URBAN PALIMPSEST
Re-placing memory in war torn city
Dresden
URBAN PALIMPSEST
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By Xinyi Sun
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Introduction

Urban landscapes can be envisaged as a palimpsest of historical layers, some of which have disappeared while others remain active in constituting contemporary identities.

Cities that have undergone great devastation over the centuries, are rebuilt from the fragments of their own past interspersed with layers of newness and fresh aspirations. Such cities of visibly thickened layers of time’s endless passing offer only the most fleeting clues to the lives and events that shaped their physically enveloping presence. Yet we gravitate toward these cities, wanting to understand more. We seek assurance that life endures. We seek evidence that the past and those who lived it mattered.

Humans have a long history of memorializing traumatic events and heroic deeds. The need to memorialize is part of what makes us human. Sites of memory, such as monuments, memorial spaces and historical museums tend to serve as repositories for artifacts and symbols that collectively acknowledge some great feat or struggle. They can become pivotal parts of a city as their symbolism and the emotional responses they may evoke can give a city a sense of meaning.

'Past Futures, Present, Futures'
Yet memory is tricky and one’s memory can be false, distorted or erased consciously or unconsciously from brain. Like history, some memories can be lost, while others might be retained and continue to influence the present.

This thesis explores memory as active construction. Construction and reconstruction are ongoing and as layered and nuanced as the history itself. Moreover, memory is both personal and collective. It is shared, appropriated, and reassigned depending on whose personal filter is determining value or elimination. The thesis uses the idea of palimpsest, a term suggesting the wearing away of a surface to expose previous realities and presences in a collage of focus, diffusion, collision and superimposition. By engaging the new media Augmented Reality (AR), the shield of the present and the individual can be dropped long enough to allow history and memory to accumulate, interact and be inserted into, and shared beyond, the single viewer and moment of physical encounter.

Thesis Question:

What are the contemporary ways of commemoration? How are they functional?

How do we go deep into the collective memory of a city and retrieve, restore it to the city?

Are there new ways to help improve the modern experience of commemorations?
CHAPTER 01:
URBAN PALIMPSEST
“palimpsest” originally described a medieval manuscript in which new text was written over previous text that had been erased. The word originates from the Greek “palin”+ “psaio” (“again I scrape”). What was peculiar about palimpsests was the fact that any layer didn't fully erase their predecessors, so one could always recognize the previous layers of the text written earlier (Mitin, 2010).

Pergamene (now known as parchment) was made of lamb, calf, or goat kid skin (best made in ancient Pergamon) and was expensive and not readily available, so in the interest of economy a pergamene often was re-used by scraping off the previous writing. In colloquial usage, the term palimpsest is also used in architecture, archaeology, and geomorphology to denote an object made or worked upon for one purpose and later reused for another, for example a monumental brass the reverse blank side of which has been re-engraved.

These specific features have made a palimpsest an important metaphor used in social sciences and the humanities to stress multiplicity of a text or phenomenon, to witness its layering and to single out some – by chance partly hidden – layers of reality.

The term ‘palimpsest’ as applied to manuscripts describes a condition where the original text was not completely destroyed or removed, but traces of ink were left behind. Before a new layer of text could be applied, the original text needed to be removed through a chemical process. This process included physically scarping the surface of the vellum (Dillon, 2005). New layers do not necessarily need to relate to previous layers. Over time, the previous layers of text would reappear due to the incomplete chemical process used to erase them (Dillon, 2005). This reappearance revealed the previous layer to create a palimpsest that was interoparated. The act of removing an existing layer and creating a new one can also be described as a superimposition or layering: this is a key concept in understanding what constitutes a palimpsest.

Cicero Palimpsest

Of all the world’s palimpsests, probably the most famous is that at the Vatican Library which recovered for us much of the Roman political philosopher Cicero’s work De republica (On the Commonwealth). https://macrotypography.blogspot.
A palimpsest as a metaphor for the genome and the population genetic processes that change it. (A) The Codex Nitriensis is a palimpsest. The lower, faded text is written in Greek and dates to the sixth century A.D., while the upper, bolder text is written in Syriac Aramaic and dates to several centuries later. (B) A genetic text in which the content and/or sense of the text is changed by mutation, chromosomal rearrangement and recombination. These events obscure or permanently alter the original text. Initially, an individual chromosome text is affected by a C-to-A point mutation, while another is affected by a chromosomal inversion of five nucleotides. (C) Comparison of the focal group’s sequence text to that of a closely related outgroup (population or species) can help with inference of the ancestral sequence text.
In Physical Geography, a palimpsest landscape is one where, in any given region, the different landforms that make up the landscape are not of the same age, with some surface landforms being very young because they are being shaped at the present time (such as gravel bars within today’s rivers), and other surface landforms being old because they were shaped under climatic conditions or by processes that are no longer present in that region (Bloom, 2002).

A useful way to conceptualize the development of a palimpsest landscape is to consider each successive episode of landscape change to be a different ‘layer’ laid as a blanket across the landscape’s surface (Bailey, 2007).

The ground level in our cities and landscapes is no superficial, two-dimensional given. It has a material depth, determined by the amalgam of its geological layers. It is subject to the natural dynamic in which land, water and wind affect one another. Human occupation and urbanization are accompanied by digging away or by leveling up sites, by pollution, by erosion etc. The ground level has a three-dimensional relief, [...] it has a physical and historical layeredness, an economic value and a cultural significance. (Palmboom 2010, p.44)

Through the history of urban landscape, successive layers of cultural development have made their marks on the land and are ultimately manifested in the morphology of the current city. I find the palimpsest concept used to describe and interpret the gradual over-writing of land use and built structure in the urban context. Depending on the focus, different types of information can be drawn from the landscape and its layers. The approach of Schein, with the palimpsest concept indicating simultaneous processes and social depth as a characteristic of the development of landscape, has more of an immediate relevance to landscape architecture. (Lovisa 2011, p.24)

By analyzing not only the physical conditions of a site, but also the social significance and different meaning it may have to the community, the prospects for sustainable projects with a strong local identity may increase.
Urban Palimpsest and Present Past

Layers of history are merged with traces of identity, nationhood and belonging that are written, re-written and erased in an on-going process of forming the city. In them the present mixes with traces of the past. Mitchell notes that as the “spectacle” changes, social memories connected to monuments and hence the built environment are transformed (2003). Reading the built environment as a palimpsest does not transform its existing buildings and spaces into merely a form of writing, nor does it deny place from its materialities. In addition, this metaphor entails that certain parts of the present merge and blend with parts and layers of those of the past, making it “impossible for the constituent elements of a place-memory to sustain a constant equilibrium or frequency of resonance in time” (Bloomer, 1987, p. 30). This is crucial as suggested by Huyssen, who describes as “palimpsests of history, incarnations of time into stone, sites of memory extending both into time and space” (2003, p. 101). In his study of the politics of memory in the city, Huyssen situates spatial, political and literary debates over the trope of the palimpsest. He states that “it is rather the conviction that literary techniques of reading historically, intertextually, constructively and deconstructively at the same time can be woven into our understanding of urban spaces as lived spaces that shape collective existing, and often contradicting narratives to the city’s past, present and envisioned future. Urban environments remain the main “arena” in which social and political groups enunciate their past and present. This concept is evident in Dwyer’s study of memorial landscapes. In his article “Interpreting the Civil Rights Movement: Place, memory, and Conflict” he envisions built environments and cities as “materialized discourses... that embed and conduct meaning through their representation of social identities and their politics – memorial landscapes are shaped by and in turn influence the society that produces them” (2000, p. 661).

As such, endeavours to bolster and conserve collective memory will inevitably involve interventions in public spaces and the built environment.

‘Re-placing’ Memory

As the creation of urban spaces is an essentially a collective enterprise, one may be able to compare it to the equally collective nature of remembering. It is thus possible that such understandings of the collectivities of our practices and our memories may
spark novel understandings of the productions of space, place, and time. The previous section outlined how planning (like memory) is deeply rooted in the spatial constructs of the city, this is reflected in the political and social compromises its processes shape. As such, another dimension in the existing debate about space, place and planning presents them as mechanisms that can honour sites of memory and commemoration.

The intractable link between social space and collective memory conjoins to construct much of the base for modern identities, and in turn the dissolution and contestation of those identities. On this topic Huyssen writes: “If in the early twentieth century, modern societies tried to define their modernity and to secure their cohesiveness by way of imagining the future, it now seems that the major required task of any society today is to take responsibility for its past” (Huyssen, 2003, p. 94).

In this respect, the notion of war-torn cities as urban palimpsests emerges again, in which many traces of history are erased while others remain and affect the present. This deepens the metaphor of these conflict-ridden cities as a text in a on-going dialogue about the forms and connotations of identity, belonging and nationhood.

Memories can be layered onto another can accumulate and change over time even if they are intangible and not represented by physical remains. Furthermore, the ensuing reconstruction in war-torn cities occurs both in the physical landscape and in the imagined and imaginary landscapes of minds and memories (Maya, 2013).

Tribute in Light
Tribute in Light is a commemorative public art installation first presented six months after 9/11 and then every year thereafter, from dusk to dawn, on the night of September 11. It has become an iconic symbol that both honors those killed and celebrates the unbreakable spirit of New York.

2001-2003 The Museum of Modern Art
Artist Michael Wesely took a 34 months lasted record— from August 2001 to June 2004. The time-lapse takes the old museum building and its reconstructed version as an urban palimpsest.
“Palimpsest”

The Palimpsest uses 3D scanning and virtual reality to record urban spaces and the communities that live in them.

Takashi Torisu, Haavard Tveito and John Russell Beaumont
On September 27, 2016
Interactive Architecture Lab, UCL
In 1998, researchers discovered that mathematical proofs by Archimedes had been overwritten with biblical texts by monks in the 13th century. Documents such as this, with previous erasures still visible beneath the primary text, are known as palimpsests. Architecture can also be a palimpsest: as cities and buildings are modified and re-purposed, traces of their previous lives remain visible.

Here they imagine what an urban palimpsest can be in the digital age. Using 3D scanning and virtual reality, the project records personal stories and local histories, layering them over the city at a 1:1 scale. The first initiative, The Camden Palimpsest, uses the UK High Speed Rail 2 project as a case study. It highlights stories of Camden residents – some of whom will lose their homes and workplaces – and explores how their lives will be transformed. Virtual Palimpsests aim to create more inclusive planning practices, using emerging technology to directly connect communities, governments, and developers in conversation. They also become historical documents, digitally recording spaces and stories that might otherwise be lost.

Palimpsest
The Palimpsest uses 3D scanning and virtual reality to record urban spaces and the communities. http://www.interactivearchitecture.org/lab-projects/palimpsest
The Camden Palimpsest, uses the UK High Speed Rail 2 project as a case study. It highlights stories of Camden residents – some of whom will lose their homes and workplaces – and explores how their lives will be transformed.

Immersive Technology
In particular, The team utilize virtual reality (VR), augmented reality (AR), binaural sound, and real-time 3D scanning. Their emphasis on accessibility leads them to prioritize low-tech applications of these tools, such as Google Cardboard.

Palimpsest
The Camden Palimpsest, uses the UK High Speed Rail 2 project as a case study. It highlights stories of Camden residents – some of whom will lose their homes and workplaces – and explores how their lives will be transformed.
Belgian artist Naziha Mestaoui

“One Beat One Tree” displays a world of innovation and technology, and its ability to simulate the spectacle of life as well as growth, in an interactive and heartfelt simulation.

Belgian artist Naziha Mestaoui
Plant A Virtual Tree That Grows To The Rhythm Of Your Heartbeat

(Information from Priscilla. https://www.huffpost.com/entry/one-beat-one-tree_n_5512285)

In the real world, watching a tree grow would take years. But thanks to Belgian artist Naziha Mestaoui, you can watch virtual trees grow and blossom before your eyes. Did we mention the immaterial foliage will bloom to the rhythm of your own heartbeat?

The stunning virtual project, “One Beat One Tree,” projects virtual forests onto city spaces, blending the boundaries between nature and technology, the real and the imagined.

A heartbeat sensor is connected to each viewer through his or her smartphone, thus allowing each seed of virtual greenery to blossom to a personalized beat. To further increase the fluidity between visible and invisible, the digital trees are later physically planted in regions throughout the world, from Europe and Latin America to Africa and Asia.

Mestaoui was inspired to embark on the project after working for more than 14 years in the Amazon, she explained to The Huffington Post. The tribes instilled in her the idea that the future we are heading towards is becoming more and more immaterial. For these ancestral societies, daily reality was constantly shifting between the visible and invisible. “One of the first [things] that amazed me was the relationship they have to nature,” she said. “For them a tree is not wood and carbon compensation, it’s a spirit, another living being with its own intelligence. They can connect to this intelligence, and exchange information with it, learn from it.”

Thus, “One Beat One Tree” was born, endowing viewers with the power to create life and influence nature in both physical and virtual space. “I wanted to create an art piece using technologies to connect us to this immaterial value of nature... If we want technologies to reconnect us to nature, we just need to create it.”

Since its inception two years ago, the project has already sparked the growth of 13,000 trees. At the 21st Climate Conference in Paris, taking place December 2015, Mestaoui will project her virtual forests onto classic city monuments, turning the historic city of Paris into a digital landscape. See a glimpse of the immaterial magic to come below.

Art installation creates a forest of light in 3D while inviting the public to plant a seed of light. Mestaoui, a Belgo-Tunisian artist who lives and works in Paris, says “Having long been the city of light, symbol of industrial modernity and progress, Paris illuminates to embody the post-ecological modernity.”
Portrait of The King
An Interactive augmented reality installation produced for permanent exhibition in the Memorial Room of the House of King Peter I in Belgrade, Serbia.

Concept: Jana Rodic, Marko Todorovic
Production: LiveViewStudio
“Portrait of The King” is an interactive augmented reality installation produced for permanent exhibition in the Memorial Room of the House of King Peter I in Belgrade, Serbia. The Memorial Room is part of a newly established cultural centre situated in a 19th century villa in which King Peter I Karadjordjevic lived after WWI.

King Peter I of Serbia reigned from 1904 to 1918. While he spent most of his life in exile as a result of dynastic disputes, during his short reign “Serbia and its king experienced all the glory and ordeals of history”. King Peter I was immensely popular throughout his reign and remains one of the Western Balkans most popular leaders.

The house where he lived was declared a museum dedicated to his life almost a century ago, but its turbulent history has rendered most of the artefacts destroyed or lost. Augmented reality was chosen to address the limitations brought by the inability to adequately display the remaining historical artefacts, but also to reflect, on the conceptual level, the ascetic lifestyle of King Peter.

The Interactive installation is based on a large-scale mosaic comprising several hundred photographs gathered from various national institutions and numerous private collections. The photographs portraying the King throughout his life, his family, his friends, his army, but also other important contemporaries that represent Serbia and the time in which he lived. Images are designed and positioned to build a large scale mosaic, forming a historical portrait of King Peter I of Serbia.

Through Augmented Reality the portrait doubles as a platform for additional multimedia elements offering overlayed realities and new interpretative content as part of the experience.

When viewed through Junaio-powered iPad, various parts of the portrait are triggering new layered images and stories highlighting different aspects of the King’s life.

By using iPad or iPhone/Android smartphones visitors can also see one of the first ever motion picture portrayals of Serbia (the crowning of King Peter) from 1904 in AR view, as well as a digital replica of the original crown.

As new photographs and documents of the King’s life are found they will be built into the portrait, forming new “markers” and as a result triggering new historical narratives within a new spatial realm.

A contemporary approach in exhibition design offers an innovative museum experience, while the interactivity of exhibition introduced by AR engages visitors in an authentic way enabling them to become actively involved.
History and Origin of Dresden
The History of Dresden

Dresden is the capital city of the German state of Saxony and its second most populous city. It has a long history as the capital and royal residence for the Electors and Kings of Saxony, who for centuries furnished the city with cultural and artistic splendor, and was once by personal union the family seat of Polish monarchs. The city was known as the Jewel Box, because of its baroque and rococo city centre. The controversial American and British bombing of Dresden in World War II towards the end of the war killed approximately 25,000 people, many of whom were civilians, and destroyed the entire city centre. After the war restoration work has helped to reconstruct parts of the historic inner city, including the Katholische Hofkirche, the Zwinger and the Semper Opera. The city is also one of the most visited in Germany with 4.3 million overnight stays per year. Its most prominent building is the Frauenkirche located at the Neumarkt. Built in the 18th century, the church was destroyed during World War II. The remaining ruins were left for 50 years as a war memorial, before being rebuilt between 1994 and 2005. Dresden remains a major cultural centre of historical memory, owing to the city’s destruction in World War II. Each year on 13 February, the anniversary of the British and American fire-bombing raid that destroyed most of the city, tens of thousands of demonstrators gather to commemorate the event. Since reunification, the ceremony has taken on a more neutral and pacifist tone (after being used more politically during the Cold War). Beginning in 1999, right-wing Neo-Nazi white nationalist groups have
organised demonstrations in Dresden that have been among the largest of their type in the post-war history of Germany. Each year around the anniversary of the city’s destruction, people convene in the memory of those who died in the fire-bombing. (Information from Wikipedia: https://en.wikipedia.org/wiki/Dresden).

The Air Bombing of Dresden

In the last months of World War II, Allied bombers from the British Royal Air Force and the United States Army Air Force conducted several major bombing raids on the eastern German city of Dresden. Beginning on the night of February 13, 1945, more than 1,200 heavy bombers dropped nearly 4,000 tons of high-explosive and incendiary bombs on the city in four successive raids. An estimated 25,000 people were killed in the bombings and the firestorm that raged afterward. More than 75,000 dwellings were destroyed, along with unique monuments of Baroque architecture in the historic city center. (Wikipedia)

The scale of the death and destruction, coming so late in the war, along with significant questions about the legitimacy of the targets destroyed have led to years of debate about whether the attack was justified, or whether it should be labeled a war crime.
Timeline of Dresden
Juxtaposed Memory

**JEWISH MEMORY**

**LOCAL MEMORY**

**WARS AND BATTLES**

**INDUSTRY**

**ARCHITECTURE**

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**1720**
King Augustus I's reign marked the beginning of Dresden's emergence as a leading European city for technology and art.

**1730**
Seven Years' War (1756–1763) failed Prussian siege in 1750.

**1760**
Napoleonic Wars
Win the Battle of Dresden on 27 August 1813

**1810**
Dresden was a capital of the German Revolutions in 1848–1849

**1860**
Between 1806 and 1918 the city was the capital of the Kingdom of Saxony

**1918**
Between 1918 and 1934, Dresden was capital of the first Free State of Saxony

**1940**
The bombing of Dresden

**1990**
Dresden was a major industrial centre in the German Democratic Republic

**2000**
Dresden's 800th anniversary

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*“Battle of Dresden”*
The Largest Holocaust Memorial in Dresden

Gunter Demnig has laid down over 60,000 brass-plated stumbling stones in 22 countries so that the victims of the Holocaust are never forgotten. His work focuses on all Jewish victims of the Holocaust. Demnig travels with a hammer drill, a chisel and a trowel to remove existing cobblestones, which he replaces with his stones containing a brass-plated inscription.

For his indefatigable commitment to ensure that people “stumble” upon history — and thus never forget — the artist has received numerous awards. “The stolpersteine are the opposite of repression. They are at our feet, right in front of our eyes, forcing us to look down.

Exhibition: Between Life and Death

The Holocaust claimed the lives of almost six million European Jews. Some of the survivors owe their rescue to people who were at high risk to help them. This was a life-threatening undertaking for both the rescuers and the persecuted. The aid took many forms, each depending on the conditions of war and occupation in the individual regions of Europe, awareness of the fate of the Jews in the population and other individual factors. The exhibition “Between Life and Death” shows rescue stories from Germany. They want to give both rescuers and survivors a voice and show through this parallel narrative how different human relationships are in extreme conditions. The stories of rescuers and survivors show their efforts, their courage and their will to live. The exhibition had its premiere on January 27, 2018.

(Information from: https://www.cj-dresden.de/events/between-life-and-death/)

Exhibition “Between Life and Death”
An exhibition by the Jewish Community of Dresden in cooperation with the European Network Remembrance and Solidarity
Mapping of Memorials

Typology of Memorials in Dresden

- Frauenkirche Dresden, church Syrian war memorial
- Denkmal der Roten Armee
- Gedenkstätte für Julius Fučík
- Heidefriedhof Cemetery
- Museum of Military History
- Gedenkstein Jorge Gomondai
- Spittellersee Memorial Park
- Soviet Memorial Dresden
Traditional Ways of Commemoration
Dresden
Year 1880-2010

Syrian War Memorial

- To connect the terrible suffering of the war in Syria to Dresden, to connect the commemoration of the victims of the past with those of the present.

- Type: Monumental Installation
- Scale: 40 feet long
- Artist: Manaf Halbouni
- Year: 2015
- Location: Frauenkirche church

Soviet Memorial

- This building was used by the Nazis as prison, court and execution place. More than 1300 people were executed in this period.

- Type: Monumental Statue
- Scale: 40 feet long
- Artist: Arnd Wittig
- Year: 1960
- Location: Memorial Münchner Platz

Memorial Wall

- Memorial wall at Heidefriedhofs Cemetery for those killed in the allied air raids on Dresden between 13th-15th February 1945.

- Type: Monumental Wall
- Scale: 40 feet long
- Artist: Manaf Halbouni
- Year: 2015
- Location: Heidefriedhofs Cemetery

Julius Fucík Monument

- A large, multi-part memorial was created for the Czech writer and anti-fascist Julius Fucík, who was murdered by the Gestapo in 1943.

- Type: Monument
- Scale: Six meters high
- Artist: Němeček, Zdeněk
- Year: 1973
- Location: Schönholzer Heide public park

Monument to King Johann of Saxony

- At the center of the Theaterplatz stands a large equestrian statue of king Johann (John), who ruled Saxony from 1854 until 1873.

- Type: Metal Statue
- Scale: 40 feet high
- Artist: Johannes Schilling
- Year: 1889
- Location: Theaterplatz, Dresden

Military History Museum

- The museum seeks to inform visitors about the military history while encouraging them to ask questions and seek new answers.

- Type: Museum
- Scale: 14,000 square meters
- Artist: Matthias Rogg
- Year: 2011
- Location: Dresden
Contemporary Ways of Commemoration
Worldwide
Year 1980-2010

A Flor de Piel II

In the process of making the work Salcedo performs an act of remembrance for the forgotten victims. Rose petals blurring the lines between what is permanent and ephemeral.

Type: Installation, hundreds of rose petals
Scale: 372.9 x 233.8 cm
Artist: Doris Salcedo
Year: 2011

Vietnam Veterans Memorial

The mirror-like wall is reflective and contemplative in character. The surface reflects the images of the surroundings and the mourner themselves, evoks their deepest memories. The Memorial’s walls point to the Washington Monument and Lincoln Memorial, bringing the Memorial into the historical context.

Type: National memorial park
Scale: 75.21m long, 3.1m high
Artist: Maya Lin
Year: 1980

“Noviembre 6 y 7, 2002.”

The installation explores the ethical dimensions of a Monument. These chairs marking the absence of each person at the approximate time that each person or group of people had died.

Type: Installation
Scale: 280 wooden chairs
Artist: Doris Salcedo
Year: 2011

Memorial to the Murdered Jews of Europe

The scale and amount of concrete slabs is tremendous. Which symbolizes the death in the holocaust. The play of imagination that the memorial provokes is piously generic but profound.

Type: Concrete slabs arranged in a grid pattern on a sloping field.
Scale: 200,000 sq ft site
Artist: Peter Eisenman
Year: 2005

Crack of Burri

80 m² of white concrete and detritus covers the ruins and recounts the tale of a city wiped from the world’s maps. Remembering but also hiding the tragic event under concrete, represents a return to life through art.

Type: landscape artwork, monumental large blocks of white concrete
Scale: 10 to 20 meters on each side, 1.60 meters tall
Artist: Alberto Burri
Year: 1984-2015

Tribute in Light

The light triggers a whole host of feelings and memories, and the things you aspire to that are without conflict and without aggravation. It’s symbolic of survival and carrying on.

Type: Installation, Light beams
Scale: Two 48-foot squares
Artist: Several
Year: 2002
Commemoration Typology and Sensory Stimuli

Interactions of memorials and users are based primarily on looking at a fixed point. Very little interaction, however, is based on moving and other senses.

Functionality and Drawbacks of Traditional Memorials

Since the horrors of World War II memorial architecture has changed drastically, from monuments focusing on names, heroes, and patriotism to abstract symbols of mourning and loss. How will this shift in the design of memorials change the way we experience them in the present? When generations pass away and the memorialized event becomes almost forgotten, how will we experience and remember? (Shen, 2019)

The memorial is unique in that it is one of the few types of architecture whose fundamental function is not shelter but rather to feel and to remember. (Shen, 2019) Humans have always needed something permanent and tangible to make sense of loss, to create a physical connection of stone and mortar between memory and the present. Memorial offers a space where one can remember, mourn and try to make sense of intangible emotion.

In many ways, the function of the memorial is to both soothe the pain of the present and to convince the world that the pain was not in vain, that it will live on somehow in collective memory and be passed on through generations and time.

Pre-WWII memorials are often freestanding monuments, with war scenes of elaborately sculpted heroism and names etched into stone. They are still places primarily for the victims and survivors, with other regular visitors being those whose past family members were involved as they seek a place to understand their own relevant history. (Shen, 2019)

The shift towards the abstract in memorial architecture changes these projects from spaces that memorialize a single event to spaces that begin to encapsulate an entire idea or emotion.

To date, interaction of memorial and users is based primarily on sight and on touch. Very little interaction, however, is based on hear and smell, senses considered very difficult to manage but necessary to use for creating more pleasant and effective experiences. Yet, olfactory and auditory stimuli can make the interaction between users and objects more engaging and effective on sub-conscious levels and long-term memory. (Joel S. 2012) This can be particular relevant for future memorials, which are subjected to important changes in the way they use to involve visitors in their exhibitions.
“To understand a country’s memories is to grasp something essential about their national identity and outlook. Of course, countries do not have memories; it is the people in the country who retain the memories, but often there are common themes.”

—Henry L. Roediger, III
A Survivors Story

Everything was in flames, even the roads, which were burning rivers of bubbling and hissing tar. Huge fragments of material flew through the air, sucked into the vortex. We could see people being torn from whatever they were hanging on to and drawn into the ever-deepening red glow less than 200 yards away.
In a Child’s Eye

When wandered the streets of Dresden, I saw a dead body for the first time in my life. Renner remembers the streets still being littered with bodies a week after the attack and coming across the corpse of a woman in a square.

“She was burned to a cinder, had become very small, but her hand was held up and on it was her gold wedding band, shining, not blackened at all,” said the 82-year-old retired architecture professor. “I will never forget this scene.”
City Rebuilder and Volunteers

In 1946, I was a textile worker before WW2... after the mill got bombed we volunteers spent every weekend clearing rubble.

Women pass bricks at top of the Martin Luther Church ruined building.
New Citizen vs Forced Labor

Year 2016: This weekend, my parents took me to a tour of the inner city of Dresden, locations are sought that remind of Jewish life in Dresden up to the first half of the last century, for example through “memorial signs” or stumbling blocks. This shows how diverse Jewish life was in our city before it was restricted and finally almost wiped out in the National Socialist era.

During the lunch time reading, I was shocked to hear the story of Victor Klemperer, who had been forced out of his work as a University professor because he was a Jew in 1930s. His wife, a none Jew, was permitted to eat in public restaurants while he had to survive on their meagre rations.

I don’t understand, why our life changed so dramatically within the last century? I can’t imagine what kind of suffering people have experienced in the past!
**Culture and Public Life**

It was so glad to witness the re-open ceremony of Sempor Opera House in 1985. Every evening, one of the most beautiful opera houses in the world awaits Dresdeners and visitors from near and far. The opening performance is Carl Maria von Weber’s «Der Freischütz». 
Memory, Collective memory and Memorials

Memory means “the process of retaining things experienced or learned” or refers to something, or all the things, so retained. Something that is significant enough in some way that it can easily be recalled is memorable, while the quality or state of being easily recalled or worth recalling is memorability. Memory is an inherently fragmented, collected and individual character. While Collective memory refers to the shared pool of memories, knowledge and information of a social group that is significantly associated with the group’s identity. Collective memory can be constructed, shared, and passed on by large and small social groups.” In many circumstances in society, remembering is a social event” (Roediger, Bergman, & Meade, 2000, p. 129)

The Chinese remember the century of humiliation, while Americans remember 9/11 and subsequent events, and the people of many nations remember the era of World War II. Collective memories may occur at more local levels, too. Families may remember their history or a particular salient event. Each of us has some sort of collective memory for any important social group to which we belong.

Sharable, transitive, constructive are the nature of Collective memory, but how do we express individual’s memory to others and make it collective? Like the Dumbledore’s Pensieve in Harry Potter. The Pensieve is enchanted to recreate memories so that they become reliable, taking every detail stores in the subconscious and recreating it faithfully, so that either the owner or a second party, is able to enter the memories and move around within them. Augmented Reality here, is the reality version of ‘Pensieve’. It retrieves memories, replaces them to the place and link the fragments together. Memorial is, like memorable, an adjective pertaining to the act of recall; the word is also a noun referring to a sculpture or statue or a park that honoring the past, or a ceremony or a speech recalling a memory. For common senses, it is mostly architectural, which means it is static, solid, powerful and sacred. But for my thesis, I want to explore more about Landscape-type Memorial. The AR memorialization could be better than physical for it keep involving, the memorial just activated by movement, and it is all about experience. The architectural leaves too much blank on our memory and they are still isolated, however, the AR memorial visualize the memories and involves with the individuals.
Collective Memory in 1945
Collective Memory in the recent
CHAPTER 05: WHY AUGMENTED REALITY
Human field of vision is approximately 180° horizontal, but our ability to perceive symbols is limited to the center 60°. To help us keep track of what our users can see, it’s helpful to set up a few guides in our layout template that express these values.

**Enhanced Field of Vision**

- **Upper Visual Field**
  - Limit of Visual Field
  - Normal Line of Sight
  - Upper Head Field

- **Horizontal Line**
  - Maximum Eye Rotation
  - Horizontal Line

- **Lower Visual Field**
  - Limit of Visual Field
  - Dorsal Field

Why Introducing AR?

“From the moment we started to create architecture, to put objects in the world, to make art, to carve tools, we’ve been augmenting reality.”

— Jason Silva

As neuroscience tells us, each of our realities is expressed to us based on our perception. (Gifford, 2007) Objective reality doesn’t exist. We see the world based on our linguistic operating system that is language and cultural reality tunnel. Music can change how we process a scene, a moment can seem truthful, or dishonest, depending on the tone, depending on whether it’s cloudy or sunny, and depending on your location as well.

Perception can be manipulated, which is what reality is tightly coupled to. Augmented reality will allow us to put a technological skin over our biological perceptual apparatus. Augmented reality is altering the way people consume content, whether they are learning about geography in a classroom, playing a video game, or building new products and parts.

There is a fundamental disconnect between the wealth of digital data available to us and the physical world in which we apply it. While reality is three-dimensional, the rich data we now have to inform our decisions and actions remains trapped on two-dimensional pages and screens. Augmented reality helps gather, filter and concentrate those information and displays to one. (Michael, 2017)

Environmental Perception and Spatial Cognition

Cognition is affected by the level of stimulation we receive from the environment in comparison to the level of stimulation to which we are accustomed. Low levels of stimulation can reduce or enhance cognitive abilities. (Gifford, 2007)

The most ambitious attempt to link spatial cognition and the brain has been that of John O’Keefe and Lynn Nadel. They proposed that the hippocampus, a seahorse-shaped part of limbic system in the central core of the brain, is the home of the cognitive map. The hippocampus plays important roles in the consolidation of information from short-term memory to long-term memory, and in spatial memory that enables navigation. (Gifford, 2007)
Human Information Processing Model
Example of a Simplified Human Information Processing Model used by the FAA (http://www.hf.faa.gov/webtraining/Cognition/Information/info_process1.htm)

First Augmented Reality Device
1968: Ivan Sutherland, a Harvard professor and computer scientist, created the first head-mounted display called “The Sword of Damocles.”
1962: Morton Heilig’s Sensorama
What is Augmented Reality?

The Merriam-Webster dictionary defines AR as an enhanced version of reality created by using technology to overlay digital information onto live camera feed. In simpler terms, AR allows digital content to look like it is part of the physical world. This differs from Virtual Reality (VR) which transports users into a completely digital world.

Augmented reality (AR) technology was invented in 1968, with Ivan Sutherland’s development of the first head-mounted display system. However, the term ‘augmented reality’ wasn’t coined until 1990 by Boeing researcher Tim Caudell.

Augmented reality (AR) adds digital elements onto a smartphone camera, creating an illusion that holographic content is a part of the physical world around you. In contrast with Virtual Reality (VR), you are not immersed in the whole artificial environment. AR alters the surroundings a bit by adding 3D objects, sounds, videos, graphics to it. AR can be applied differently, so you can use it for making your face look like a cute kitten or find directions in shopping malls. Augmented reality allows you to virtually try on glasses or see how home appliances will look on your table. Such apps must differentiate between the physical and digital world to place virtual objects onto the right area. This is possible using computer vision algorithms that provide mobile apps with a high-level understanding of digital images or videos.

Globalization and the latest developments have made this AR accessible for the ordinary user. The applications for AR in the marketing world is aplenty. Imagine a world where pointing your camera at a brick and mortar restaurant shows you the reviews of the food there. Or giving people special discount codes when they use their AR lenses to look at your shop. Not only is this a more interactive means of engaging your customers, it is also a faster method (compared to Google search) of finding information specific to you.

Information from: The UX of AR: Toward a Human-Centered Definition of Augmented Reality https://uxpamagazine.org/the-ux-of-ar/
Urban Palimpsest - the Superposition of Place and Memory

Urban Palimpsest as a metaphor is that by engaging Augmented reality, the limitation of time could be broken. The application of AR brings the story and memory from the past and overlays to the present. It is an superposition of place and memory.
Site Analysis
Historical Center & Transportation Hub

- Semperoper Dresden
- Katholische Hofkirche
- Fürstenzug
- Zwinger Museum
- Palace of Culture
- Shopping Mall
- Frauenkirche Dresden
- Friedrich August II König Von Sachsen
- Tourist information Center
- Academy of Fine Arts

Route 1:
- Historic Town

Route 2:
- Pedestrian Way

Augustus Bridge
Dresden Tramway Network
Proposal: AR Navigation Itinerary

The history of old town Dresden can trace back to 12th century. Despite historical centre being devastated in the Second World War, the Altstadt (Old Town) has kept or regained its attractive buildings. I propose a navigation experience through the old town that links the individual memory. By the way of walking through each places, each story being tied together.
Places of Memory On Site
Historical Buildings in Old Town Dresden

Semperoper Dresden
The history of opera in Dresden goes back to 1667. After Gottfried Semper’s first theatre from 1841 burned down in 1869, the opera was opened in its present design in 1878. This building was destroyed by the air raids of 1945, until the reconstructed Semperoper was officially opened in 1985.

Katholische Hofkirche
The Hofkirche was designed by architect Gaetano Chiaveri from 1738 to 1751. The church was commissioned by Augustus III, Elector of Saxony and King of Poland while the Protestant city of Dresden built the Frauenkirche (Church of Our Lady) between 1726 and 1743.

Dresden Frauenkirche
The Dresden Frauenkirche is a Lutheran church in Dresden, the capital of the German state of Saxony. An earlier church building was Catholic until it became Protestant during the Reformation. The old church was replaced in the 18th century by a larger Baroque Lutheran building.

Fürstenzug
In the Middle Ages, knightly games and riding tournaments took place in the stable yard. The Fürstenzug is located on the outside of the stable yard at the Schlossplatz. The 101-meter-long mural depicts the history of the Saxon ruling family of the Wettin family as a larger-than-life rider train.

Statue of King Johann
Johann was a King of Saxony and a member of the House of Wettin. He was born in Dresden, the third son of Maximilian, Hereditary Prince of Saxony.

Chairs
Way of relaxation, communication.
Re-placing Memory

The urban landscapes can be envisaged as a palimpsest of historical layers, and memory layers. In this respect, the war-torn city like Dresden, in which many traces of history are erased while others remain and affect the present. The reconstruction in Dresden occurs both in the physical landscape and in the imaginary landscapes of minds and memories. Which also brought more layers of memory to the city. Re-placing memory is an important action to help retrieve the history, recalling the story and heal the wounds.
How to Express Individual’s Memory to Others and Make It Collective?

The Flow of Re-placing Memory
People bring their own individual memory to the site, moving thru each places with the AR, in the process of moving and viewing, it also recording what the user see, how the others behaved. and after itinerary, by continually sharing the AR goggle and recording, which make the memory thicker and thicker, continue evolving.

Collective Memories
Showing the past and placing it to the present, and recording the present and deliver the message to the future.
Spatial Strategy
AR Application to Spaces

1 Central Plaza
A semi-open gathering place. Concentrates local commercial and tourists. Hologram photography over each corner provides immersive experience.

2 Reimagination Wall
Memory of 17th Century showing the origin of the old town city. Replacing the former glory to the 100 meter long wall.

3 Forested Walk
A walk showing the history of city reconstruction after the bombing of Dresden.
4 Memory Theater
Indoor experience of witnessing the destruction and reconstruction of Semper opera house.

5 Augmented Nature
Hologram videos in between trees, creates a mixture reality of nature and city, past and present.

6 Reflection Pool
Mirror-like reflection pool. A place for gathering, sharing memory and story-telling.
After the itinerary, the reflection pool provides an urban gathering place for tourists to share their experience, to talk about their memory, to reflect and digest the thickness of history...
In the Moment 2, knightly games and riding tournaments took place in the stable yard, which belongs to the large complex of building and gardens.

The Fürstenzug, a facade painting of the stable yard at the Zwinger, a 101-meter-long mural depicts the history of the Saxon ruling family of the Wettin family as a larger-than-life fresco.
In the Middle Ages, knightly games and riding tournaments took place inside the stable yard of Fürstenzug. The 101-meter-long mural depicts the history of the Saxon ruling family of the Wettin family as a larger-than-life rider train.
Reflection:

The unique of this thesis is that nothing is static, the AR memorial is activated by movement, and it is all about experience. The traditional memorials leaves too much blank on the understanding of the place, the memory are still isolated. However, the AR memorial visualizes the memories, challenges the limitation of time and space, therefore keeps involving and tying the individuals.

There are still some open ended questions I need to think about in my thesis. For the operational aspect, Who will be responsible for designing the original stories in AR? Is he a landscape designer or a game designer? How does the whole system work? For the technical aspect, How to convert an image or video to an environment where you can immerse yourself?

With these questions in mind, my thesis will always affect me in my future career.
Bibliography


