA: MIT Press, 2015, 12-13.
5. *Ibid.*, 13.
6. Stroom Art Council, den Haag, Netherlands. Signage at Turrell's *Celestial Vault*, 1996, as transcribed by the author.
7. Turrell, James. *Hemels Gewelf in Kijkduin*. The Hague: Stroom/The Hague Center for Visual Arts, 1996, 172-173, citing Minnaert, Marcel. *Light and Color in the Outdoors [De Natuurkunde van 't Veld. Licht en Kleur in het Landschap]*. Len Seymour, tr. New York: Springer-Verlag, 1993 [1937], 67.
8. *Ibid.*
9. Minnaert, 1937, 172. See his figure 110.
10. Turrell, 1996, 67.
11. See *Dictionary of National Biography*, "Barker, Robert (1739-1806)," 1885, 209-10, and G.R.C., "Henry Aston Barker, Esq.," 1856, 515.
12. Cook, 1963, *Movement in Two Dimensions*, London: Hutchinson and Co., 32.
13. Wagner, Leopold. *Manners, Customs, and Observances: Their Origin and Signification*. New York: Macmillan and Co., 1895, 144-145.
14. Bentham, Jeremy. "The Panopticon; or, the Inspection-House." *The Works of Jeremy Bentham, Published Under the Superintendence of His Executor, John Bowring*. Volume IV. Edinburgh, William Tait, 1843 [1787], 37-172.
15. *Ibid.*, 39.
16. Semple, Janet. *Bentham's Prison: A Study of the Panopticon Penitentiary*. Oxford: Clarendon Press, 1993, 152. For comments on the affiliation of the panorama with the panopticon, see Wallach, Alan. "The Persistence of the Panoramic: Technologies of Vision in American Culture from the 19th to the 21st Century." *Real-Yearbook of*

Research in English and American Literature 26 (2010): 89-107.

17. Van Ginneken, Lily. "A Little Piece of the Sky for Yourself." *James Turrell: Celestial Vault in the Dunes*. The Hague, Netherlands: Stroom the Hague Centre for Visual Arts, 131-2.

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Molly Catherine Briggs is a member of the faculty of the School of Art and Design at the University of Illinois at Urbana-Champaign, where she teaches drawing, design, design theory, and design thinking with an emphasis on reading and representing the built environment. Her recent dissertation, *The Panoramic Mode: Immersive Media and the Large Parks Movement* (2018), examines the affiliation of nineteenth-century large parks in Europe and the United States with popular immersive media. She holds a Ph.D. in Landscape Architecture History & Theory from the University of Illinois at Urbana-Champaign and an M.F.A. in Art Theory & Practice from Northwestern University. She serves on the Advisory Board of the International Panorama Council (2018-2021) and is a member of the Society of Architectural Historians.

Pierre Loti Panorama: Project on Memory Registration

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Abstract

In 2006, Eyüp Municipality initiated studies to establish a museum on behalf of the architect Nezih Eldem (1921-2005) who stamped on the history of Turkish architecture and planned the city change plans of Eyüp City. Panorama study in this museum project is aimed to give memorable notes by taking place in this presentation. Between the years 1986-2005, Nezih Eldem worked in Eyüp Municipality. The Eyüp Mosque and its surroundings have been separated from the sections that serve daily necessities, and the studies have been carried out to fully extend the area. The cable car project is also active today which designed by Eldem. After his death in 2005, Eyüp old Military School Building which was constructed a two-story building next to the existing Eyüp Municipal Building in 1884, the latter it was used as The Military Sewing House. This historic building was intended to be transformed into "The Nezih Eldem City Museum" and it was planned to open in 2013. In the museum project started in 2006; spatial areas were planned, exhibition areas were projected. The distribution project of the Nezih Eldem City Museum to the spatial area was drawn and the pot and toy workshop was designed on the entrance floor of the project. Three dimensional and modeled toys and pottery demonstration rooms have been projected. On the second floor of the museum; Navigators, researchers eye Eyüp section; Pierre Loti Panorama designed by Haşim Vatandaş. Many panorama museums has also designed by Haşim Vatandaş in Turkey. The Pierre Loti Panorama, 180-degree panoramic view from Pierre Loti Hill, is designed as a model designed to focus on the urban architectural texture. Unfortunately, the museum project, which was completed in 2007, has not been able to go ahead with its digital recordings without being memorized. As a result; unfortunately, the museum project, which will add color to cultural life, has not been realized. Such a panorama study in this museum which will introduce and introduce Eyüp region and its surroundings to future generations will take place first in our country. I wish that this project will be passed on as soon as possible in terms of contributing to the Turkish museum.

Keywords

Panorama, Pierloti, Nezih Eldem Museum, Memory Locations

Introduction

Eyüp Municipality, the Historic District Conservation and Development Projects is also important in terms of architectural history because for many years under the signature of Professor. Nezih Eldem works of establishing the city museum. Practitioners also an architect and lecturer, Professor Nezih Eldem, defined as the last

representatives of veteran architects. A museum to be built on behalf of Nezih Eldem, an architect who has made an individual effort to protect the historical urban fabric of Istanbul, is important in terms of architectural history. Nezih Eldem has tried to show how to design in historical texture and how to be preserved contemporary with the users of these regions. He has been able to ensure that some of the projects in the Eyüp region, which has been working with great devotion for the last twenty years, have been realized. He has also worked with "historical consciousness", in which a correct conservation plan can be realized when historical sites are treated as a whole with their inhabitants as a whole.

Nezih Eldem City Museum Project and Pierre Loti Panorama (Eyüp)

The building planned to be transformed into a museum; It was built as a Military Rushdie Building in 1884 near the municipal building. It was later used as a Military Sewing House. Nuri Özer Erbay and NİK İnşaat Ticaret Ltd. Şti. Will be opened as "Nezih Eldem City Museum" in 2013. project.



Fig 1. Before restoration/ Nezih Eldem City Museum

Within the framework of Eyüp Nezih Eldem City Museum Project, the architect tells the story of urban transformation; thematic research has been done. In the preparation of the story; elements, goals, storytelling, expression tools played an important role. Museum

consultants are needed to investigate the story that the museum will tell the public and to interpret it. The categories of all resources found to support the story were identified, and the list of models and works of art to be collected by the consultant's consent was determined. Other media-audiovisual materials, digital multimedia interactive representations are prepared.



Ülkemiz müzeciliğinin duayenlerinden Ebedi Eyüp Sultanlı Prof. Dr. Nezih ELDEM adına kurulan Şehir Müzesi, hizmete açılmak için gün sayıyor. Doğal hali ile bir müze görünümünü arz eden Eyüp'te dünle bugünü buluşturup yarınlara taşıyacak olan şehir müzesi, üç büyük medeniyete başkentlik eden İstanbul'un en mutena köşesini, Eyüb'ü çağdaş bir anlatım ile dile getiriyor. Şehir Müzesi, her parçası tamamlanan puzzle gibi Eyüb'ü bütünlüyor.



Fesane civarında eski Dikimevi olarak hizmet veren bina restore edilerek Şehir Müzesi olarak ziyaretçilerini beklemekte...

The City Museum founded on behalf of Pr. Dr. Nezih ELDEM, on Eyüp Sultan resident and one of the veretan pioneers of museuming in Turkey, is counting down for a grand opening. The City Museum that will unite the past and the present, and cary them to the postenty in Eyüp, wich is just like anatural museum voices the feelings of Eyüp in a contemporary fashion, wich is the unique part of İstanbul, the capital of three major civilizations. The city Museum, just like a fragmented puzzle, deagragments the town of Eyüb.

The old building used as a workshop for sewing clothes in the past (dikimevi) in the environs of Feshane has now been restored and converted into the city Museum anwaiting its visitors...

Fig 2. *Nezih Eldem City Museum Information Panels, 2006*
(Reference:F.:Erbay,2006)

In the museum project started in 2006; spatial areas are planned, exhibition areas are designed. The distribution project of the Nezih Eldem City Museum to the spatial area was drawn and the pottery and toy workshop was located on the entrance floor of the project. Three dimensional and modeled toys and pottery demonstration rooms took place in the project.



Fig 3. *Pierloti landscape engraving*

(Reference:https://www.google.com/search?biw=1482&bih=929&tbm=isch&sa=1&ei=mbCjW87UFcOVsgH0xKHgDA&q=ey%C3%BCp+grav%C3%BCrleri&oq=ey%C3%BCp+grav%C3%BCrleri&gs_l=img.12...114197.117048.0.119859.10.9.0.1.1.0.151.1149.0j8.8.0) Access:7. Sept.2018



Fig 4. *Pierloti landscape 2018*

(Reference:https://www.google.com/search?q=p%C4%B1erloti+tepesi&tbm=isch&tbs=rimg:CdeRURAMgCLbljhpbeFUMJTwyHI5YNIO2s9XjJGkFYeSuKQ_1JpNTrd68bLnQ7MWOwCHqBBioVOD_1G4m78QFKKhOdWSoSCWlt59QwIPDIESzeF2rDJD4IKhIJeXlg0g7az1cRkEoptEImhrsqEgmMkaQVh5K4pBHZ58o72Cpr6CoSCT8mk1Ot3rxsETmWJ-K7nELaKhJudDsxahYIeoRMKVYtlLXS- Access:7. Sept.2018

The archive of the city was created within the general framework of the exhibition. Panorama museums reflecting panoramic views were needed when it was aimed to show the whole of the city's archives.

It is planned that "Panorama of Pierre Loti" will be located for the Nezih Eldem City Museum as a museum where the panoramic history of the museum is transferred and the urban change is turned into a visual.

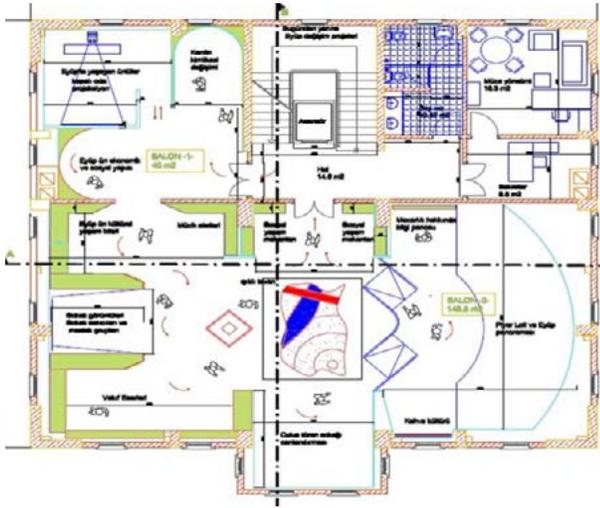


Fig 5. *Nezih Eldem City Museum Plan, 2006*
(Reference:F.:Erbay,2006)

In 2006 around 30 panorama museums in the world; Panorama of Battle of Waterloo, Panorama of Crimea Sevastopol, describing the Ottoman-Russian War, Panorama of Bad Frankenhausen in East Germany about Napoleon's Battle of Moscow, Panorama Museum of Pleven Defense. 1453 Panorama History Museum, where the Fethi of Istanbul was portrayed in our country, is Haşim Vatandaş, who is also the first to be the coordinator and painter of the panorama museums reflecting the foundation period of the 1329 Bursa of Çanakkale Panorama Museum, Panorama 1324 Battleships. The proposal of our panorama museums opened in our country was submitted to him in Nezih Eldem Museum.



Fig 6. *Nezih Eldem City Museum Haşim Vatandaş*



Fig 7. *Nezih Eldem City Museum Pierre Loti Panorama, 2006*
(Reference:F.:Erbay,2006)

The " Pierre Loti Panorama " planned in the Nezih Eldem Museum is more important in terms of reflecting the history of the city than the history of war. On the second floor of the museum; Travelers, researchers point of view of Eyüp was designed. In this section, the 180-degree panoramic view of Pierre Loti from Pierre Loti Hill is planned in a style that focuses on the urban architectural texture. Haşim Vatandaş designs the Pierre Loti Panorama. The museum, whose paintings were ordered by Yaşar Zeynalov, describes the cultural heritage of Eyüp people.



Eyüp, Nezih Eldem Şehir Müzesi, Pierloti Dioraması 180 derece (İstanbul)

Fig 8. *Nezih Eldem City Museum Pierre Loti Panorama, 2006*
(Reference:F.:Erbay,2006)

In the panorama prepared by Haşim Vatandaş as a model, a detailed panoramic view is defined. The panorama consists of partly arranged model with picture, partially modeled arrangement. In the fore plan Pierre Loti

hill is situated in the environmental regulation. While the three-dimensional presentations include historical grave stones, the background is the giant size wall painting Haliç painting is designed. The objects and models used in these sub-layouts are originally planned to be re-animated in their actual dimensions. Animation of Panorama and Eyüp 's historical and geological features will add three dimensional value to the narrative. 180 degree picture 14. It is aimed to wake up three dimensional effect by looking at a wooden platform from the distance. Three-dimensional objects were needed for illustrations that would change the air perspective and visual perception in order to provide a three-dimensional perception of the background with light and sound effects in the background.

Evlıya Çelebi, the first Ottoman ambassador Ahmet Vasif Efendi, Cemaleddin Server Revnakoğlu, Reşat Ekrem Koçu, Derviş Hasan Eyyubu, Hattat Filibeli Bakkal etc., gathered and interpreted information about many people who crossed roads in Eyüp and became information panels for the exhibition area next to the panorama. Urban and Historical Change Hall; architectural building is defined. Places where historical events such as the Jaloush way and ceremony area, Feshane road, Pierre Loti cafés pass; with three-dimensional animation. In this approach, the sub-dimensions of the theme of the chosen exhibition, its connections, the organization reflect the reality of the relationship outside. At the same time, the 3D animation work of the panorama museum has been done in the digital environment.

The museum project, which was completed in 2007, unfortunately has not been able to go further than staying in digital memorabilia in memory. It is also important for the institution to collaborate with the public in functioning as a museum and getting living tissue.



Fig 9. *Nezih Eldem City Museum*, 2006
(Reference:F.:Erbay,2006)

As a Result

The museum project, which is dedicated to the memory of Nezih Eldem, the history of architecture, can not be realized unfortunately without application. The search for suitable buildings continues until now. Such a panorama study in this museum which will introduce and introduce Eyüp and its surroundings to future generations will take place first in our country. Eyüp Nezih Eldem City Museum; two and three dimensional presentation techniques will be transformed into the field of physical attraction for the people of Eyüp with Pierre Loti Panorama. I would like to contribute to the Turkish museum and hope that this project will be passed on as soon as possible in terms of the development of the panorama museums.

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Nuri Özer Erbay is a museum studies consultant who took part in the museum Construction museum building project, restoration and establishment of many museum projects. He has been continuing to work on the development of university museums. Since 2009 he has been working and lecturing as the founder of Department of Museology, Museum Management Master Programme and Management of Cultural Heritage Areas Distance Education Master Programme. Since 2009 he has been working and giving lecture in Boğaziçi University He wrote book which subject is Occupational Safety in Construction Industry, Member of the Order of Australia, Honorary Member A.M.Museum 2018 Award/ Bulgaria and Trakya University Contribution to the Development of University Museums (2018).

The Photographic Record of Patrimonial Mexican Panoramas as Protection of Memory

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Abstract

The historical truth of the panoramas must be examined by historians; the manufacturing techniques by conservatives; the style, composition or author by art historians. However, all professionals need reliable tools for their study. For more than 150 years photography is a technique that has been used to "reproduce and preserve a part of reality" but it is necessary to adopt certain practices to try to do it as faithfully as possible. At the Institute of Aesthetics Research of the National Autonomous University of Mexico, we have photographed panoramic heritage murals dating from the 7th to the 20th century, with the purpose of using them in research, conservation and dissemination. The experiences of photographing mural panoramas of the different stages of Mexican history –pre-Columbian, colonial and modern– as a tool for the study, protection and dissemination of heritage works, resulted in the creation of a methodology used for correct registration in terms of quality, color, perspective, composition, resolution, documentation.

Keywords

Panorama, photography, cultural heritage, murals, quality.

Introduction

Throughout history, humanity has produced a lot of objects that are part of its cultural heritage, within this universe, the artworks have special importance. Through the art, we can approach to the societies that created, it lets us to know its values, beliefs, ways of thinking, technological advances and recognize us in his legacy, that we assume as our heritage.

International awareness for the conservation and registration of heritage assets, has prompted the signing of some international treaties: the "Athens Charter" (UNESCO, 1931) encourages countries to publish an inventory of national historical monuments, accompanied by photographs and notes; The "Convention on the Protection of the World, Cultural and Natural Heritage", signed at the 17th General Conference of UNESCO (1972), defines as cultural heritage [1] –among other works– monumental paintings of exceptional universal value, from the point of

view of history, art or science. It mentions that the ignorance of this may lead to a risk of deterioration and loss [2]. This is the importance to have an inventory and register of the patrimonial assets.

Currently, some Mexican governmental and academic entities [3] take care of registering, restoring, cataloging, conserving and protecting paintings, monuments, buildings, sculptures, books, plans, murals, furniture and other elements that join the Mexican cultural heritage. On the other hand, the National Autonomous University of Mexico through the Institute of Aesthetics Research, has among its priority tasks the registration, study and dissemination of the Mexican artistic heritage throughout the different stages of its history, therefore, is carried out since 1935 a wide register of the different artistic manifestations of the country.

Cataloging, inventory and registration are the first steps for the protection and conservation of heritage, and they become vitally important when a work is lost or damaged. The heritage register can be done in written and graphic form, through databases, photographs, plans and drawings. It serves to identify and create an inventory, know what they are, what state they are in, where they are, who and when it was done, among other possible data; but also, preserve the images, protect, conserve, rehabilitate, study and transmit to the society and to future generations the artworks or the image and associated information as a reliable representation of them.

Photographic record of patrimonial artwork

The different art forms considered heritage, require particular solutions for their registration. However, a constant should be the objectivity, the highest possible fidelity of the photographed object. The images of the visual artistic heritage must have certain characteristics so that they are a faithful representation of the original, since they likely never will be equal to the original: orthogonal, with a correct reproduction of colors, sizes, shapes, textures and proportions so that they serve as protection of the memory, documents for study, dissemination and research.

Being a visual communication activity, the artwork reproduction depends of the technology, knowledge, experience and decisions of the photographer. It must be done by a professional who understands the needs of communication and is able to select, order and translate certain information, with the aim of offering a specific message, usable and responsible, for a specific audience, according to the social context and the historical moment.

Artwork photography can fulfill the following purposes (Roubillard in Nagel, L. 2008, p.30):

- Auxiliary in the inventory of patrimonial artworks.
- Iconographic substitute in case of partial or total loss of the artwork.
- Identification or recognition of the represented object.
- Help in the tracking of deteriorations, interventions or restorations, to evaluate the state of the work for preservation and preservation purposes.
- Recognition of characteristics not easily visible.
- Preservation of the original when replacing it with good quality images for different purposes: consultation, exhibition, study, diffusion, etc.
- Obtaining images for specific studies: iconography identification, composition, comparison, form, method of creation or reading of texts, among others.
- Formation of an image collection of works located in different geographic places that could not be observed together in other way.
- Generation of master files for the creation of multiple derivatives.
- Access through printed or different electronic media.

In a conventional way, the photographic record of artwork includes a series of general shots and some details, using the same framing and resolution that reduces to a single size the general image whether it be in small or large format. If the conditions do not facilitate reproduction in a single shot because the work is very large, the space is too short, or we need highest resolution, a series of orthogonal mosaic photographs must be taken, always under the same parameters of lighting, equipment, focal length, color temperature, distances between the equipment, portion of registration and exposure. In this way, a general quality control will be maintained, and a significant amount of time will be saved in the digital assembly.

I will mention three cases of high-resolution photographic record of Mexican panoramic murals of different historical periods.

The Mexican panoramic murals

Mural painting is one of the most transcendental artistic expressions in the history of Mexican art, has been practiced for more than two thousand years, in ceremonial, residential and palatial sites, educational centers or in administrative places, and recognized as an art form that in a general way it can be called "popular". Its production techniques have been the most diverse, from the classic fresco and dry with regional and temporal variations, to the experimental processes of the 20th century. Are many topics depending on the historical period: religion, battles, daily life, history and politics, class struggle, among others.

There are three clearly recognizable historical periods in Mexico in which this art form was profusely practiced: the prehispanic, the colonial and the 20th century mural movement. They have been the subject of many studies across various disciplines and of multiple efforts of registration and cataloging.

Although, Mexican murals are in a single architectural element or covering a building, they were not thought and made as those presented in rotundas in Europe and Asia in the eighteenth century and until today. What they share in some cases, are continuous scenes, narrations of events, large formats and sometimes some of them surround the viewer, the idea of immersion.

Mural of the Battle, Cacaxtla, Tlaxcala (9th century)

These are two murals painted on the sloped wall of a building on the main platform of the city, one measuring 11.75 meters and the other 8.43 meters by 1.55 meters in height. The conditions of environmental light required that the registration was made at night and to achieve the desired orthogonality and resolution, we used a sliding system of 3 meters with which the mural was scanned in three vertical segments, in the end, about 160 photographs of 21 megapixels were obtained of the two walls and files of 85% of the original size at 300 dpi. [4]



Fig 1. *Mural of the Battle, Cacaxtla, Tlaxcala*. Credit: Ricardo Alvarado, LPMPPEM, IIE, UNAM, 2010.

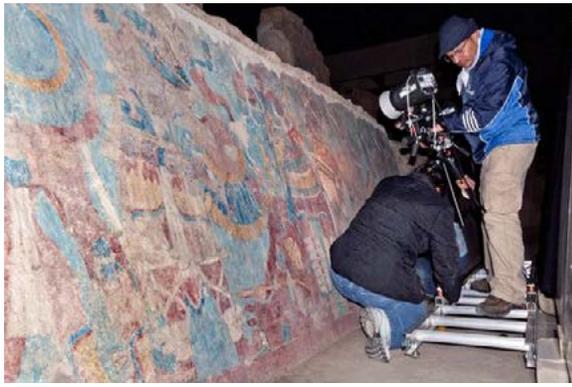


Fig 2. Photographing in mosaic the Mural of the Battle using a sliding system, Cacaxtla. Credit: Carlos García, LPMPEM, IIE, UNAM, 2010.



Fig 3. Mosaic photograph of the Mural of the Battle, Cacaxtla. Credit: Carlos García, LPMPEM, IIE, UNAM, 2010.



Fig 4. Union of the mosaic of the Mural of the Battle, Cacaxtla. Credit: Carlos García, LPMPEM, IIE, UNAM, 2010.

Actopan, Hidalgo (16th century)

This is a Convent Set built in the sixteenth century, the cube of the main staircase has the four walls painted on two levels. For recording it, we used for the first time a Gigapan robotic head to register in mosaic, was used by sections in the different levels and walls of the staircase, later we assembled the segments to form the whole mural in a single unfolded image. [5]



Fig 5. Taking photographs in mosaic with Gigapan robotic head. Credit: Patricia Peña, IIE, UNAM, 2010.



Fig 6. Nadir view of the staircase cube murals, Actopan. Credit: Ricardo Alvarado, IIE, UNAM, 2010.



Fig 7. *Unfolded from the four walls of the staircase cube, Actopan.* Credit: Ricardo Alvarado, IIE, UNAM, 2010.

Altarpiece of the Independence, Mexico City (1961)

It is a semicircular mural of 4.40 meters high by 15.69 meters wide made by Juan O’Gorman, exhibited inside of the National Museum of History. Conditions allowed to register it with robotic head and flash lights in few hours. In the later edition, the distortions and the lighting had to be corrected, and the union of the mosaic was automated.



Fig 8. *Mosaic of 480 photographs of the Independence altarpiece.* Credit: Ricardo Alvarado, 2013.



Fig 9. *Union of the mosaic of the Independence altarpiece without edition.* Credit: Ricardo Alvarado, 2013.



Fig 10. *Independence altarpiece after editing.* Credit: Ricardo Alvarado, 2013.

From the previous examples it can be inferred that the high-resolution photographic registration solution depends on the conditions of the work, the environment and the necessary equipment. The following registration procedure was applied to them.

Photographic registration procedure

The present methodological proposal for the photographic apprehension of panoramas in high-resolution arises from the experience in patrimonial mural reproduction. It pursues to obtain images in high-resolution and good quality that imitate as much as possible the physical and aesthetic qualities of the artwork to serve as a reliable historical record, with the purpose of safeguarding the image, research and dissemination without excluding other possible uses:

1. *Planning.* From a previous and documented visit about the object to be photographed and its context, a work plan should be created to set concrete and achievable goals, determine the activities, make the scheduling, stipulate the budget, foresee the possible inconveniences and plan the field work.
2. *Administrative rules.* The patrimonial works of art are usually in the keep for public or private institutions, so is necessary to request permission in advance specifying the terms of the work and accepting the conditions. Is also important that the people involved have travel insurance as well as the adequate photographic equipment.
3. *Human resources.* The main photographer must have extensive knowledge about his equipment and experience in artwork photography. Support staff should be selected according their skills, have specific tasks, responsibilities and should know the recommendations, precautions and necessary instructions to carry out the work.
4. *Photographic and lighting equipment selection.* According to the goals, the work and its context, the photographic and lighting equipment must be selected to obtain high quality images as close as possible to the original: cameras, lenses, filters, heads, tripods, lighting system, accessories and everything useful for this task, including a robotic head or a parallel system if necessary.
5. *Registration procedure.* Is important to take the most proper decisions regarding the functions of the camera, especially: focus, color balance, image format, spatial resolution, color space, aperture, shutter speed and ISO value. Illuminate homogeneous, avoiding reflections towards the camera, and pay attention to the tools positioning in order to achieve the highest image quality.
6. *Capturing images in sequence.* When is not possible to capture in a single quality photograph the whole of a mural, it is suggested to take a series of mosaic shots under the same parameters in order to assemble them in a computer and obtain a single image.

7. *File editing*. The images captured in RAW format, need to go through an editing program that allows to modify its characteristics to get the best out of each shot.
8. *Review of image quality*. With the present procedure high quality images must be obtained, however, it is possible to find errors, which can be corrected or localized by means of the general revision of the physical properties of the images.
9. *File management*. It is important to establish policies, rules and practices for the conservation, protection and retrieval of documents in a digital environment.
10. *Documentation*. The digital files must always be documented with at least the minimum data about the creator, description of the images, data referring to the scene and the rights of the works.
11. *Digital preservation*. Long-term survival requires a comprehensive plan, which includes attention to the life of the media, storage environment, handling procedures, error detection, backup, disaster response and hardware control, software, obsolete media and formats.

Concluding Remarks

The images obtained with the mentioned procedure, respecting as much as possible the characteristics of the original work, can be guardians of the memory and serve in the inventory and registration to be a "faithful"[6] copy of murals or panoramas; as its substitute under certain conditions or purposes: for research in studies on iconography, composition, comparison, form, creation or reading of text; in conservation and restoration by documenting the state of the work at a given time and the deterioration advance; be part of a collection of works of the same type that can be compared and studied under similar conditions; and for the heritage dissemination. They will be useful in very diverse areas of knowledge such as: the history of art, history, architecture, design, art, techniques and materials, archeology, anthropology, biology and astronomy, to name a few.

In the other hand, this long and high-resolution photographs are new panoramas made to preserve the images of the cultural heritage.

Notes

1. The concept of cultural heritage is not static, and it is part of the representations that people make of their own culture at different times in its history. What a society considers its or the cultural heritage, is something that is changing over time, both in its definition and its contents, and is closely linked not only to cultural forms but also with historical and social processes. It has to do, for example, with the recognition as their own or the exclusion of diverse cultural forms, with the process of social integration and with the degree of awareness of national identity, among many other

- factors. (Tovar y de Teresa) Source: Mexico in Time No. 4 December 1994-January 1995.
2. The loss or deterioration of any part of the cultural heritage implies the disappearance of a part of history, of cultural foundations and identity as social groups.
 3. The National Institute of Anthropology and History through the National Coordination of Conservation of Cultural Heritage, the National Coordination of Historical Monuments and the National Coordination of Archeology and the National Institute of Fine Arts and Literature through the National Center for Conservation and Registration of the Furniture Artistic Heritage.
 4. This job was made as part of the investigation project *The Mural Prehispanic Painting in Mexico* (LPMPEM), UNAM.
 5. This job was made as part of the investigation project *The brush of the Tlacuilo in the Augustinian imaginary. Bank of mural painting images of Augustinian convents in the State of Hidalgo*, UNAM.
 6. Photography is not an exact copy of the objects or phenomena portrayed, thinking otherwise is not understanding its nature, tries to imitate reality, but does not equal it. The credibility in the images can be given if the genesis of the images is known, to what Schaeffer (1990) calls his *arché*, which means at the same time the *raison d'être* and *the beginning* and the trust that is in the creators, publishers or institutions, in the seriousness and commitment to his work. On the other hand, like other types of documents, images must also be confirmed with other sources.

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The Ricardo Alvarado is Academic at the Photographic Archive of the Institute of Aesthetics Research, at the National Autonomous University of Mexico (UNAM). He has collaborated in several research projects and directed: *Stabilization, digitalization and documentation of the collection of panoramic photographs "Vicente Cortés Sotelo"* project, (2014-2016) <http://www.esteticas.unam.mx/vcs/> Coordinated the seminar of patrimonial heritage digitalization (2003-2005) and the Hypermedia Laboratory (2008-2011). He holds a bachelor's degree in Graphic Design from the National School of Plastic Arts, UNAM with a specialization in hypermedia and a master's degree in new technologies for design from the Autonomous Metropolitan University. His professional work focuses on graphic communication, artwork and panorama photography and digital images, on which he has written several articles, has given lectures and taught courses. Is a member of the Digital Humanities Network Mexico since 2014.

Shengjing Panorama: A Landmark 360° Collaboration between the Velaslavasay Panorama and Experts of Chinese Panorama Painting

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Abstract

In Europe, the history of the 360-degree painted panorama dates back to the late 1700s and faded from popularity after the invention of cinema. Yet in China, the first 360-degree immersive panorama was unveiled in 1989. The panoramic phenomenon continues to flourish on a massive scale in China with a group of highly skilled artists specialized in the creation of 360-degree paintings. In spring 2019, the Velaslavasay Panorama will unveil *Shengjing Panorama* - the first ever China-USA collaborative panorama. *Shengjing Panorama* depicts the urban Chinese landscape of Shenyang in the years 1910-1930 - an era of great technological change, global exchange, and diversity in architecture, religions, and culture. This presentation will give background information on the development of this collaboration between representatives of the Velaslavasay Panorama, including Andy Cao, Ruby Carlson, Rastra Contreras, Guan Rong, Sara Velas, and the Shenyang based artists Li Wu, Yan Yang, and Zhou Fuxian.

Keywords

Contemporary Panoramas, International Collaboration, Historical Memory, Archives & Artistic Practice, Immersive Panorama, Chinese Panorama, Velaslavasay Panorama

***Shengjing Panorama* in Los Angeles, California**

At dusk in September 2018, on 24th Street in Los Angeles we see a neon marquee of a 1910 cinema theatre that reads “Panorama and Gardens On View” with an orange globe beaming above. There are 19th Century houses across the street, some in the Queen Anne style, next to concrete apartment complexes and neighborhood children riding their bicycles as cars drive by cautiously (Fig. 1). We step into a canary yellow lobby with exhibits of ephemera and relics and follow a dim, wood-paneled hallway until we come to an even darker passage, our footsteps slowing to a crawl while our eyes adjust to a new visual world (Fig. 2).



Fig 1. Marquee of the Velaslavasay Panorama, 2018 Photo: Velaslavasay Panorama.



Fig 2. Lobby of the Velaslavasay Panorama, 2013 Photo: Sean Teegarden.

We reach a circular staircase and climb upwards to a strange light where we emerge on top of a crumbling, stone wall overlooking treetops, thatched houses, guard towers, horse stables, street vendors and people as far as the eye can see of another time and another, faraway place.

This is the view of *Shengjing Panorama* (Fig. 3), a 360-degree painting of Shenyang, China during the years 1910-1930, and the first ever panoramic collaboration between the United States of America and the People's Republic of China. Located at The Velaslavasay Panorama (VP) in the Historic District of West Adams in Los Angeles, California, *Shengjing Panorama* is a collaborative project initiated and conceived by Sara Velas and the VP and painted by Li Wu, Yan Yang, and Zhou Fuxian, panorama artists and professors of the Luxun Academy of Fine Arts.



Fig. 3. *Shengjing Panorama*, 2018 Photo: Forest Casey.

Utilizing single-point perspective, the painting is divided into the four cardinal directions to illustrate the local customs and culture of Shenyang during the time period of 1910-1930, including: religious ceremonial practices, marketplace and trading methods, foreign-designed and native historic architecture, transportation hubs, rituals of public life, and the diverse scope of the city. The painting is a close approximation of the city's geography and features four gourd-shaped Buddhist pagodas dating back to 1643, in the east, west, north and south (which remain in the city today) to help viewers pinpoint their direction.

Nature is a primary character in *Shengjing Panorama*. As viewers look over the horizon line, clouds and a luminous sky reveal a hue that is particular to Shenyang's geographical location. It is located on the north side of the Hun River (formerly known as the Sheng Water), a tributary of the Liao River, a trait that is reflected in the modern name Shenyang, for in Chinese tradition a river's north bank is the "Yang" side. Previously, Shenyang was called "Shengjing" (rising capital) in 1634, by Qing Emperor Taizong and later "Mukden/Moukden" in the Manchurian language and in 1923, its name was changed to "Fengtian." [1] Pine trees, oaks, white tree-blossoms and birches cover the city and extend towards the outer reaches, where the tombs of Huangtaiji and his wife Bo'erjijite resides in the north and Nurhachi's tomb in the east, very important landmarks for the city both historically and of today.

Architecture is a fundamental aspect of *Shengjing Panorama*, and the buildings featured in the painting help tell the story of Shenyang, a city whose accountable history begins over 7,200 years ago with the Xinle culture of the Neolithic period. [2] Shenyang was the capital of the Manchus during the Qing Dynasty (1644-1911) and in 1625, Nurhachi (1559-1626) began building The Imperial Palace. The Palace was completed in 1783, consisted of 114 buildings, an inner wall and a city wall, and is a testament to the last imperial dynasty of China. [3] Once the Republic of China was established in Beijing, The Imperial Palace became an auxiliary palace. [4] Today the site is known as the "Shenyang Palace Museum" and is one of two preserved palace complexes in the country. [5] The palace complex is a large feature in the painting and when panorama viewers emerge from the entryway of the spiral staircase, they find themselves standing on ruins of the complex's outer wall.

Imperial Russia claimed parts of Manchuria as a semi-colony by leasing parts of the city from the Qing government, ailing at the time, and built strategic railways and enclaves. Russia's urban planning was influenced by European architectural traditions with a Russian flare. [6] The China Eastern Railway (1898-1903) and South Manchurian Railway (1906-1945) ran through Shenyang Station (featured in the painting) and made the city accessible and popular for business and tourism. This was reinforced by the Chinese government opening Shenyang (then Mukden) in 1903, as a place of international residence and trade. Consulates were established by America, France, England, Germany and Japan.



Fig. 4. *Nanguan Cathedral in Shengjing Panorama*, 2018 Photo: Forest Casey.

The city was home to fifty-three different nationalities and forty-five languages. Missionaries took advantage of the city's accessibility and built churches, such as the French Roman Catholic church which was rebuilt in 1912, as the Sacred Heart Cathedral. The grey brick and stone facade is visible in the panorama and still stands today (Nanguan Cathedral) (Fig. 4). Also visible today is the Dongguan

Church, one of the oldest Scottish Protestant churches in China. [7] Some of the most fruitful research for the painting came from photographs taken by missionaries during this time period.



Fig. 5. *Shengjing Panorama: General Zhang's Mansion & Marketplaces*, 2018 Photo: Forest Casey.

Scenes of everyday life are depicted in sections including the marketplace of Middle Street, where vendors and city dwellers would gather to socialize at tea-booths and purchase goods for sale (Fig. 5). Eight gateways of the old city wall, forty-feet high and thirty-feet wide with adjoining towers, linked the inner city from the outer city by way of large boulevards, which became thoroughfares for horse-drawn carriages, automobiles and walking public alike. These such streets, of which Middle Street is an example, featured prominent and ornate shop signs, carved in the shape of significant symbols such as the dragon or peacock. [8]

The Panorama Phenomenon in China & the Origins of *Shengjing Panorama*

Since 1989, over two-dozen major panoramic paintings have been created in China. Most of these massive installations take subjects of early 20th century warfare on Chinese soil. Historical events depicted through panoramas are focused on events relating to the Japanese occupation of China – such as the first 180-degree panorama *The Battle of Lugou Bridge* completed in 1988 – or events which occurred in China's early 20th century revolutionary period (Communists vs. Nationalists) such as the first 360-degree panorama created in China, *The Capturing of Jinzhou Panorama* completed in 1989. [9] While most of the panoramas in China depict battles, a handful showcase cultural and landscape based subjects, such as *Splendid Central Plains* which was completed in 2010, and certified by the Guinness Book of World Records as the “Largest Painting in the World” – an often unsubstantiated claim

made by several panoramas both moving and immersive throughout the decades. This painting rests at the base of the Tower of Fortune, an active TV broadcast tower in Zhengzhou City, Henan Province. Replete with a revolving restaurant, lookout point and a diverse offering of restaurants, this structure offers a curious contemporary context for a 21st century “classic” panorama – a combination of tourism and media.

At the nexus of panorama creation in China are the artists and professors at the Luxun Academy in Shenyang, China. The Luxun Academy is one of the oldest art schools in China and grew out of the Luxun College of Art which was founded in 1938, by revolutionaries Mao Zedong and Zhou Enlai. In 2005, the Luxun Academy of Fine Art hosted the 13th Annual International Panorama (IPC) Conference at their campus headquarters in Shenyang, the capital of Liaoning province. This event provided the first opportunity for artist Sara Velas (Founding Director & Curator of the Velaslavasay Panorama) to learn more about the Chinese panorama phenomenon in person. [10]



Fig. 6. Sara Velas at *Jingganshan Touristic Historical Region*, 2013 Photo: Velaslavasay Panorama.

Experiencing the exquisite detail and monumental nature of these 360° installations firsthand sparked an intense curiosity to know more along with the desire to someday unite a project of the Velaslavasay Panorama with an aspect of Chinese panoramas – an internationally significant part of the contemporary panorama phenomenon. Participation in subsequent IPC conferences provided the opportunity for Ms. Velas to become acquainted with some of the artists, professors and curators heavily involved in the creation of panoramas in China. The chance to fully investigate this interest came in the spring of 2013, when the Andy Warhol Foundation for the Visual Arts awarded Sara Velas a curatorial fellowship to further explore the existence and creation of Chinese panoramas with the possibility of integrating this research into future projects of the Velaslavasay Panorama. [11] A series of visits to additional panoramas gave further insight into how the immersive

paintings, rooted in the 19th century tradition of panoramas, were combined with contemporary technology. Ms. Velas visited the *Jingganshan Revolutionary Battle Panorama*, one of the first panoramas in the country to incorporate extensive projection mapping and added superimposed special effects (Fig. 6, Fig. 7). It became clear that China was pioneering new frontiers in panorama development.



Fig. 7. *Jingganshan Revolutionary Battle Panorama*, 2013 Photo: Sara Velas.

Over the course of several visits to Shenyang and other areas of China by a core group of Velaslavasy Panorama representatives, the idea developed to create a collaborative panorama which would be painted in China but displayed in Los Angeles at the VP (Fig. 8). The subject matter was chosen collaboratively and grew out of discussions about the local architectural history of Shenyang, the use of the panoramic art form in the past and present and the context of where the panorama would be exhibited in an historic theater in downtown Los Angeles. And thus a landmark collaboration began.



Fig. 8. *Professor Li Wu and Guan Rong of the Velaslavasy Panorama*, 2015 Photo: Velaslavasy Panorama.

As part of the research trips to Shenyang, the Velaslavasy Panorama representatives visited significant locations that would later be integrated into the painting,

including the mansion of General Zhang (Fig. 9), the Zhaoling Tomb in Beiling Park, the Imperial Palace Museum and Shenyang Railway Station (Fig. 10). Other documentation and research was conducted at the Guandong Movie Park, a “Hollywood” backlot where historic style buildings of various time periods were built as film locations for historical dramas and epic costumed television series (Fig. 11).



Fig. 9. *General Zhang's Mansion*, 2015 Photo: Velaslavasy Panorama.



Fig. 10. *Shenyang Railway Station*, 2014 Photo: Sara Velas.



Fig. 11. *Guandong Movie Park*, 2014 Photo: Sara Velas.

The composition, basic sketches and finalized painting for *Shengjing Panorama* was fully executed by the three person team of Li Wu, Yan Yang, and Zhou Fuxian and

depicts the city of Shenyang in the years 1910-1930 (Fig. 12). The painting depicts more than 300 people and over 1000 buildings. [12] The composition design included extensive research conducted at city archives and through consulting local historians.

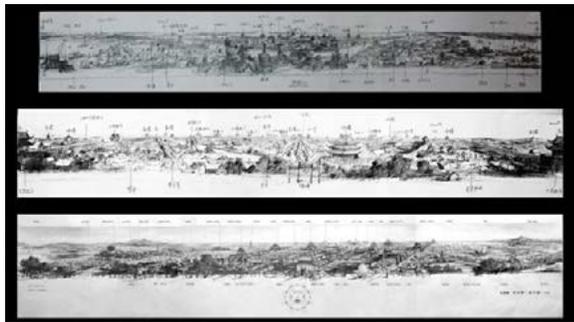


Fig. 12. *Preliminary Sketches for Shengjing Panorama*, 2016
Drawings: Li Wu, Yan Yang & Zhou Fuxian

Urban Memory & Cinematic Themes of *Shengjing Panorama*

“Demolition is easy. Preservation is difficult” [13]
“I confess I do not believe in time. I like to fold my magic carpet, after use, in such a way as to superimpose one part of the pattern upon another. Let visitors trip. And the highest enjoyment of timelessness—in a landscape selected at random—is when I stand among rare butterflies and their food plants.” [14]

Depicting the city of Shenyang during an era of great cultural opening, the painting reveals a time where hordes of optimistic visionaries clamored to Shengjing to seek fortune or a new way of life. Russo-French architecture, Japanese investment and Chinese craftsmanship mingled to create a unique cityscape, much of which is now being lost to large-scale development or has disintegrated over time due to infrastructural neglect and indifference.

Dugald Christie was an English missionary who in 1914 wrote of a defining characteristic of the people he came to know in Moukden and how they “have become Manchurian.” Christie writes: “The removal of these people from their ancient ancestral homes, and the gathering together of families from various provinces, result in a marked lessening of their conservatism, prejudices, and superstitions. Local ideas and customs often vary so greatly that when brought into close contact they neutralize each other. The consequence is that the people of Manchuria are, speaking generally, more open to new impressions than their kinsmen whom they left behind in the old rut in the China behind the Great Wall.” [15]

In this respect, Christie qualifies Shenyang in the early 20th Century as a liminal space, a veritable mixture of

lifestyles, thoughts and practices from other places and lineages that combine to create more of a fluid social environment. This recombination of histories and dispositions lays the framework for a comparative look at the history and development of Los Angeles, where *Shengjing Panorama* is on view at the Velaslavasay Panorama.

In May 2017, on a research visit to Shenyang, Sara Velas, Founder of the VP, and Ruby Carlson, Co-Curator, visited a vacant 20th Century apartment complex in a state of utter deterioration. They were led by Charles W. Gravelle, an historian and urban archaeologist who visits and documents historical buildings in Shenyang before they are erased without a trace. Such is the fate of many buildings and homes in the historic corridors of Los Angeles – here one day and gone the next, often replaced with architecture that is out of context with the surrounding neighborhood. This is simply one example of the parallels that run between Shenyang and Los Angeles, and part of what has grown to be the philosophical underpinnings of the creation and study of the painting.

When viewers enter *Shengjing Panorama* they are envisioned to be standing on the crumbling outer city wall, an emblematic position in the center of a manifold reference to the past: first, the historical time period of the painting depicting 100 years ago from the viewer of today, and second the historical elements from an earlier time. The viewer may consider what has already been demolished pre-1910, the crumbling remnants still visible up until 1930, what was lost from 1930-2018, and what still stands to be demolished in the future. This layered view of the past, the present and the future can be thought of in terms of Shenyang, of Los Angeles and of any city a viewer might be familiar with. It is this approach to viewing which resonates most strongly with the poetic quote by Vladimir Nabokov listed above—a guiding statement selected by the Velaslavasay Panorama as an overarching principle to shape the creation of *Shengjing Panorama*.

The era depicted in the painting, 1910-1930, also marks the heyday of the Union Theatre, the home of the Velaslavasay Panorama and one of the earliest purpose-built cinema houses in Los Angeles which dates from 1910. [16] In the early 20th Century, Los Angeles was being shaped dramatically by the burgeoning film industry, and this time also marks a turning point where panorama production fades as film begins to flourish.

Detailed representative structures of the early part of the 20th Century exist vacant in the Guandong Movie Park, just outside of Shenyang, preserved as a tourist attraction and as film sets for period pieces, similar to Universal Studios, a tourist theme park and film studio in Los Angeles. The Movie Park was used by Li Wu, Yan Yang and Zhou Fuxian as part of the research for *Shengjing Panorama* (Fig. 11). Guandong represents an inverse to how Hollywood set

pieces and indulgent theatrical designs were repurposed into the architecture of Los Angeles' New Chinatown, which was created in the 1930s when the construction of the new Union Station railway depot displaced the old Chinatown community.



Fig. 13. *Splendid Central Plains Panorama in Zhengzhou, Comparison of Shaolin Temple Kung Fu scene with and without digital projection, 2013 Photo: Sara Velas.*

In general, the contemporary use of soundscapes, light cycles and projection in Chinese panoramas emphasize the parallels of cinema and panoramas. A section in *Splendid Central Plains* in Henan, China references the importance of cinema in the context of panoramas by projecting scenes to animate the painting while playing immediately recognizable audio from one of the most famous Kung Fu films of all time, *The Shaolin Temple* (Fig. 13). This landmark 1982 production was financed by a Hong Kong company but featured a majority mainland Chinese crew and director (Chang Hsin Yen), notably including the cinematic debut of actor Jet Li who first trained as a martial artist. [17] *Splendid Central Plains*' inclusion of this subject matter alludes to questions about the historic authenticities presented via cinema and storytelling. *Shengjing Panorama* is a part of this conversation and has been created in conscious reference to the existing canon of Chinese panoramas and to worldwide panorama history.

Welcome *Shengjing Panorama*

On May 2, 2017, a handover ceremony was held at the Tiexi School for the Deaf in Shenyang, China. The gymnasium of this school was one of three locations used as a painting studio for the creation of the *Shengjing Panorama* canvas (Fig. 14). Attendees of the ceremonious gathering included Ji Yunhui, Vice President of the Luxun Academy of Fine Arts, Zhang Qingbo, Vice President of LAFA Art & Engineering, Li Li Lu, panorama painter and LAFA Professor, Wang Jing, Principal of the Shenyang Tiexi School for the Deaf, *Shengjing Panorama* painters Li Wu and Zhou Fuxian and Velaslavasay Panorama representatives Sara Velas and Ruby Carlson (Fig. 15). The 26 meter x 2.8 meter painting was shipped up and carried across the sea by air to Los Angeles in a custom-built wood crate. Panorama history was made in formalizing the exchange between the Shenyang-based painters and the Los Angeles-based artists and curators who run the Velaslavasay Panorama.



Fig. 14. *Handover Ceremony at Tiexi School for the Deaf in Shenyang, May 2, 2017 Photo: Tiexi School for the Deaf*



Fig. 15. *Handover Ceremony at Tiexi School for the Deaf in Shenyang, May 2, 2017 Photo: Li Zhigang*

Throughout 2018, the VP team, including Andy Cao, Rastra Contreras, Ruby Carlson and Sara Velas, has worked to install the painting cylindrically, research exhibition support material and prepare the three-dimensional platform

and terrain. Artists Sara Bautista and Ava Salzman are creating additional elements for the sculptural terrain. Taiwanese born, Los Angeles-based lighting designer Chu-Hsuan Chang is programming a DMX-controlled 20 minute dynamic light cycle for *Shengjing Panorama*, utilizing color-changing LED strip lighting. Sound artist Moritz Fehr is creating a spatial sound composition exclusively for the panorama which will include field recordings from China as well as historically relevant LA landmarks. In the spring of 2019, *Shengjing Panorama* will be unveiled to the general public at the historic Union Theater, home of the Velaslavasay Panorama in Los Angeles, California, USA.

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Author Biography

Ruby Carlson is a Co-Curator at the Velaslavasay Panorama and is the elected Secretary of the International Panorama Council (2015-2018). She has worked in the field of panoramas since 2008 to elucidate, present and gather funding for panoramas and related mediums. As a native to Los Angeles, she also works as a cinematographer and photographer for film and fine arts. RUBYCARLSONSTUDIO.COM, @1887to1904

Sara Velas is an artist, graphic designer, gardener, curator

and native Los Angeleno. She is the Artistic Director of the Velaslavasay Panorama, a nonprofit museum and garden she established in the year 2000 to present variations on art forms & entertainments popular before the invention of cinema along with experimental immersive experiences. In addition to her own immersive creations, Ms. Velas has been focused on researching the contemporary creation of panoramas in Asia. Her work with the Velaslavasay Panorama has been supported by National Endowment for the Arts, California Community Foundation, and the LA County Arts Commission, among others. From 2014-2017 she served as International Panorama Council President and has been an active member since 2004. Born in Panorama City, California, she received her BFA in Painting from Washington University School of Art in Saint Louis, Missouri in 1999 and resides in downtown Los Angeles. WWW.PANORAMAONVIEW.ORG, SSSVELAS.NET

The Role of Memory and Subjective Experience of Time in the Perception of Space: From Panorama to Moving Image

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Abstract

Speculative visual consummation of our environment as human need in which polemic visions of the future meet the romanticizing versions of the past, tends to furnish spaces while constantly slipping between the real and the virtual. Late 18th century optical devices, such as panorama, acted as proto-cinematic devices by their unique capacity to provide travels to the remote worlds in both their spatial and temporal displacements. Particular attention is dedicated to the role that panorama played in offering distant views in form of a 360-degree continuous viewing experience, to reflect on the modifying perception of space. Today moving images took over the role of the panorama in supplementing the real world with the virtual, and became part of our everyday urban environment offering a continuous experience of our reality. These problematic zones of simultaneous co-existing processes of temporal displacement of the spectator along the past, present and fictive times eschew any principle of linear temporality and have capacity to track their space-time relations. The illusions provided by such non-linear time flow read in its *kairos* dimension in comparison to the linear time of history read in its *chronos* dimension, were detected in the function of panorama to assemble 'views' from different contexts and places. Yet Bergson used the term virtual to describe the past and its relation to memory as we place ourselves within it. Given that it is then expanding into a present image, the panoramic experience will finally be stimulated. This said, the purpose of this research is to revisit Bergson's term *durée* in order to discuss the modifying perception of space today through the panoramic experience. Katarina will conclude that the panoramic experience pays homage to the development of a visual language that constantly re-examines spatial relationships, objects, protagonists and physical constructions, only to approach the real-world situations in which external standards of time no longer apply and where 'the past' is sold in the manner of panoramic experience available at any time.

Keywords

Durée, representation, subject in modernity, viewing mechanism, horizon, moving image, panorama, the spectator.

Beyond the Horizon of Limited Human Vision

Reading the signs of time and responsibly detecting disparate visual realities, memory and loss, new and nostalgic, occur and impose in its true value maybe only to the artists who have the power to see, filter and save them as an image. Among many, Pieter Bruegel the Elder traveled in the 16th century and drew mountain landscapes on behalf of Antwerp publishing houses (fig.1). Intended for the collector markets, the representation of the landscape he provided was composed in interaction with cartography according to actual studies. However, they often show details that would not be visible in the exact image. On the other hand, artists of first panoramic paintings stop at the mystery of the landscape and through their own eyes notice details that, when fitted into the whole of the mosaic, can decipher bearing elements, without which the identity of the whole is blurry or completely unrecognizable. Similarly, on account of using the panoramic format, sometimes the details are ignored to express the flow of the landscape and the earth as a living, changing organism, 'incessantly subject to the cycles of evaporation, precipitation, erosion and accretion'. [1] Then the effect of the whole, contrary to the 'unaccomplishment' of the displayed elements, acts like the psychological effect of Freud's concept uncanny (*unheimlich*) pervading with an inherent foreignness. As stated by Vidler, as such it will never become a property of the space but only a "mental state of projection", which has implied an impossibility in a strict delineation between the real and unreal. [2] Given

that it is shaped by the ambiguous projections of the identity codes of the landscape (real-unreal), maybe it is precisely this kind of artistic transmission of reality that can provide the only remaining reality? It is the reality that speculates in imaginative “spaces” of the visible to finally appear as its own discovery, as invented landscapes, again connected to the spatial and temporal whole by the eye and the mind. And even if panorama seems to find in its circular form an ideal way to create that impression of the real, essentially it fails within the pictorial illusion. In consequence, it seems quite natural at the turn of the 19th century to finally mark the transition from the painted image to the cinematographic image. [3] This said, I hypothesize that the catalyst of this transition in panoramic operations towards the time-honored context, always occurs in the range of reflections: ‘1 - from the “spatialization” of time [4] (homogeneous time) to Bergson’s duration (heterogeneous time) [5] to enable memory from an architectural experience of site’, and ‘2 - wish to “cast the glance” beyond the given panoramic horizon and the limited human vision capabilities’.

Starting from this hypothesis, I will dissect a genealogy of visual representations from the first optical devices - panoramas to moving images, by constructing the ontology of detemporalized subjectivities. I will deal with their traditions of representations scrutinizing how they affect the way we perceive space. For that purpose, panorama’s eminent feature – the ‘Horizon’ - will act as a connecting device between the picture as ‘a viewing mechanism’ and the picture as ‘representation’.



Fig. 1. Pieter Bruegel the Elder. Alpine landscape, circa 1555-1556.

Horizon as a Viewing Mechanism

From the first creators of the 18th century panoramas who connect spectacle and science and whose work is

commonly associated with imitation (fig.2), towards the film directors of 20th and 21st century working to replace elements of reality and providing spatial explication of the ‘all at once’ look - all become arenas for observation, and its extreme version ‘voyeurism’, that benefit from the discovery and experience of the horizon [6] and broadening one’s horizon. A precondition for this horizontal progress was the fundamental event of the modern age: the conquest of the *world as picture*. Even architectural theory of the late 20th century, inspired by old masters like Louis Borges, marks trials to put everything in a single view or picture. For example, in his concept *third space* Edward Soja offers another category of space – a space where everything “comes together” with an “all-inclusive simultaneity”. His idea of *third space* belongs to the tradition of spaces that function as places simultaneously real and imagined. One of such categories of spaces - the ‘horizon’ - is capable of moving aesthetic conventions. Acting as the ‘viewing mechanism’ in all its implications in the picture world of panoramic painting or later in film screen, this mode offered more than we could see in reality. It is aligned with our immersion in the tradition of displaying the passage of time by realistic means, which is, even from the Roman wall painting, and in particular the sculptor Trajan’s pillar (fig.3), reflected through the effort to represent a condensed complex action in the visual form *in one view*. With the desire to create a continuous movement in space, celebrating the goals of imperial art, the continuous spiral ribbon with reliefs wrapped around the column projects events along the horizon. And while the modalities of representation invented and applied by the ancient artist are a symptom of, above all, the realistic intention of depicting this scene in which real historical events are being reproduced [7], the modern creator of represented spaces promotes them as a ‘viewing mechanism’. It appears to be a theatrical spectacle we can watch to and from, with a potential to bring change of spatial visual hierarchies in the city/landscape irrevocably and dramatically.



Fig. 2. Panorama of London, series of six aquatints, engraved by Henri Aston Barker and colored by Frederick Birnie, based on London (1792), the first large-scale panorama.



Fig. 3. Emperor Trajan. Trajan's Column, at Trajan Forum, Rome, 107-113 AD.

Space “Dressed” in Panorama

Some components of modern architecture, for example favoring “theatricality” over “machine for living” in houses of Adolf Loos and Richard Neutra (fig. 4), demonstrated clearly that the architects are aware of media and that “architecture is arena for performance and observation”. This statement might straightforwardly provide a fruitful explication of juxtaposing interior and exterior spaces and framing landscape – creating this way reflexive thresholds between physical dimension of home and the reduction of the world to a view or picture. With proved implication for modern industrial and functional architecture offered by Le Corbusier and Mies van der Rohe, optical connections became a distinct layer over physical. They announced a sense of observation as a recurrent element of architecture. Likewise, the inhabitant

of the space has been replaced by “the spectator”. This shift provided a basic context for this research: the investigation of the role of ‘panoramic experience’ in the modifying perception of urban space, by constructing spatial visual ontology of detemporalized subjectivities.



Fig. 4. Richard Neutra, Kaufman House, Palm Springs, California, 1947.

Access to History: Detemporalized Subjectivities

One of the first theoretical interventions in the field of anticipation of detemporalized subjectivities in the visual culture studies, was provided by Anne Friedberg. It is closely related to Foucault’s detection of the origins of modernity in the regime of visibility different from the model of power and vision so frequently linked with modernity. [8] Organizing critical intervention into the fundamental paradigm of the subject in modernity, in her *Window Shopping*, [9] Friedberg provided a detailed insight into the nineteenth-century visual experiences – panorama, photography, urban strolling, etc. The new aesthetic of reception in panorama’s simulations of travels to distant places was detected through the “gaze that travels in an imaginary *flânerie*, [10] through space and time”. Her method is based on dissecting explications of the historical model of *flâneur*, as new visual configurations of modernity were considered unimaginable outside a spatially mobilized visibility. Within such context, the explanation is offered in the imaginary *flânerie* of spectatorship. In other words, instead of physically moving our bodies through space it is our eyes that travel across panorama. Emphasizing mobility and subjectivity of this kind, the representation of the city-land-scape in panorama adapted to this reception of movement. This line of research in the visual in the 19th century, through

measuring the relation between space and time, was finally approved, as Friedberg claims, in relation to the subjective-pedestrian mobilized gaze encouraged in the exhibition halls, department stores, museums.

Following next visual inventions and optical devices after panoramas, this mobilized gaze was produced most dramatically by photography, and possibly offered an assimilation of subjectivity into the logic of its tools. In the transition from photography to cinema and televisual representations “our access to history and memory has changed resulting in increasingly detemporalized subjectivities,” and, “at the same time, their ubiquity has fostered an increasingly derealized sense of presence”. [11] Such “position” of the subject is even more evident in the subjective consequences of cinema and televisual spectatorship, and recently with the consequences of full immersion into the latest virtual technology, wherefore I’ll take Bergson’s notion *durée* as a device of their interconnection through the historic manifestation of this phenomenon. In his crucial passage from *Matter and Memory*, Bergson issues a challenge that “questions relating to subject and object, to their distinction and their union, should be put in terms of *time* rather than of *space*”. [12] This clearest philosophical strategy of breaking the habit of representing things spatially that should be understood temporally, was made possible when Bergson separated the mechanistic time of science (clock-time) from the time as we actually experience it - lived time (*durée*). [13] Catalyzing the conceptual paradigm-shift in the understanding of representation modes, with the advances in moving-image technologies, this position announces a final shift from the critical method of ‘spatial structure’ to the method of ‘temporal structure’ in analyzing spaces.

The Temporal Dimension of Memory

Previously adapted temporal strategies are a strong promise to the idea that ‘by enabling memory from an architectural experience of site,’ we can endow us with a sense of durability, permanence and identity. Concerning panorama as the device for storing memory, it is equally in a dialogue with [1. dialogue] its spectators to transport them into the thick of historical events (for example the battles of Nile, Salamanca, Waterloo), as with [2. dialogue] the transformation of topographical *savoir* within the various learning processes (Fig. 5). In respect to the relevancy of rendering topography, as indicated in the second dialogue, let’s take for example a sculpture park in the University of Notre Dame campus, in Indiana (U.S.A). First of all, the park inscribes a network of collective movements in which collective and individual memories merge. Each carrying her own memory of Mestrovic’s

artwork, two trajectories in the park overlap and after exchanging memories, each continues with the personal trail of his sculptures in the campus park. My personal memory of Mestrovic - his sculpture *The Winner* captured in the panorama of Belgrade - now overlaps with the panoramic background of his sculptures in the Notre Dame Park. In America, Mestrovic set up several sculptures attached to the main park axes so that the memory of Belgrade overlaps in the mental image with the spatial inscription of the ‘act of walking’ through Notre Dame, to form panoramic memory (in terms of its continuity). This disposal of the discourse topographically with the aim to provide a type of knowledge through the legacy of the *art of memory*, is known as *mnémotechnique*. As one would walk around in the sculpture park and populate each part of the space with an image, then one would mentally retrace the park revisiting in turn all places that had been “decorated” with imaging (in exchange of reality populated with sculptures). This way, as Quintilian put it, “memory stems from a narrative, mobile, architectural experience of the site”, [14] and storing memory this way enables separate parts of narration to bind together spatially, and consequently, this process of image collection to generate recollection.

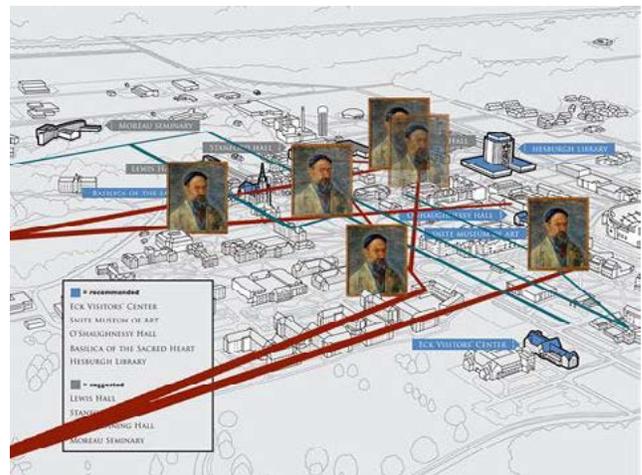


Fig. 5. The University of Notre Dame Park with the disposition of Ivan Mestrovic’s sculptures. South Bend, Indiana [U.S.A.], (project by the author).

This kind of rationalization of memory as knowledge now inscribes into the continuity made by the panorama device. It encompasses about 360 degrees view and inspires us of other iconographic forms whose amplitude tends to better respect our visual perception. [15] Concerning that the panoramic format approximates our natural perception, we can say that memory is better stored in panoramic than in other modes of representation. This approximation towards our natural perception was most thoroughly treated in Giuliana's 'temporal dimension of memory'. As Bruno claims, with respect to this rendering of the site, the architecture of memory reveals ties to the filmic experience of place. [16] It is this *continuity* retraversing again and again that goes back to the very origins of the pictorial representation, and that it seems important to remember above all. [17] Given that the described mnemonic technique works to establish the continuity of what would otherwise float spatially disconnected (with lost meaning, dissolved into oblivion), it becomes a special focus of the filmmakers, who benefit of the awareness that their spectators do not manufacture mental images on the basis of what they are immediately given to see, but on the basis of their memories.

Panorama

Panoramas present an extraordinary archive of places to testify about the history of a city and landscape transformations. Moreover, they have become part of this unrestrainable process. The atlas of places they provide takes the role of the virtual tourism, education and entertainment – as an instruction for consuming time and space. Criticizing the appearance of the first panoramas, Humboldt advocated that beyond scientific knowledge a harmonious view of nature was accessible only through our own experience. More precisely, disappointed with the current state of landscape representation, Humboldt contended that only large-scale paintings, such is the panorama, could succeed in 'bringing the phenomena of nature generally before the contemplation of the eye and of the mind'. [18] This transition from deterministic rational research of space to contemplating the visual field as a whole through analytic and empirical observation, has created the conditions for the observer to assume the role of the participant enclosed as in a magic circle of panorama withdrawn from all disturbing realities. Thus, it is exactly in the late 18th and early 19th century that a wide variety of optical apparatuses extended the "field of the visible" and turned visualized experience into subjective spatial and temporal fluidities.

Our interest in panorama is: a place of discovering impossible visions – and by this I mean an attempt to counteract one's inability to see the whole surrounding

space at once, the whole room for example, but only reveal one corner at a time. With this idea in mind, our consciousness of *time* in which transient effects are produced is coinciding with Bergson's concept *durée*. Through the reflective series of spaces and relationships emerged from such instant consumption, panorama tends to offer remote views in time, rather than only in space, and propose the 'displacement through observation'. Just as Bergson posited "there are ways of thinking through time when observing the painting", I ask: "how to think through time when observing panorama?" To explain this, I will compare Leonardo da Vinci's process of painting Mona Lisa (fig.6) with the process of preparing and realizing panorama. Although they come from different practices and use distinct methods for their realization, the comparison is possible through the juxtaposition of their unique potentials: 'thinking through time' being the one. Like the picture of Mona Lisa whose smile has been puzzling generations of art historians, we can also discuss panoramas as a place of discovery – an enigma for the eye and mind of the observer. On one side, Mona Lisa was meticulously painted as a portrait, containing all layers of the painting process aiming to show the patron's errand as accurately as possible. Exploring transient effects as the reflection of moving during posing in time intervals, the layers of painting almost choreograph themselves to establishing enigmatic effects in the area of Lisa's hands and her smile.



Fig. 6. Dissecting the process of painting Mona Lisa (Leonardo da Vinci), (project by the author).

On the other side, the main purpose of panorama was to offer an illusion of a vast horizon that made objects and actors, near and far, comprehensible as '*à coup d'oeil*'. Tending to achieve this illusion, the painter is performing exactness of the display by using a controlled presentation method of measuring and scaling the landscape. Anyhow, Lisa's portrait in the foreground marks the interruption in the painted landscape and our imagination is trying to bridge the two parts visible on either side of Lisa's head. Relying on spatial continuity in our everyday experience, the painter links objects and buildings into the same scene that would otherwise remain as two separate portions of visual information. Method of connecting elements in the painting might be detected if we start looking at it from the 'panoramic experience' perspective. Concerning the fact

that this was the first use of aerial perspective in the Renaissance, what happens deep in the background on the horizon might serve the painter to ground the story for the first time, unroll it to the foreground and end on the Mona Lisa's face, as noticed by Penelope Haralambidou. [19] Anyhow, I contend that this inward-outward spatial flow finally blurring on the horizon speaks of the establishment of spatial continuity, but doesn't speak much about linking picture elements temporally. As such, instead of being the place of discovery of 'impossible' visions, in the eyes of the observer, the basic idea of the panorama has essentially remained hidden. In other words, the answer should be searched in 'how' and not in 'what' is represented.

Furthermore, although the panorama was designed to overcome one of the limitations of traditional painting – that of the static eye – it suffered exactly from the stasis of a painted atmosphere. [20] Since the illusion of the time flow which we measure as *chronos* is not linear in our experience to be real and true, it is rather its *kairos* dimension of the non-linear and heterogeneous time. Neither objects in the scene should be simply 'joined together' to achieve 'thinking through time' in panoramic format. As result, the viewer of the panorama cannot see different points in time (although they belong to the same scene), so he doesn't actually feel the enigmatic effect of being displaced in both space and time. On the other hand, the effect of displacement seems to have been achieved in the Mona Lisa painting, through the method of painting. Namely, the flow of time embedded in Leonardo's painting process operates in reverse directions, imposing a double standard of truth; while spatiality inside the picture frame is corrected from 2-d to 3-d by the innovative use of the aerial perspective (it was used for the first time in the Renaissance to open the background landscape scene). A double standard of spatiality is also developing from such divided representation – a residuum of reality left out to define its own mode of representation while remembering the imaginary characters from her life are presented as transient effects. [21] This effect has constantly been renewed and (re-)constructed during the painting intervals, through the creation of a desire to see the character of the woman Lisa. Like in *mnémotechnique*, fragments of visual information are added through memory frames; in this case the image of Mona Lisa populates the imaginary trajectory along which is mentally retraversed numerous times during the painting intervals to generate recollection. Despite the effective ephemerality and transient effect in the painting, it seems that the Mona Lisa phenomenon is *durable* as we constantly discover new facts that transform the way we see the woman Lisa.

Superseding these Renaissance trials, in this study of the genealogy of temporalizing space in the picture, the modern method is moving from the disintegration of composition to that of sight. It can be traced in the

painter's Edgar Degas pre-cinematic method with which the composition became close to "framing". By applying the technique of temporalizing space in a denaturalized way, he was a forerunner of the method of modern cinema. If, according to Bergson, "there are ways of thinking through time when observing the painting", in Degas' hands these methods staged the very medium of painting as transitory moving set of rules [22] to make it possible; and it goes in package with the instructions for viewing. His choice of repetitive study of the dance rehearsal is conducted to observe and analyze a subject that is structurally based on repetitive movements and reinvention. Repetition invokes a process-related way of painting-in-progress, with endless new beginnings and overworking that point to the impossibility of its completion. [23] Creating an ongoing process of constructing, revising, defining rules, which precede his painterly "choreography", could be compared with the dance rehearsal that happens before its public performance. Not least the topos of the rehearsal allowed Degas to visualize the long periods of time his compositions needed to be "completed," or, to refer to Davis Joselit's and Isabelle Graw's conference papers, such modes of depicting the dance rehearsal can be seen as a way to store labor time. This raises the question of whether and how the timing of the ballet rehearsal can reveal a more functional than substance-oriented or even a conceptual idea of the medium of painting. [24] This way, Degas brought together qualitatively different practices into the medium of painting.

Photography

As we move further, the history of optical devices begins to testify *time* as being a discovery of new opportunities. As a result of photography's capacity to transform our access to history, Anne Friedberg argued to be owned as much by new technologies as by increasingly detemporalized subjectivities. [25] Baudelaire was as well an early disclaimer of the dangerous transformation of history that the photographic image would produce. [26] Despite photography's "loathing for history", Baudelaire accentuated the representational discontinuity as the critical role of photography, and he goes even further to claim the apocalyptic scenario: "the disappearance of history as a potential consequence of the photographic image. [27] On the other hand, what was made possible with the emergence of photographic technologies in the 19th century, what had previously been beyond the grasp of representation - was the inscription of contingency, as Mary Ann Doane claims. [28] For example, when performing our personal investigation of the cityscape, a still photograph has power to narrate the immobility of the

transition effects while capturing transformations from an illusion of the freezing scene recorded from the plane towards the vividness of the city streets by immersing deeply in the scene (fig.7). Due to the mobility of the camera device, walking through the streets and taking photos made us realize the transient effect of the city motions: once suspended it alternately gets back in force. Once Étienne-Jules Marey was able to produce a clean, temporal, graphic trajectory of an action, which ‘sampled’ phenomena at regular interval, he allowed variations over time to register on a single light-sensitive plate and broke up this way the temporal unity of the pictorial field (fig.8). [29] In this shift from photography to film, the formal tension between photographic stasis and cinematic movement was gradually overcome.

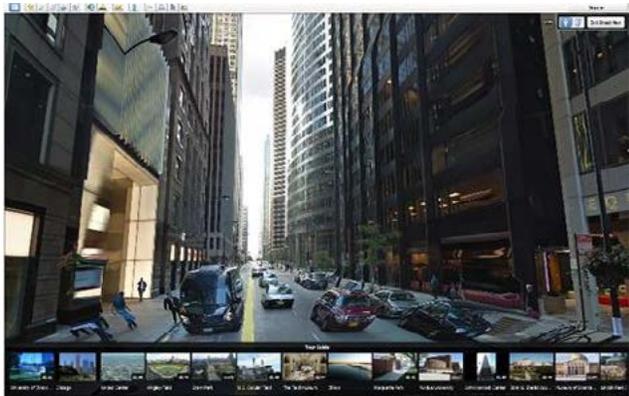


Fig. 7. Photographic transformations (experiment by the author).

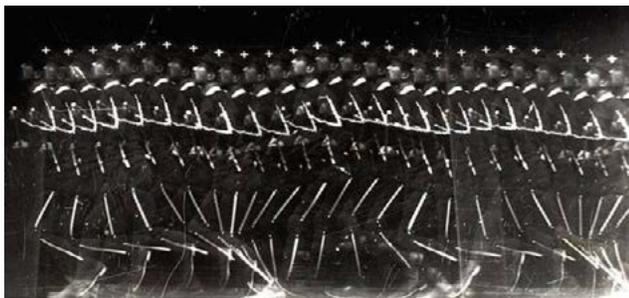


Fig. 8. Photograph by Étienne-Jules Marey. The running Lion Tamer, 1886.

Moving Images

“Post-Colonial Room” by WAI Think Tank group is a visual spatial narrative architectural installation in panoramic format. It uses a frame of the digital two-single channel video inscription to simulate fluid space that produces space-time continuum, break the frame and cut objects to set them in a wider context; while the very organization of the action is animated by the eye that accompanies actors in the scene.

In the same scene, not only ‘objects of history’ are shown (reclaimed and reimagined forms of architectural icons of the 20th century Avant-garde), but also ‘objects of present’ (tropical landscapes stripped of any sign of previous human influence) (fig.9). This way, what they call the story of ‘environmental emancipation’ to the ultimate green utopia envisages the narrative insecurity in regard to future brought about by changing perception of landscape. In order to connect actions of surveillance, collection and communication present in the scene through the past, present and future, opening narrative story provides a continuous monitoring of an island environment connecting with the mainland through a set of suprematist communication towers, an aviary acts as a concentration and training camp for tropical birds, and a series of storage spaces gather the remaining symbols of a previously anxious anthropological identity.



Fig. 9. WAI Think Tank. Post-Colonial Room (narrative architecture installation), 2018.

Taking an example from film to describe ‘panoramic experience’, it is not unusual in the director’s conception of narrative dramatization to build a continuous space in shots by navigating an endless series of rooms and corridors, and overlaying images in hypnotic fashion suggesting a space of permanent transition (fig.10). This method found a striking parallel in making panoramas. It was Richard Martin who correctly noticed that David Lynch’s film *Inland Empire* [2006] have demonstrated how different times and spaces adhere to each other in the film to a degree that it demands that we consider it all, all at once. [30] Such horizontal extension of our unrestrained perceptive experience far beyond a normal mode

challenged immediate switch into a ‘panoramic mode’ (which is at the same time the tendency of the TV format to the horizontal extension). This explication of the methodology further indicates how the layers of the film refuse to be separated coherently. This is instructive in Stephan Heath’s comments on cinematic space. Namely, Heath reminds us that cinematic space is heavily dependent on the establishing shot [31] and is found in the director’s conventional approach to provide “an overall view, literally the master shot” that will allow the scene to be dominated in the course of its reconstitution narratively as dramatic unity. [32] This is an ultimate panoramic experience that will be repeated during the film in different contexts and forms, playing with the spectators’ attention on the basis of their memories from the establishing shot in order to keep the continuity of the film flow.



Fig. 10. Stanley Kubrick, *The Shining* (corridor scene), 1980.

Towards the Future

Human societies have always tended to produce artefacts intended to stand out visually, to command visual attention, and to extend the field of visible beyond the horizon of limited human vision. The devices made in prosthetic culture [33] of photography, memory, etc., were then converted into instrumentalities, automation and reproduction, subordinating our future to the face of irresistible technologies, circulatory speed and image saturation. On the other hand, they seem to promise an expanded field of exertion of technological changes which extend our abilities to see, remember and represent daily experience. At least this triumphalist narrative, as discussed in this essay, in modern artist’s understanding and exploitation of the picture as a ‘viewing mechanism’, affects the changing spatial visual hierarchies in the city/land-scape irrevocably and dramatically. Another possibility that developments from optical devices (the

limitations of vision trapped in pictorial illusion) towards the photography and cinematographic image (comprising the time-honored context) may offer - is an assimilation of subjectivity into the logic of its tools. Only the choice of photography does two things: as first, it profoundly alters the contexts in which mental images were topographically stored and retrieved; as second, it increases the significance of the image for understanding subjectivities. What is certain in our media-determined culture is a constant recovering of the apocalyptic discourses in the polemic of image in architecture and architectural representation. The results are already visible in indeterminate value of these developments and in changing the dimensions of subjectivity that raise new potentials.

Notes

- [1] Martin Kemp, *Leonardo da Vinci: The Marvellous Works of Nature and Man* (Melbourne: J.M. Dent, 1981), 235.
- [2] Anthony Vidler, *The Architectural Uncanny: Essays in the Modern Unhomely* (Cambridge, MA: MIT Press, 1992), 10-11.
- [3] Emmanuelle Michaux, *Du panorama pictural au cinéma circulaire: Origines et histoire d'un autre cinéma 1785-1998* (Paris: Le Harmattan, 1999), 11.
- [4] At the time of Hegel’s death [1831], time stood as the more fundamental category and there was a “temporalization of space” rather than the “spatialization of time” (Gross, 62). This may be true at a philosophical level, but, as noted by Lewis Mumford, at a societal level the seed for the “spatialization of time” was planted many centuries earlier. Read in: David Gross, “Space, Time, and Modern Culture”, *Telos* 50 (1981-82): 62. The French interrogation of sight began with Bergson’s critique of the ‘spatialization of time’, read in: Martin Jay, “In the Empire of the Gaze: Foucault and the Denigration of Vision in Twentieth-century French Thought,” in: Michel Foucault & David Couzens Hoy (eds.), *Foucault: A Critical Reader* (Blackwell, 1986).
- [5] Read in: Henri Bergson, *Time and Free Will: An Essay on the Immediate Data of Consciousness*. 1910. Trans. F.L. Pogson (London: George Allen & Unwin Ltd, 1959).
- [6] As Stephan Oettermann argues in his study of panoramas, these devices originated from the discovery and experience of the horizon, read in: Stephan Oettermann, *The Panorama: History of a Mass Medium*, trans. Deborah Lucas Schneider (New York: Zone Books, 1997).
- [7] H.W. Janson, *Istorija umetnosti: pregled razvoja likovnih umetnosti od praistorije do danas*, trans. Olga Šafarik (Beograd: Izdavački zavod Jugoslavija, 1975), 164. (*History of Art* [New York: Harry N. Abrams, Inc. Publishers, 1969]).

[8] Michel Foucault, *Discipline and Punish*, trans. Alan Sheridan (New York; Pantheon Books, 1978) (*Surveiller et Punir* [Paris, 1975]); although Foucault played the special role in the anti-visual discourse, read in: Martin Jay, "In the Empire of the Gaze: Foucault and the Denigration of Vision in Twentieth-century French Thought," in: Michel Foucault & David Couzens Hoy (eds.), *Foucault: A Critical Reader* (Oxford: Basil Blackwell Ltd., 1986), 178.

[9] Anne Friedberg, *Window Shopping: Cinema and the Postmodern* (London: University of California Press, 1993).

[10] The spectator occupies fixed position, but only physically, not as the subject of an aesthetic experience. Flânerie is seen as an exploratory device to trace changes in representation. In words of Anne Friedberg, flânerie can be historically situated as an urban phenomenon linked to, in gradual but direct ways, the new aesthetic reception found in "moviegoing", read in: Anne Friedberg, *The Window Shopping: Cinema and the Postmodern* (London: University of California Press, 1993).

[11] Anne Friedberg, *Window Shopping*, 2.

[12] Henri Bergson, *Matter and Memory*, translated by Nancy Margaret Paul and W. Scott Palmer (London: George Allen and Unwin, 1911 [1896]), 71-218.

[13] *Ibid.*

[14] M.F. Quintilian, *Institution oratoria*, vol. 4., trans. H. E. Butler (New York: G.P. Putnam's Sons, 1922), 221-223.

[15] Emmanuelle Michaux, *Du panorama pictural au cinéma circulaire: Origines et histoire d'un autre cinéma 1785-1998* (Paris: Le Harmattan, 1999), 1.

[16] Giuliana Bruno, *Atlas of Emotion: Journeys in art, Architecture, and Film* (New York: Verso, 2002), 221.

[17] Emmanuelle Michaux, *Du panorama pictural au cinéma circulaire: Origines et histoire d'un autre cinéma 1785-1998* (Paris: Le Harmattan, 1999), 7.

[18] Alexander von Humboldt, *Cosmos, a Sketch of a Physical Description of the Universe*, trans. E.C. Otte, 2 vols (New York: Harper & Brothers, 1850), 59-97.

[19] Penelope Haralambidou, *Marcel Duchamp and the Architecture of Desire* (Surrey: Ashgate Publishing Limited, 2013), 25-28.

[20] R. Dubbini, "Views and Panoramas: Representation of Landscapes and Towns," *Lotus 52* (1986): 110.

[21] According to the description of Leonardo da Vinci's painting process of *Mona Lisa*, read in: Pjer La Mir, *Zivot Mona Lize* (Beograd: Editor, 2002).

[22] Isabelle Graw and Ewa Lajer-Burcharth, eds. *Painting Beyond Itself. The Medium in the Post-medium Condition* (Berlin: Sternberg Press, 2016), 159.

[23] *Ibid.*, 159.

[24] *Ibid.*, 166.

[25] Anne Friedberg, *Window Shopping*, 2.

[26] *Ibid.*, 1.

[27] Roland Barthes, *Camera Lucida: Reflections on Photography*, transl. by Richard Howard (New York: Hill and Wang, 1981), 93.

[28] Margaret Iversen, "Susan Morris: Marking Time" (no pagination). Available at: https://drawingroom.org.uk/uploads/resources/Margaret_Iversen_Marking_Time_Essay.pdf Accessed September 12, 2018.

[29] *Ibid.*

[30] Richard Martin, *The Architecture of David Lynch* (London: Bloomsbury Academic Publishing Plc., 2014), 164.

[31] *Ibid.*, 164.

[32] Stephen Heath, *Questions of Cinema* (London: Macmillan, 1981), 41.

[33] In terms of Celia Lury: 'prosthetic culture' attempts to steer a sort of middle course between the techno-futures; for her, technological innovations will change the dimensions of subjectivity. Read in: Celia Lury, *Prosthetic Culture: Photography, Memory and identity* (Oxon, UK: Routledge, 1998).

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New Memory Medium of Museums: Digital Records

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Abstract

In this study, new memory spaces created in digital environment will be mentioned by defining the effect of technological change on panorama museum studies. In recent years, traditional museum forms have changed with the use of digital technology. This change also affected the panorama furniture. Digital presentations that provide new definitions to the public as social memory support remote access. Panorama has begun to advertise themselves through web pages, creating their own virtual space for their activities on the internet. Touch screens, mobile phones, virtual palettes, virtual trips, 360 degree panoramic images are beginning to be used. International virtual archives were created in the digital environment with the images they created through the panorama web pages. The increasing number of visuals in the virtual environment created new memory spaces. Increasing information of panorama museums in virtual environment; it has brought about the problem of how these big fruits can be stored and preserved. Panorama images, hologram techniques, artificial intelligence applications will change with different presentations in the next century. As a result; the panorama mirrors that encounter new digital data in the virtual environment also need new memory areas. Digital information distributed over the Internet has, and will continue to have, influenced the traditional dominance of the panorama museums.

Keywords

Panorama, Museum, Digital Archive, Memory Locations

Introduction

Panorama museums with the panoramic paintings and three dimensional (3D) modelling which visually reveal landscape and historical events are continuously developing. Panorama museums with the values they carry to the future are developing and are growing in importance.

In 1990, with the effect of my visit to Plevna Panorama Museum for the first time, I reflected the importance of establishing a panorama museum in Turkey in various conferences. Although we had developed a common project with Harbiye War Museum, in 2008 this wish came true with the establishment of Panorama 1453 History Museum; first panorama museum in Turkey. The İstanbul Metropolitan Municipality had begun its construction in 2005 and the museum opened in 2008.



Fig 1. Plevna Panorama Müzesi/1990 (Kaynak:F:Erbay,1990)

After Panorama 1453 History Museum, Panorama 1326 Bursa, Manisa Panorama Museum, Kahramanmaraş Liberty Epic Panorama, Gaziantep Panorama, Canakkale 1915 Panorama History Museum and Samsun 1919 Panorama Museum have established. Today, there are nearly ten panorama museum projects in our country. Since 2000, with the increasing attraction to the panorama museums in Turkey, the technology in architecture and the exhibition techniques of the museums have also developed. With this study, panorama museums changing technologically will be researched and their works for becoming new memory spaces for new generations will try to be defined.

New information technologies have affected the working systems of panorama museums. Defining this effect is not easy because it requires a multidisciplinary view. In this research, the multifaceted structure of technological development will be defined in terms of the works of the panorama museums.

At the beginning of published works related to this study, firstly my publications and books are sources of this research. The new digital culture created by the technology, the effects created in the museums are presented. Innovations brought by the information age to panorama museums and museology understanding have changed the classical approaches. The paintings on canvas made by artists have replaced to digital printings. The quality of the dyes has changed which last nearly 30 to 40 years. Especially the traditional structure of the panorama

museums is changing with the changing digital presentations.



Fig 2. 27th International Panorama Council Conference (Sept.19-23, 2018, İstanbul)

1-The Designs of the Panorama Museums are Rebuilding with Digital Presentations:

The expanding number and diversity of the panorama museums, the development of the knowledge patterns they offer, the increase of digital images; are creating a new generation of panorama artifacts. New generation panorama museums have increased their accessibility with digital presentations and interactive exhibitions. By means of internet, getting information about the museums became easier. All panorama museums began to advertise themselves through their web pages.

Companies such as Google and YouTube are changing the structure of panorama museums to store and present their digital information in digital platforms. Information technology has enabled remote access to Panorama museums.

New generation panorama museums aims to transfer unlimited information to their visitors with the help of using simulators, QR codes, sound showers, visual displays, holograms, kiosks and interactive touch screens. Old information boards are changed into digital screens which can be controlled by the visitor.

Today, the success of panorama museums displayed in digital media can be measured by the increased number of the visitors. Museum experts make online surveys to learn what visitors would like to learn and discover about the museums and according to these surveys they develop works suitable for the expectations of the visitor. (Erbay.F.2009,p.127)

2-Online access to museum information is provided through digital presentations with QR Code.

The language of the panorama museums has changed into visitor focused visual presentations. In the entrance of the Borodino War Panorama Museum, ticket office sells paper bracelets for the photograph machines and audio guides as

well as tickets. Visitors who prefer to visit the museum with audio guides will have the access to information about objects or places by typing the numbers.

Nowadays, visitors of the panorama museums can download the QR codes to their smart phones in order to have information about the exhibition areas and the works easily. By means of QR codes, visitors can reach information, watch related videos and three dimensional modelling of the works. QR Codes applications, which are creating digital memory, are also used in Panorama 1453 History Museum in Turkey, so visitors do not need any guidance or directory.

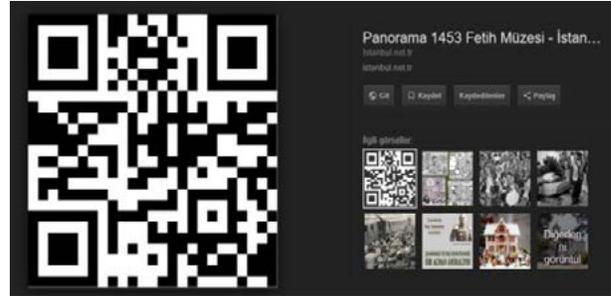


Fig 3. QR Code of Panorama 1453 History Museum (Kaynak: https://www.google.com.tr/search?hl=tr&tbm=isch&source=hp&biw=1124&bih=1012&ei=kz38W4qYBcj_sQGg_KXgCg&q=1453+panorama+museum++QR+code&oq=1453+panorama+museum++QR+code&gs_l=img.12...2330.25296..27392...0.0..0.105.3225.21j12.....0....1..gws-wiz-img....0..0j0i5i30j0i30j0i8i30j0i24.OJYmZ_J0qdQ#imgrc=_q8zYRnHkrNHuM)

Digital archives and inventory systems provide many conveniences such as digital registration of the art works, tracking the art works which will be displayed and which needs restoration and also their security.

Inventory works supported by the development of information technologies allowed artworks to be registered and archived digitally. (Erbay,C.Onur.2016,p.52)

The internet system, which consists of a network in the computer environment, allows to obtain and process data. The internet of things has changed the rules of museum marketing.

With the application of the touch screen (MultiTouch-Magic Fingers), the museum made presentations and presented the unlimited usage access in the museum exhibition areas to the visitors.

For instance, Salzburg Panorama Museum reveals incredible comparisons between historical background of Salzburg city and today. In the museum, there are touch screens, interactive exhibitions and information boards to give information about the Salzburg's history. Touch screens are getting bigger and turns into touch walls. In the future, all painting walls will become digital walls in panorama museums.

3- Digital presentations in architectural and design of exhibition area's

Borodino War Panorama Museum architectural design is a typical panorama museum design with its glass façade cladded exterior surface and cylindrical form of 360 degree round shape. Indoor walls are covered with the theme of War 1812 paintings and animations similar to Panorama 1453 History Museum. Panoramic exhibition areas show similarities according to their circular planning, a centered platform for visitors to see 360 degree panoramic scenes, various objects and designs to visualize the war as exemplified in Waterloo Panorama Museum, Panorama 1326 Bursa Conquest Museum and Panorama 1453 History Museum. Panorama 1326 Bursa Conquest Museum differs from others with its moving stairways to the centered platform. In 1453 Panorama History Museum, visitors climb up stairs to see the exhibition area while there is an elevator for disabled visitors.

1915 Canakkale Panorama Museum has designed lazer light games, smoke bombs, rain effects, gunpowder smell and moving objects in order for visitors to feel war atmosphere and have an interactive experience.

With the development of museum exhibition areas; thanks to touch screens, downloadable information to phones, virtual trips, 360-degree panoramic tours, now we have museums on digital platforms. This enables to create digital archives with digital virtual panoramic images in the digital environment.

With developing technology, panorama museums are creating "new memory spaces" to visitors to visit in digital environment. Museum events are transformed into museum experiences through participatory activities where new generations of technologists can carry out where and when they want. The activities of the museum exhibitions have developed in different dimensions with the help of simulations, animation, rapid prototyping, hologram techniques.

Using the mobile applications of the London Science Museum with the smart phone "London Street Museum", they put the historical photographs on the places where they were taken, opening the museum to street applications and moving museum applications out of the museum. Among the activities that go outside the museum are; as we have named to Flickr is now being used in programs that store photos and give them information about meaningful travel routes, directions, and most preferred photo locations. Now, It is available on internet to visit Amsterdam Dom Square, 17th century with 360 degree 3D modeling of the images. With 400 years of old Amsterdam cityscapes, today's images have been superimposed and the traces of change have turned into a new application with I-phone technology. Today, everyone is capable of taking panoramic pictures by themselves with their smartphones.

On the National Geographic Channel, the visitor's behavior was determined by photographs taken by tourists visiting Amsterdam. The most visited and most photographed points are located on the sightseeing route on the program. There is also a timeline on the Flickr photo, so that the trajectory is defined and the data can be calculated. According to this, it is determined how many people have taken photographs in front of the central train station, Dom square, Benmark road and Amsterdam writing in front of the Rijk museum. In this way, city and museum visitor behaviors are transformed into digital information. And so, social media data is mapped and photo maps of those who take self-portraits in popular places in the city of Amsterdam are extracted.

In 2017, the Van Gogh Museum in here was a research with a x-ray camera system, which measures the amount of time spent in front of the table and track visitor's routes. While Van Gogh Museum visitor experiences museum experience, museum management records visitor behavior at the same time. In front of Van Gogh's sunflower paintings, it was found that even the visitors crashed with each other, so the position of the said painting was changed. The data of these visual recordings are processed in the digital environment, more information is obtained about the visitors, the measurements are recorded in the museum and the exhibition areas are changed.

People who visit museum with Rijks Studio application are able to create their own photo studio in digital media from their own photographs, have their own exhibitions and share them on the internet. This application is important to improve the recognition and marketing efforts of the panorama museums. This application is one of the features that can be easily used in the panorama museum in the future.

Henk Bekker described the change in museum designs in his sept.29.2016 dated writing as; "*The colorful rainbow panorama circular walkway ring on the Aros Aarhus Art Museum is a top attraction in Denmark's second largest city. Aros Rainbow panorama is a 150. Long 3m wide circular footbridge on top of the aros museum building. It is the creation od Danish-Icelandic artist Olafur Eliasson and required structural reinforcement of that building before it could be completed in 2011.it is 50m above ground giving visitors a colorful view of Aarhus and the surrounding country side and the sea. Museum is a famous for its art as for its modern museum building with a colorful panorama ring on the roof and Guggenheim_style staircase.*"

In panorama museums, applications by using multiple projection screens to make comparison between different scenes from the past and today have increased. For instance, in Samsun 1919 Panorama Museum Digital Exhibition Center, 1071 Malazgirt Victory is represented by 44 projection screens. Besides its digital screening, the museum has the largest oil painting in Turkey.



Fig 4. Samsun Panorama 1919 Museum
(<https://www.samsunetkinlik.com/panorama-samsun-dijital-gosterim-merkezi-acildi/>)

In panorama museums, the views are designed upward they embrace the visitors when they stand at the center of the exhibition area. In Dresten Panorama Museum, when you climb the Tower, you can see the view of the city from upstairs. The ancient Roman and Bergama cities, designed in the eastern German city of Dresden, are portrayed as a panorama of Rome. It was designed as 360 m, 27 m in height, 107 m in length and 107 m in length. In 1997, Yadegar Asisi, who first drew Panorama's draft, only saw the opening of his work as a panorama museum after 17 years. Inspired by the work of Alexander von Wagner and Josef Bühlmann in 1886, Rome's cityscape is among the world's greatest panoramas. The city is seen at the center of the circular designed museum with a metal handle of 15 meters height. The landscape dated to the Emperor Constantine Great Victory Regiment reflects the many stories hidden within the city, as well as the panoramic view of the city. In fact, panorama museums tell their own stories without any personal storyteller.

From another point of view, as an extraordinary example of different kind of exhibition and presentation of panorama museums, Gobekli-tepe in Sanliurfa, Turkey is a self-created natural panorama museum displaying archeological remains from 12.000 years ago. Visitors have the privilege to see the archeological remains when they stand in the center of circular area.

The panoramic staging of the ancient cityscape from artistic and archaeological perspectives has increased the interest of the classical antique age. A second historical panorama of the ancient Greek city Pergamon on display at Scholl's Pergamon museum in Berlin's Museum was created. The transformation of traditional drawing methods into computer-aided visuals facilitates the design of panoramas. The printing of these models with the help of 3D printers is accelerating the design work of the panorama mirrors. Music is used to enhance the effects of panoramas over the day, visual designs that vary throughout the day with light special effects.

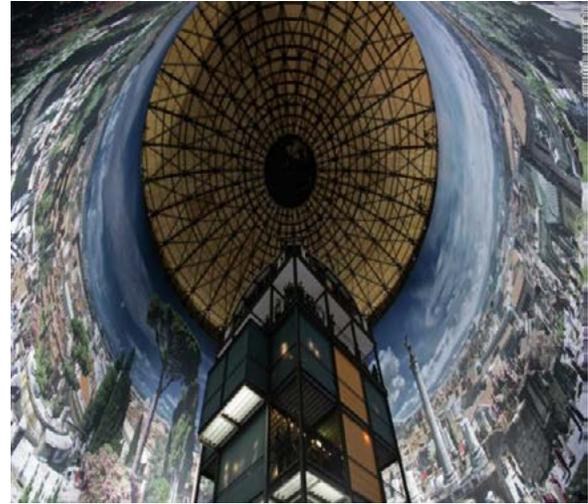


Fig 5. Dresten Roma ve Bergama Antic Panorama Museum
(<https://edition.cnn.com/2012/01/13/world/europe/germany-dresden-panorama-painting/index.html>)

Augmented reality innovations are one of the instruments, which transform visual perceptions into a different format for new generation panorama museum visitors. New generation is interested in Google Glass viewing augmented reality and is discovering different places and even Space. Virtual visual holograms, new presentations created by artificial intelligence (VR virtual reality, AR artificial reality), and augmented reality applications have changed the visual perception as well as the spatial design changes of the panorama museums. Augmented reality (VR/AR) innovations created new application areas in the museums. For instance, with Google Glass, which is defined as smart glasses, there are applications that change the objects in the panoramic image, freeze moments, and design new photographs and videos in panoramic mirrors.



Fig 6. Increased reality (VR / AR),Google Glass (photograph F.Erbay, 2017)

Google Glass is continuously improving itself and started to work by sound and eye commands. With a 5 megapixel camera and 16 GB of internal memory, Wifi, Bluetooth and other features, Google Glass does not even require headphones. These goggles, which allow for hearing without ears, carry the museum exhibition designs in 3 dimensions in the virtual environment by sound shower method. When the person wearing the glasses said "Take a Photo"; he is immortalized by the voice recognition systems he sees at that moment.

Thanks to the smart GPS feature, people can go anywhere with Google Maps feature. This feature will make it easier to access the museum. Using the power of the search engine, we will be able to visit another panorama museum and make comparisons in a foreign country that we have never known.

Google Art Project, Google Open Gallery, Remote Access to Museum Archives, MENHIR and Open Heritage Projects; Collection management area is developing with effective use of museum information. Digital visual design has increased the number of museum exhibits and digital museums. Museums communication networks have increased. Digital projects have been developed through museum networks, spatial Increased Reality Reo-Tek is creating new exhibition spaces and designs for "DynaMapper for iPad Project", simulation, interactive presentations, panorama arts. Image reprocessing, such as hiding the image, completely removing it, creating new images, changes museum design work. Computer-interactive museum projects, which allow people to create, share and exchange information, create images and videos in virtual communities or within networks via computers, are increasing day by day.

Intelligent panoramic museums will improve the working system. intelligent electronic cyber-physical systems with internet connection will create efficient working environments in the museums. Smart devices will work more efficiently by interacting with each other simultaneously. Intelligent panoramic museums related to this process management automation system will make their work more efficient with large data analysis. With the opportunities provided by technology, training activities will develop further with data mining. The future problem of the panorama museums; is the correct processing, preservation and hiding of increasingly increasing data. It's important to know how these digital images are going to be stored and preserved in big files.

The increase of these data will increase the knowledge management activities in the museums. Knowledge management will create innovative experiences and service spaces in panorama museums. The experience of visitors in museums will change.

New generation panorama museums which aim their visitors to gain more than one experience, also started developing their architectural designs and priorities. For instance, 1453 Panorama History Museum added a sky

painting to its dome shaped ceiling. Panorama 1326 Bursa Conquest Museum, besides presentations of Bursa city conquest and the establishment of Ottoman Empire, the museum is designed with conference halls, library, exhibition areas as a museum culture institute. The museum is constructed on to a 4.500 square meter area and it is an ecological building. The museum's green building has tanks to store rain water and also heating and cooling systems that use energy ecologically.



Fig 7. Panorama 1326 Bursa Conquest Museum, (F.Erbay, 2018)

In addition, Adıyaman Panorama and Archeology Museum is an example for the combination of modern architectural designs and new technology with its spaceport like design.

Special sound and light effects and continuously changing scenes are used to increase the impact of panoramas on visitors as in the W.L Wyllie's Panorama of Trafalgar Museum.

Thanks to open access, not only the visuals of the museum, but also the institutional archives of the museum will be accessed. To control such access, electronic document management applications will need to develop information security and policy. At the same time museum specialists in charge of the museum will face the question of where and how to use the technology. Technological development-oriented applications in the museums will require more interdisciplinary studies.

As a Result

The information technologies will change the work of the panorama museums and offer us advanced capabilities. Nowadays, panorama museums will improve quality and control by accelerating their work that collect every field data. After the digital revolution at the end of the 20th century, the world has now entered into the practice of innovation, smart buildings, smart cities projects that will change our lifestyles. The transformation of this race will bring will also impress and influence the panorama museums.

Panorama museums need new memory spaces in the face of evolving technology. The museums are using the latest technology, they have entered the pace-fitting race. In this race; information technologies and museum exhibits focusing on digital visual design will develop. The old traditions that are transformed with new technologies will also change the panorama museums. Changing museum technologies and panorama museums will be redefined. In digital environments, it will be necessary to create new memory spaces, experience areas, spaces equipped with enhanced reality for the panorama images, which are becoming more and more visualized.

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Author Biography

Fethiye Erbay is a museum studies consultant who took part in the planning and establishment of many museum projects. She participated in many international exhibitions as a curator. As the founding Head of International University Museums Association Platform (UNIMUZED) in 2014, she has been continuing to work on the development of university museums. Since 2009 she has been working and lecturing as the founder of Department of Museology, Museum Management Master Programme and Management of Cultural Heritage Areas Distance Education Master Programme. She wrote many book on museology like *Efforts to Institutionalize Museum Management (1984-2009, 2009)*, *Dimensions of Art Management (2009)*, *The Reflection of Artistic Change in the Republican Period on Publications (2004)*, *Atatürk's Art Policy (2006)*, *University Museums (2015)*, *Changing University Museums (2016)*, *University Museums in the Age of Change (2018)*. She is honored by awards like *Bogazici University Outstanding Service Award (1990)*, *Auszeichnung für die Förderung Internationale Kunst und kultur (2009)*, *Bosphorus Journal Contribution to the Institutionalization of Turkish Museology(2017)*, *Melvin Jones Award (2018)*, *Museum 2018 Award/ Bulgaria and Trakya University Contribution to the Development of University Museums (2018)*.

Dark Rides: From Early Immersion to Virtual Reality

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Abstract

This paper will examine one of the most important interactive multimedia experiences of the 20th century. *A Trip to the Moon*, was an attraction built in 1901 by inventor and showman Frederick Thompson. It was first exhibited one year before the now legendary French film of the same name directed by George Méliès. Thompson's was the first carnival ride to harness electricity to create a fully immersive narrative installation, complete with projections, atmospherics, music and moving panoramas. It plotted out an evolving landscape using complex changing screens and theatrical effects. *Trip to the Moon* would go on to become the key attraction and namesake of *Luna Park* amusement park in Coney Island. The Luna Park franchise would later become the largest in the world with sites on every continent.

A Trip to the Moon was one of the earliest examples of a dark ride, a type of mechanical indoor ride that would become synonymous with the amusement park experience. Taking early advantage of electricity to power lights, projectors and motors, rides of this type created a new language of mediated aesthetics. Rides such as the *haunted house* and *ghost train* were popular contemporary versions of this format appearing in the 20s and 30s. Despite their ubiquity little has been written academically about the format despite obvious links to digital interaction and immersion. The dark ride format exhibited influences from the cyclorama and panorama attractions and British fairground ride. It contained many of the immersive attributes of these formats but added surround sound and haptic feedback for the first time.

This paper sets a framework for the definition of the dark ride as a media format. Examining how Thompson's ride influenced new media storytelling and current practices of immersive games and virtual reality storytelling.

Keywords

New Media, Digital Heritage, Early Cinema, Amusement Parks, Theme Parks, Virtual Reality

Dark Rides

The dark ride is a type of entertainment media that has existed since the early 20th century, it has been a common part of amusement parks and theme parks since its inception. Best known for ghost trains and haunted house rides the format encompasses all mechanical indoor entertainments that follow a path. In 1901 a revolutionary multimedia experience titled *A Trip To The Moon* was built for the Buffalo world's fair. The experience combined technology from the popular cyclorama with new electric projection technology and large animatronics in a way that had never

been seen before. The artefact has been much discussed in the academic field of early cinema as an example of film in its more hybrid state, before the solidification of the feature film industry. A less widely discussed point is works notoriety as the first example of dark ride. In *A Trip To The Moon* we see the first combination of techniques that have remained consistent in the delivery of immersive electric media throughout the 20th century. Despite *A Trip to the Moon* being cited as an influence on cinema, an even bigger impact can be seen on popular immersive media, particularly evolving formats like virtual reality. This paper will examine the key attributes that define a dark ride experience and their commonality with immersive new media today.

A Trip to the Moon was built in 1901 by Frederic Thompson and Elmer Dundy for the Pan American Exposition in Buffalo, New York. Thompson had grown up around fairs and concessions, helping to build entertainments at the famed Chicago World's fair of 1893. In 1901 new technologies were available to the pair of showmen and this helped them to develop a multimedia exhibit that eclipsed those that had come before.

The narrative design centred around a hybrid text that borrowed from two popular literary works of the era; Jules Verne's *From the Earth To the Moon* and H.G Wells' *The First Men in the Moon*. [1] Much has been written about Thompson and Dundy's work because it preceded the highly regarded cinematic work, *Un Voyage Dans Le Lune* in 1902 by Georges Melies. [2] Melies' classic of early cinema also borrowed from Verne and Wells and bares many similarities to the fair attraction created a year earlier. What is less well known is the immense popularity of the physical work and its technical complexity, especially in building the field of indoor amusements... better known as dark rides.

At the turn of the century the world was captivated not only by science fiction but by incredible advancements in technology. The most famous product of Buffalo New York was its hydroelectric power plant, a world's first, developed by the acclaimed scientist and inventor Nikola Tesla. At the Exposition of 1901, electric power and light were on show and in *A Trip to the Moon* they played a unique role. The ride showed off the potential of electricity and light in entertainment and showcased the natural spectacle, Niagara falls, where Tesla's plant obtained its power.

The experience of *A Trip to The Moon* involved a stepping aboard a winged boat-like vessel, suspended inside the giant exhibition building. The illusion was to make the audience feel like the ship was sailing over the earth and towards the moon. Once the illusion was complete the audience would exit the ship and a theatre show would begin inside a fantasy grotto on the moon. [3] Projectors called cinematographs projected moving clouds through slides onto mechanized rolling panoramas. The panoramic images changed and moved passed the audience, while electric motors undulated the boat. Because the light was electric the imagery could gradually fade as the virtual scene ascended about Niagra falls and into the starry night sky. Electricity allowed for motors and lights to be used in more complex ways and for the first time in an indoors and controlled setting. [4] *A Trip to the Moon* was one of the most popular attractions of the exposition, it attracted thousands of visitors and a commendation from the President of the Day. Frederick Thompson was seen as the creative mind behind the project and he oversaw the rides permanent secondment to become the namesake of Coney Island's *Luna Park*. [5]

As a dark ride, *A Trip to the Moon* contained all of the features utilised in electric immersive media experiences today. Many of the effects featured in this early dark ride were borrowed from the fairground and the theatre but the advent of electricity changed their delivery. Electric motors and lights meant that experiences could take place indoors with far greater immersion and repeatability. Mirroring the digital revolution, this spike in technological advancement resulted in huge audience growth. [6] Defining the dark ride format gives us a set of design principles for building and assessing other indoor immersive works. Recognising the features that are common to *A Trip To The Moon* and contemporary experiences can help us feed more of the influences of the last century into the industry today. There are six design elements which can be identified in *A Trip to the Moon* which continue to be crucial in the development of immersive works today. Those elements are; the development of a thematic journey, haptic feedback, three-dimensional illustration, lighting, full 360 immersion and synchronized audio

Whilst traditional amusement rides utilize physiological effects based on real world space, dark rides create immersive spaces using a mediated sense of space and a removal of senses. Thematic journey was key in the development of *A Trip to The Moon*, where the façade of the building prepares the audience for the experience, becoming a passenger with other riders before taking off. In most cases through the history of immersive media the narrative journey is foreshadowed in facades, lobbies, or a preliminary piece of media which ties the experience together. Haptics refers to the interaction involving touch, in automated media it covers the addition of props which touch the audience or bumps and shakes which form part of the illusion. In *A Trip To The Moon* simple effects like wind

blowing or the animatronic bumps and heaves of the ship constitute haptics because of the way they simulate the ships resistance. Haptics are one of the most notorious parts of the dark ride format because of their association with being scared in the dark. From dangling threads, squishy floors to sprays of water or air, it is one of the most potent elements available in immersive experience design.

Illusions of perspective have always been a part of popular visual culture, heavily inspired by the panoramas of the 18th century, the dark ride offered a perfect fit for utilizing the age old Tromp L'oeil technique. The use of the moving cyclorama was continued in traditional dark rides throughout the 20th century to perpetuate the impression of depth and offer shocks when the illusion was broken. These types of techniques that author Norman Klein points out have been part of popular entertainment discourse since the 1400s. [7] In rides like the 1963 *Haunted House* in Ocean City, Maryland, the illusion of continued perspective is painted onto what are known as crash doors. [8] The effect creates a false perspective which the moving carts break suddenly. Synchronised audio may seem an obvious and well-established element of most contemporary media but in 1901 *A Trip To the Moon* featured technical innovation in this area as well. Thompson and Dundy's work featured triggered devices to create the sounds of storms and other atmospheres, all occurring automatically. Whilst digital audio triggering is fairly inexpensive and widespread at even the lowest budget attractions, dark rides throughout the 20th century utilised some strange and rudimentary non-digital techniques. Still functioning rides like the 1956 *Laffland* at Sylvan Beach, New York give an interesting glimpse into the early days of audio immersion. [9] At the *Laffland* audio is perfectly synched but is the result of spring-loaded cans and falling buckets which drop as the cart collides with triggers, rather than recorded audio of any form.

Contemporary immersive media, whether it is in the dark rides of major amusement parks or new technologies like virtual reality, still relies on the six crucial design elements as a way to assess its success. There are techniques that have remained fairly consistent since the early 20th century, such as the use of carts and props to create frights and scares. Technology and engineering have further advanced the clarity of immersive imagery and the speed of delivery at major institutions like Universal studios and Disneyland. The experimental approach of technology adopters of the 1900s is reflected in experimental approaches of the growing haunted attraction industry. With tens of millions of people each year experiencing haunted attractions, immersive space designers are utilizing modular technologies to create bespoke content and push a format that the dark ride pioneered. [10] As technology like virtual reality requires theories and approaches for the evaluation of immersive media design, what we know about the dark ride and its links to media history are crucial. This under-

utilized format is part of popular culture and nostalgia but also offers practical inspiration and structure in a media marketplace that is always evolving.

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Joel is an expert on the history of immersive media and has spent his career researching the history of amusement rides and their influence on contemporary media production. Joel is the founder of The Dark Ride Project, a Virtual Reality initiative documenting the last of America's haunted amusements using the latest VR tools. Joel has presented his research at the International VR conference in Toronto and at Austin's South by SouthWest festival.

Joel has artworks in public and private collections across Australia and has exhibited print, projection and Virtual Reality films internationally. Recently his work was

Expanding the Panorama Experience with Augmented Reality

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Abstract

This article provides a brief overview of Augmented Reality (AR)—highlighting the capabilities of the technology and presenting some scenarios—and how museums and related institutions may benefit from integrating this technology into their programming.

Keywords

Augmented Reality (AR), Artificial Intelligence (AI), Future of Education, Experience Learning, Personalized Learning, Immersive Education, Mixed Reality.

Introduction

Augmented Reality, or simply AR, is a technology that brings digital interactive elements and a user interface, through a screen, to the real world.



Fig. 1. A camera tracks the environment in real time and projects elements that react to what's being captured in a screen. Royalty-free stock photo ID: 515608060.

Nowadays, the most popular solution for AR is the smartphone, which can use both the camera and the touch screen to create experiences (See Fig. 1). But different solutions such as headsets or special glasses already exist, yet they aren't as accessible. Regardless of the platform, AR technology will always collect real world data to present the user with information, be it by tracking his

surroundings and showing on screen what directions to follow to reach a certain place, or by automatically reading signs and translating them to the user's native language, or even digitally replacing an existing element, like a building, with another one.

The AR industry and the New Mass Media

The AR industry is going to become a big hit in the next couple of years. For 2020, it's expected to reach 1 billion users, and the smartphones global count will pass the population on earth. That is, there will be more smartphones than humans, and a good percentage of those will be AR-ready.



Fig. 2. Because of the accessibility of smartphones, the AR industry will grow with them until a new solution comes up, like the smart glasses, for example, which are evolving to be as small as a normal pair of glasses and are aiming to be in the future as discreet as contact lenses. Louis Rosenberg Augmented Reality Rig, Wright Patterson AFB, Creative Commons.

Although AR technology isn't that recent, the first functional headset having appeared in the early 1990s by U.S. Air Force Research Laboratory, it is only in the last five years that it gained strength due to upgrades in mobile technologies and the creation of more accessible development tools such as game engines and custom plugins (See Fig. 2).

Due to the constant innovation in mobile processing and graphic power, increasingly robust and refined AR experiences continue to appear. Smartphones can now film an environment at a resolution high enough to allow the AR system to scan and perceive tri-dimensional spaces and all kinds of visual information in front of the camera. For

some perspective, recall that only a few years ago, QR codes were the most advanced option; now, any image can be scanned, allowing real time interactions and projections on the screen, sometimes projecting 3D elements, audio, translating texts in real-time, and getting or sending information via wifi or bluetooth—all of this without draining the battery, in a matter of minutes!

So it is expected that in the next few years, with the increased accessibility of the AR platform, many smartphone users will become adept of the technology, one billion people until 2020 more precisely. And since AR will bring all kinds of solutions and will start merging with Artificial Intelligence solutions, it is very unlikely that we will be stepping back from this. The facilities that the technology provides will change the way in which we live as well as interact with the world: we will not only have any kind of information popping in front of our eyes, but also all kinds of experiences, and with that comes the accumulation of knowledge. The way we learn, the way we entertain ourselves, or the way we solve problems will migrate to a complete digital scenario, becoming the next form of mass media, right after smartphones.

AR will surpass the VR technology industry significantly, mostly because of the mobile technology, and might start to get more balanced with the arrival of smart glasses, which could serve both AR and VR, even blending both cases in what we call “Mixed Reality.” The main difference is that at the moment the virtual reality solutions require a lot of processing power to raise an entire virtual world from the ground, and AR only adds elements to already existing scenarios and does not necessarily have this urgency of creating ultra-realistic aesthetics to try to get past the Uncanny Valley like the VR area (See Fig. 3).



Fig. 3. *Pokemon GO* is the most famous AR app so far: it projects the virtual monsters on real locations and makes the players hunt them down throughout the city, made by Niantic. (www.pokemongo.com)

AR also appeals to casual mobile users, since it is an extension of reality, so, in usability words, you don't need to necessarily learn how to use it: it is a more natural approach than VR, being that it is more user-focused, at least for its first few years. AR is easier both for the final

user and for the developer because its technical limitations are more defined and evolve in a slower pace than VR desktop PC's.

Application Scenarios for AR

Due to the nature of AR technology, it is very easy to find use for it in many different areas. Training support, medical aid, education, entertainment, you name it, if the user scenario could benefit from additional real-time information or an improved user interface, it is very likely that it is suitable for an AR solution.

Need to repair your house, but don't want to drill a water pipe on the wall by mistake? Try using an AR app to have an “X-Ray” vision of your house structure to find the right spot.

Want to make a new kind of dessert but you never wrote down the recipe? No problem, the app will tell you in real-time which ingredients you have on your table, how much you should use, and how you need to mix them by guiding you step-by-step.

Just bought a brand new sofa but don't know how to rearrange your living room space to fit it in? Use the real-time AR archviz app to take measures and move the digital furniture in your room before actually making that much effort.

You are hearing impaired and can't use the museum audio-guide solutions? Prepare yourself to watch sign language projections of the museum artworks instead.

The versatility and accessibility of the AR platform is what is going to make it a powerful industry in the near future, expanding to a point where it might be a part of our daily lives as the internet is nowadays, or smartphones.

Learn by Experiencing It

Like Virtual Reality, Augmented Reality also allows the user to learn by experience, a unique achievement of the new digital interactive media. Since all the interactions are digital, having a budget for maintenance or resource materials is not necessary anymore, freeing educational institutes from financial barriers and focusing more on the experience itself, the major technical barrier being the accessibility of smartphones (itself improving day by day).



Fig. 4. SitSim app example, that allows the user to impose a projected image of a historical event when the user is on the real location (www.sitsim.no).

Being able to be a part of what is being taught can make a major difference for the current generation, especially those who have a more kinesthetic learning profile, myself included. But we have to think of AR as a complementary tool instead of a mandatory approach. And the good part is that it also enables different types of learners to access the content they need, texts can be inserted for people more prompted to read, narrations and demonstrations can also be recorded and presented on the same AR app without interfering with the main experience (See Fig. 4).

Of course, experiencing historical events and seeing things happening from different points of view are enlightening and have their value, but even this is limited to a certain point or might interest just a part of the audience. By incorporating gamification methodologies, a simple event with little interaction can become a fun and interesting ludic experience, boosting further the learning outreach of the project, even tangentially.

AR for Museums and Panoramas: The Simple Approach

There are various ways to approach an AR solution for a museum or panorama. Let's start first with the easier and cheapest ones that rely mostly on already existing technologies and that I have worked with on similar projects before. The most basic solution for a museum would be projecting a panorama building on a table and being able to slice it to show how it works and how it was built. (See Fig. 5)

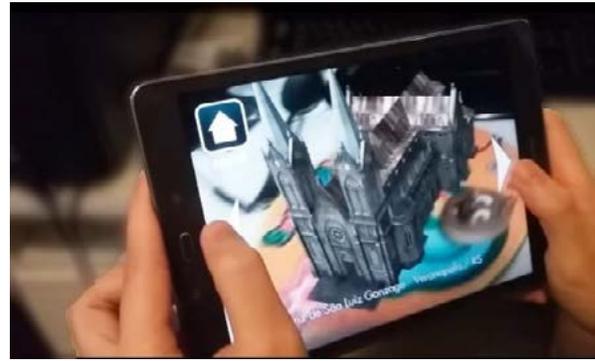


Fig. 5. Demo application showcasing a brazilian church scale model in augmented reality made by BizSD.

Using an application like this to project the building for visitors serves various purposes. It is possible to teach them how the panorama works: by slicing its virtual walls, architectural "secrets" can be revealed. It can also work as a 3D map or a guide, highlighting important areas or even emergency of accessibility routes. The application can also be adapted to allow custom content or editing tools, so that it can be used as a planning tool for restoration, expansion, new exhibits, or even a visitor flow simulation in real time. The technology can be very versatile.

Complementary elements can also be added to a panorama or museum, using the Opusztaszer Park maquette as example, we can add virtual elements to the miniature scene of the flood, and show visitors a richer experience: for instance, seeing the water levels rising and the buildings falling apart. This would certainly make the projection system that we know from the past obsolete, but there can also be a way to work together with it, for a very low cost, as part of a very long life cycle.



Fig. 6. Model of 17th Century Santos, Brazil, Outeiro de Santa Catarina Museum.

I have made a similar proposal to the Municipal Department of Culture in my hometown, Santos, in BrazilBack in 2016, I proposed and planned a project to revitalize a maquette representing the city of Santos in the 17th century (See Fig. 6). Due to some damage in the projection system, the maquette had no additional educational materials. To bring back the interest of the young students who visit the place on a daily basis, an AR proposal was made. The idea was to bring the maquette back to life by an AR mobile game that re-enacted one of the most notorious moments in the city's history: the Dutch pirate invasion of 1615. While the city was being invaded, the population fled to the highest point of the city, to a colonial church on top of the Monte Serrat Hill; as the pirate troops were climbing the hill, a big landslide coincidentally happened and killed all the pirate invaders. By using AR technology, this notorious historical moment could be re-created in a ludic way. The visitors could play a multiplayer game with their smartphones: they needed to defend the city from the pirates while the population fled to the hill in a tower defense type of game. This shows that interesting and valuable results can occur when we mix game design with history and technology.



Fig. 7. *Panorama 1453*, Panorama 1453 History Museum, Istanbul, Turkey.

By using AR, the visitor is no longer a prisoner of time and can go back or forward in the events of a panorama painting as well, being able to even take action in it, by firing a cannon, for example (See Fig. 7). The public interaction possibilities in a panorama are many, to name just a few: imagine allowing the visitor to fire a cannon in the painting, search for hidden items, or click on information icons that will narrate the history with subtitles? Or incorporating sign language or audio descriptions for blind visitors? Or buttons that reveal curious facts about the making of the work, with commentary by the artists who made it and related images

or other media content? All of this information would be easily accessible due to the popularization of the smartphone: the chances that a visitor will have one are very high. AR further frees the museum from having to invest in custom made audio guide materials, providing/buying high cost equipment, or even hiring a lot of staff to attend to all visitors.

AR for Museums and Panoramas: The Complex Approach

The complex approach aims to explore a deeper potential of AR technology, incorporating advanced systems and providing a more robust experience. As I mentioned briefly about the use of AI in VR experiences in my presentation at last year's 26th International Panorama Conference, Artificial Intelligence will revolutionize our lifestyle, and it can be applied to Augmented Reality the same way that it can be applied to Virtual Reality, perhaps with even more possibilities, since it will be interacting with the real world instead of perceiving only the virtual world...

Imagine arriving at a museum with your smartphone or virtual glasses and seeing not only information about the museum and its artworks but also having a real-time virtual guide to interact and talk with you. This virtual guide is an AI, and it can be a text in your screen, a voice, or even a 3D avatar that interacts with you in the real space of the museum. This AI can guide you through the space or answer any questions you may ask about the place you are visiting, or even unrelated matters. It works like a virtual assistant and can behave just like a real person or creature.



Fig. 8. Halo: Combat Evolved, Microsoft Games Studio.

In 2001, the video game Halo: Combat Evolved, published by Microsoft Games Studio, had a good representation of what an AI could be in the future. In the game, you control a super-soldier with a high-end futuristic armor, and this AI, called Cortana, can be inserted in your helmet, making her your assistant during the game.

Cortana sometimes presents herself in the physical world in the form of a 3D Hologram avatar: this AI is totally sentient of its surroundings and interacts with the player with different representations of emotions and body language. Besides the huge success of the Halo videogame franchise, Cortana has indeed made her way to the real world: now she is Microsoft's AI system integrated in the Windows 10 operational system (See Fig. 9).



Fig. 9. Cortana, AI System integrated in Windows 10, Microsoft.

Although the AI still doesn't have a humanoid 3D Avatar representation, it works the same way. You don't need to be a futuristic space marine to ask her questions or get suggestions about different topics. But it may still take some time until those AI systems achieve the singularity point and become sentient like the videogame Cortana.

But while on the cusp of this technological breaking point, we can think of a more viable solution, particularly for panoramas and museums. By using the current AR technology and smartphones, we can create interactive avatars to tell the visitors the history of the panorama painting or guide them through the space, and this can be done with or without an AI system.

Pre-recorded animations and interactions can be setup to allow the visitor to have an immersive experience, within certain limitations. By using an AI system, like IBM's Watson, we expand the content and the way that the visitors can interact, making it possible to literally ask something of the AI.

So let's say that we make such a project for Istanbul's *Panorama 1453*: we could recreate in 3D a historical figure, or even our friend Salih Dogan, to guide the visitors through the painting and tell about the pictured events or even backstage curiosities, like the story about the pigeon flying to a painted tower, which proved the perfect match between the painting and reality. This gives a very unique approach to interacting with virtual worlds: instead of just touching buttons, you can actually interact with the simulation of a real person (dead or alive) (See Fig. 10). This might even change the way we deal with posthumous memoirs of historical figures or even our loved ones.



Fig. 10. A 3D avatar of Erkki Klami introducing the player to the proclamation of the Finnish Independence. A VR project made for the Finnish National Museum by ZOAN.

By combining forces with companies like IBM, which can provide a robust and versatile AI platform to use with any digital platform; Google, which can provide accessible mobile AR solutions; and even forensic artists like Atelier Daynes, who made various facial reconstructions based on skeletal remains for the Natural History Museum in New York City, we can bring back to life long dead figures, imagining how they may have looked like, to virtually anyone who has a smartphone, creating not only a 3D view or avatar, but in fact an animated AI with its own personality!

Concluding Remarks

These kinds of projects would bring any museum or panorama to a prominent position among historical institutions that are pursuing new attractions and trying to keep the younger generations interested in history and culture, also ensuring a longer life than other institutions that might be struggling to keep up with the technological revolution and the generation gap. By resorting to simple and achievable solutions, we can keep a lower, but fair, production price in comparison to other approaches, all the while offering a rich, durable, and unique content.

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Future Thought to Memory: Panorama Museums

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Abstract

Time capsules are fields, places and containers, which are waiting to be opened in the future to transmit some objects that representing a civilization. Time capsules have to be constructed on purpose and they have to be opened after waiting a long time, on a scheduled date. In 1980, there has been innovations in technology and digital systems came into use instead of analogue, mechanical and electronic systems. The areas of usage of computers, mobile phones, I-pads and internet has been increased, networking has become popular worldwide and technology has become affordable, minimized and easily accessible. The innovative technology products of 1980, fax machine, telex, overhead projector, slide machine, rotary phone, calculator, camera gave their places to new- generation touch-screen devices which are able to make choices for you. This rapid alteration has caused an increase in the number of time capsules, especially in America, since 1980. Time capsules have arised from the desire of humans and institutions for having quick progress, recording the alteration and sending them to the future. These capsules show us that future is unpredictable. Two main reasons that why time capsules are buried are reminding human's development process to human beings and keeping the intent of burring on the agenda. In this article, similarities between panorama museums and time capsules will be tried to be revealed through various examples.

Keywords

Time capsule, memory, Baltimore Time Capsule, Washington Monument Time Capsule in museum

Introduction

Time capsules can be buried by industrial firms, governments, factories, individuals or common citizens. Toothbrushes, women's hats, constitutions, factory documents, letters, new production cars, regards, wishes, the first or new modal products or new technologies can be buried into the time capsules.

Some objects are associated, but do not have the similar features with time capsules. For instance, in 2015 Brazilian businessman Thane Chiquinho Scarpa had his Bentley buried in the ground. He did this to draw attention to transplantation and support organ donation.

Another example of this topic is the story of Bahaddin Uysal, who is living in Vezirköprü, Samsun. He took his Ford Taunus out of the first floor of a building after 37 years. He was conserving it since he brought it to the district from Germany, where he was working as a worker,

in 1979. He left his car on the first floor of the building that was still under construction and surrounded it with a wall. He stated that he did not think of driving his car with 40,000 km mileage and added that he will carefully continue to keep it.

Examples of Time Capsules Around the World

1. The First known instance of time capsules (1795- 1855- 2014)
2. Baltimore Time Capsule (1815- 2015)
3. Washington Monument Time Capsule (1848- 2011)
4. A century-old Time Capsule (1914-1974-2015-2114)
5. New York World's Fair (1939- 6939)
6. Westinghouse Time Capsule (1964)
7. (America) Time Capsule (1957- 2957)
8. Plymouth Time Capsule (1957- 2007)
9. Nasa Space Capsule (1977)
10. Steve Jobs- Yahoo Time Capsule (1983- 2013)
11. New Generation Time Capsule with Tweets (2015- 2035)
12. Time Capsule in Museum (2001- 2073)

1- The First Known Instances of Time Capsules (1795- 1855- 2014)

During the reconstruction of White House, when Harry S. Truman was the president (1945- 1953), a little marble box was found under the entrance hall. It is subsequently understood that the box was buried in 1902 and there were Indian head pennies, some newspapers about one of the messages of Theodore Roosevelt to congress and a liquor bottle cap in it. The time capsule was buried again after a few newspapers were added.

It was prepared by Samuel Adams and Paul Revere, two of the founding fathers of the USA and buried in the field of Massachusetts State House with a ceremony. In 1855, the box was found by chance during the renovation of the building. The pieces in the lead box were taken and placed into a brass one. It was passed through X- Ray screening, delivered to the Museum of Fine Arts, Boston and after a few observations, in 2014 it was buried again in the ground.

There was the first pressed 4,5 kg weighing 1 schilling, 10 pennies and a local newspaper of Boston in the box.



Fig 1. Newspapers were among the contents of a 1795 time capsule displayed at the Museum of Fine Arts in Boston. The capsule had been placed under the cornerstone of the Massachusetts State House by then-Gov. Samuel Adams, Paul Revere and Col. William Scollay. (Getty Images)

(References: Carla Hall; Paul Revere's time capsule had a newspaper in it; would a time capsule today have a paper? Los Angeles Times, Jan 07,2015 (10,Sept.2018) <https://www.latimes.com/opinion/opinion-la/la-ol-paul-revere-time-capsule-newspaper-20150107-story.html/>

2- The Baltimore Time Capsule (1815-2015)

A 500 kg weighing hidden box had been found near the 200 years old Washington Monument, Baltimore. This concrete box was containing 3 bottles of jar, newsprints and historic coins. It is given to the Museum of Baltimore to be protected.



Fig 2. The Baltimore Time Capsule (1815-2015)

(References: Ron Cassie; 200-year-old Washington Monument Time Capsule Opened Hollow cornerstone reveals jars, newspapers, and coins, so far.february 18,2015 (10,Sept.2018) <https://www.baltimoremagazine.com/2015/2/18/200-year-old-washington-monument-time-capsule-opened>

3- The Time Capsule Buried Next To The Washington Monument Which Was Built In Memory Of George Washington (1848- 2011)

It is buried next to the world's highest obelisk which is the Washington city symbol. It was placed in a 12,5 tones weighing marble keystone. There was a copy of constitution of the USA, 75 historic newspapers, George Washington's portrait and statue, American flag and samples of money used at the time. The 193 memory stones from various regions of the world are placed in the inner walls of the box. Ziver Efendi's Ottoman Turkish couplet was also placed on the monument in 1854, as a representation of Ottoman Empire's amity.



Fig 3. Commemorative Plaque commissioned by Sultan Abdülmecid I, 1853, Washington Monument, Washington D.C. US National Parks Service.

(References: Zoe Griffith; American Obelisks and Ottoman Calligraphy, oct.25,2013; Brown University, (7,Sept.2018), <http://www.stambouline.com/2013/10/>

4- A Century-Old Time Capsule (1914-1974-2015-2114)

The time capsule that was prepared by the New York/ Wall Street Association was kept to be opened in 1974, but after the association was closed because of financial crisis, the box got lost. When the box was found in 2015, it was opened with a ceremony at the New York Historical Society Museum. 26 commercial letter, miscellaneous commercial documents, medallions, patents and books were found in it. This capsule is an important example that is representing the American culture and spirit of the time. It was buried with a New York Times newspaper and the good wishes telegraph of Martin Glynn's, who was the governor of New York state. When it was buried again in

2015, tickets of Lady Gaga concert, some documents about what people wear, eat and how they live were added into it.



Fig 4. A century-old Time Capsule (1914-1974-2015-2114)
(References: Jeremlah Budin; 1914 Time Capsule to Be Opened; 2614 Jackson Ave. Update, Oct. 1, 2014; (7, Sept. 2018), https://ny.curbed.com/2014/10/1/10040714/1914-time-capsule-to-be-opened-2614-jackson-ave-update

5- The Time Capsule that was Prepared for the New York World’s Fair (1939- 2439)

The time capsule which will be opened 5000 years later, was sent to the future with a slogan of “Dawn of a new Day”. The owner of the Westinghouse Electric Company, Mr. Westinghouse got some daily life objects like tin opener, pen, camera, glasses and dictionaries, insulated and buried at 17m under the ground.



Fig 5. The New York World’s Fair of Time Capsule Monument to the Westinghouse time capsules. (Credit: Gary Dunaier/Wikimedia Commons)
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6-II. Westinghouse Time Capsule (1964)

The Westinghouse Company got its second time capsule buried with a slogan of “Democles’s Sword”. Before the cold war, time capsules were called time bombs. It began to being called “time capsules” at the piece time. After it was buried, the necessity to record all time capsules on the world became an issue and for this purpose, International Time Capsule Society was founded.



Fig 6. II. Westinghouse Time Capsule
(References: Nicole Saraniero, 12 Time Capsules Discovered in NYC, 2, Jan 2018, (7, Sept. 2018), https://untappedcities.com/2018/02/01/12-time-capsules-discovered-in-nyc/

7-The Time Capsule in American Institute (1957- 2957)

A time capsule was discovered at the Massachusetts Institute of Technology with a remarkable note on it, saying ‘Do not open until 2957’. There is a photograph of the president of the institute James R. Killian Jr. and electrical engineer Prof. Harold Edgerton while they are burying the capsule. The glass jar was stuffed with Argon gas. There were synthetic penicillin and a kind of electronic item cryotron which is a superconductor material in the bottle.

Also, there is a note in the glass saying ‘What is waiting for the world in the next thousand years? Analogue, mechanical and electronic systems... What we are sure about is, you will have a higher comprehension of the universe and we will be contributed to this progress with this capsule. We wish you success after pursuing knowledge.

At least 8 time capsules are known as buried in the campus of the institute. It is also known that burying time

capsules is a tradition at Massachusetts Institute of Technology. The capsule is still exhibited at the museum of the institute.



Fig 7. The Time Capsule in American Institute/ James R. Killian (left) burying a time capsule with Harold Edgerton (right) in 1957. Image: Courtesy of MIT Museums
(References: Emika Jozuka; Nov 18,2015,MIT Staff Found a Time Capsule 942 Years Early; (11,Sept.2018), https://motherboard.vice.com/en_us/article/78kpvq/mit-staff-opened-a-time-capsule-942-years-too-early)

8- The Plymouth-Tulsa Time Capsule (1957/2007)

The American car company Plymouth got their first car buried in Oklahoma City, to be opened in the 50th anniversary of their foundation. The car, unearthed from the ground, is exhibited in so many states of America.



Fig 8. The Plymouth-Tulsa Time Capsule

(References: Matt Novak;12.9.2011, Think Inside the Box: What Time Capsules Reveal About Right Now,(11,Sept.2018), <https://paleofuture.gizmodo.com/think-inside-the-box-what-time-capsules-reveal-about-r-1669530230>)

9- The NASA Space Capsule That was Placed in The Voyager Spacecraft, Brass Plate/Record (1977)

It was made of gold plating copper. The plate box was aluminum and plated with Uranium- 238 isotope material which has a 4.51 billion year half- life. There were 115 images of wave, wind, thunder, animal sounds which were selected by the committee generated by the astronomer Carl Sagan. There were also voice message of wishes and greetings in 55 different languages, samples of ethnic music, recorded messages of the president Jimmy Carter and United Nations general secretary Kurt Waldheim in the plate.



Fig 9. The Nasa Space Capsule that was placed in the Voyager spacecraft, brass plate /record
(References: Elizabeth Landau; The Voyagers in Popular Culture1,Dec,2017.,(11,Sept.2018),https://voyager.jpl.nasa.gov/news/details.php?article_id=109)

10- Steve Job’s 30 Years Old Treasure – The Yahoo Time Capsule

The capsule was forgotten and after 30 years, it was found and unearthed by the well-known National Geographic team. When Jobs was 28, he and his friends buried their new invention “Lisa mouse” (Lisa is Jobs’s daughter), belongings, business cards, photos, a videotape and six pack of beer, as a reward to finder, inside the 4m long capsule.

11- New Generation Time Capsule with Tweets (2015-2035)

The Cité des Sciences et de l'Industrie archived the tweets sent for the Museum Week by using the hashtag #MuseumWeek with the intent of giving information to the new generations about the culture of 2015. It is exhibited until the time when it will be opened again, in 2035.



Fig 10. New Generation Time Capsule with Tweets
(References: Justine Ryst; #MuseumWeek 2015 kicks off around the world, 22 march 2015., (11, Sept. 2018), https://blog.twitter.com/official/en_us/a/2015/museumweek-2015-kicks-off-around-the-world.html)

12- The Time Capsule in Museum (2001-2073)

It will be opened at the 200th anniversary of the American national hero Joseph Brant Museum' s founding.

There are examples of time capsules also in Turkey.

1- PTT Head Office (2002-2023)

A campaign was organized on 23rd April- 29th October 2002 to send letters to 2023 for the 100th anniversary of our republic. The collected letters were sent to the storage of Valuable Papers Administer. It will be opened in 2023.

2- The Time Capsule That Is Going To Be Opened At The 40th Anniversary Of "Tema" Foundation

It was closed with the slogan of 'Move your hopes and life to the future'. It contains the messages about "the future Tema" came through Twitter to the foundation.

3- The Yenikapı Excavations Time Capsule (2000-2016)

It is known that 47 thousand sack of historical artifacts were unearthed in Yenikapı during excavations for Istanbul's Metro project. Some of the small pieces were buried accompanied by an expert with the changes and newspaper of that time, in an area without a building permit because of the reasons; there were too many of them, it would have taken many years to assess them, it was not possible to store them and there were not enough staff to do assessment.

4- The Time Capsule That Is Going To Be Opened At The 150th Anniversary Of Boğaziçi University (2014- 2063)

The rector Prof. Dr. Gülay Barbarosoğlu has sent the time bridge to the future with a slogan of 'to bridge over the corporate memory' to be opened at the 150th anniversary celebration of founding of Boğaziçi University, in 2063. There is a square academic cap which is put on at the graduation ceremony of Boğaziçi University, diploma samples, regulations of higher education, newspaper of that era in the time capsule.

It is seen that museums are not only for saving historical legacy, but also transfer knowledge about the past to the people in the future. Museums are our memory institutions that are connecting today's world to the past. They have to be pioneers in democratic and ethic field.

Since they are protecting the cultural heritage of humans, museums that are drawing attention to the mutual characteristics and regimes, are telling us about humanist ethics.

Consequently, time capsules are remind us of our limited time in the world.

We have faith in incremental increase in the number of museums that are drawing attention to the regimes, inventions, institutions, characteristics of humans.

Conclusion

Panorama museums are like time capsules that keep past historical values. The way in which the panorama museums and the time capsule transmit their data is similar. Both of them are very important for museum experiences. Both museum types showcase their stories, experiences and their work to be reinterpreted in the future. Panorama museums will enhance their museum experiences with different applications similar to time capsules to increase and diversify the mass of visitors in the future. In the new age of museology, panorama museums will have the purpose of bringing past into the future as time capsules.

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Mutlu Erbay has been working in Boğaziçi University as an academic staff of Department of Fine Arts since 1989. She has been Head of the Department of Fine Arts since 2010. She received her B.A. from Marmara University in Faculty of Education Art Education in 1989. She received her Master's degree in Boğaziçi University- History department with her thesis study on "The Investigation of Turkish Art Policy in the Republican Period " She completed her Doctorate in Faculty of Education of Marmara University with her study on "Investigation of Higher Level Art Education in International Grounds". She received her second doctorate from Istanbul Technical University, Architecture History, and Art History with the thesis study of "Preparation of Yıldız Palace for 21st Century and Its Analysis in Terms of Modern Museology". Between the years of 2000-2002 she gave the courses of Art and Art Policy, Art Marketing in Yeditepe University. She gives lectures on Painting, Applied Arts, Art and Architecture of History Capital and Art and Architecture of Ottoman in Boğaziçi University. She gives lectures on Museum Management, Presentation and Exhibition Techniques in Museums and Management of Cultural Heritage Areas in İstanbul University. She received the title of Associate Professorship in 1999.

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