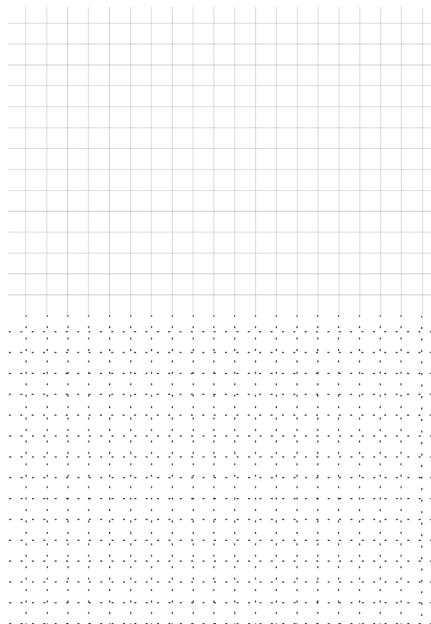


FROM A TO (A)

Historical preservation concerning radical climate emergency

Gemilia Bao Ngoc Lam

RESERVATION ALTERNATIVE



From A to (A)

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Preface .

FROM A TO (A)

A is an original which goes through the process of restoration and conservation. A will be A* in the restoration theory or be A/Z under contemporary conservation theory of respectful distinction between old A and the new Z intervention. “(A) to A” is the transformation under radical preservation. (A) is an anticipated protected version of A in absorbing emergency, environmentally-changed conditions.

Abstract .

This thesis is an alternative approach to preservation that critiques the existing restoration and conservation theory of heritage. Theories focus on permanent reconstruction but lack sustainability regarding the rapidly changing context. In the radical preservation from Rem Koolhaas and Fred Scott, heritage is an irreversible asset that needs preservation as future protection, not present reparation. With the threat of shrinking preservation intervals and climate change, a new preservation vision must adapt to the changing context; if not, heritage is soon to be obsolete or erased. This thesis research is supplementary to Rem Koolhaas’s theory concerning future emergency environmental change resulting in a change in cultural context. The time to preserve is ‘now’, before the context, time and heritage are changed by the new cultural context of the next century. This thesis focuses on the flooding context in Venice as both a challenge and an opportunity for future preservation. Venice’s horizontal water culture is an asset. Its vertical relationship, though seen as a threat, can also be an asset and opportunity for cultural adaptation. Besides the typical preservation work, the supplementation technique deployed by Rem Koolhaas will apply to not the current cultural context but the foreseen new cultural context of 200 years onward.

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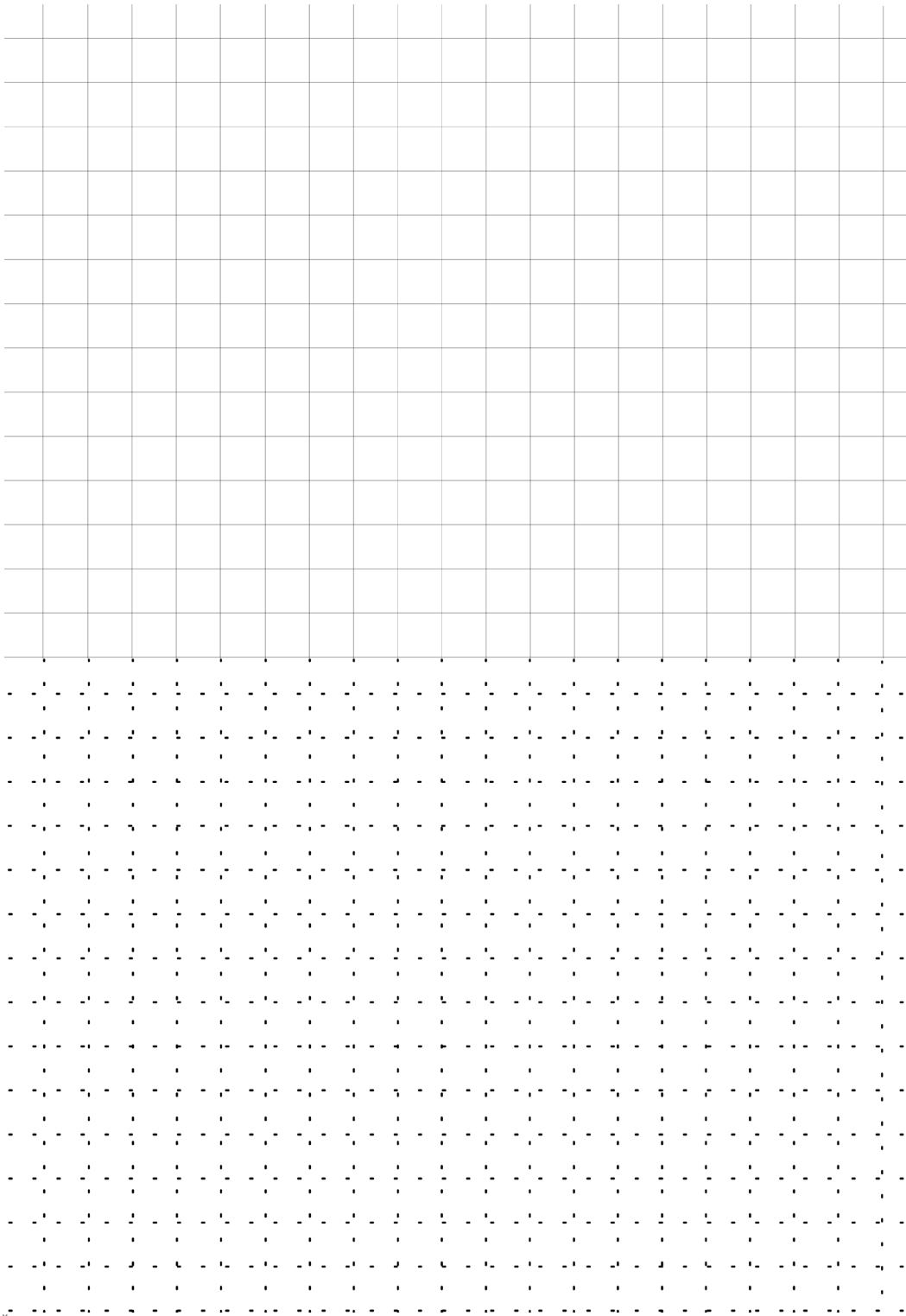
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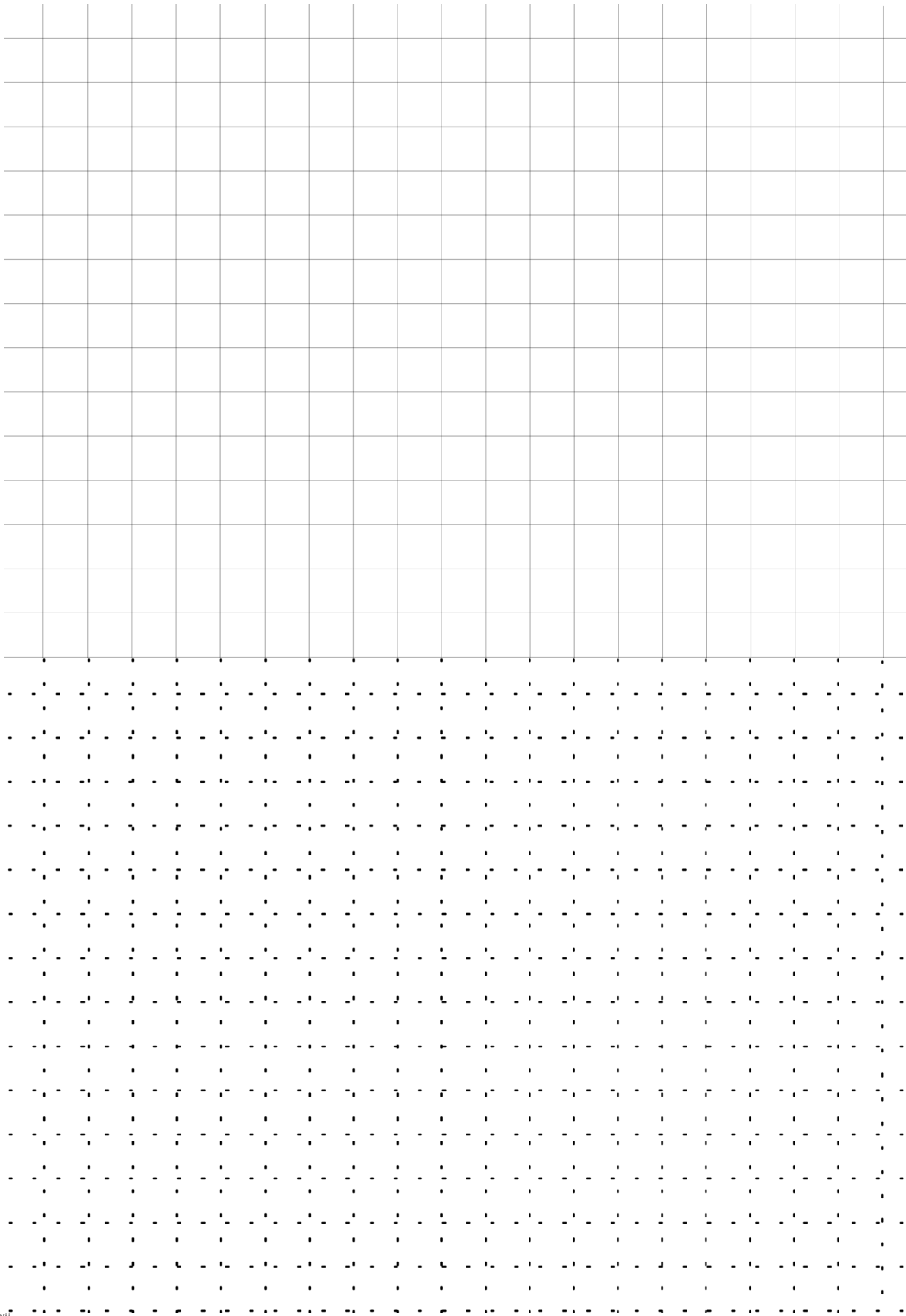
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Thesis statement .

The practice of contemporary heritage treatments is challenged and needs to be more adaptive, especially in the rapidly changing climate; hence, future preservation needs to absorb the environmental context to withstand and evolve with the new cultural context.

PART I. THEORY FRAMEWORK .

Introduction .

The history of preservation has two significant schools of thoughts: restoration by Viollet-le-Duc and the conservation by John Ruskin. This chapter analyzes the fundamental theory of these two approaches, followed by several precedents. The two-mentioned schools are the fundamental, theoretical framework leading to the critical essay and the interest of this thesis.

PART I. THEORY FRAMEWORK .

Definition .

Restoration

*"The action, process, or result of restoring something to an unimpaired or perfect condition; renovation or reconstruction intended to restore something to its (supposed) original condition."*¹

*"The action of restoring a thing to a former state or position"*²

Conservation

*"The official protection of buildings and objects that have historical or artistic importance."*³

*"The preservation or restoration of archaeological artefacts, historical sites, works or art, etc., by means of specialized techniques."*⁴

Preservation

*"The action of preserving from damage, decay, or destruction; the fact of being preserved."*⁵

Heritage

"Heritage is our legacy from the past, what we live with today, and what we pass on to the future generations" (UNESCO)

¹ 'Restoration, n.', in OED Online (Oxford University Press), accessed 18 December 2021, <https://www.oed.com/view/Entry/163986>.

² 'Restoration, n.'

³ 'Conservation Noun - Definition, Pictures, Pronunciation and Usage Notes | Oxford Advanced Learner's Dictionary at OxfordLearnersDictionaries.Com', accessed 18 December 2021, <https://www.oxfordlearnersdictionaries.com/definition/english/conservation?q=conservation>.

⁴ 'Conservation, n.', in OED Online (Oxford University Press), accessed 18 December 2021, <https://www.oed.com/view/Entry/39564>.

⁵ 'Preservation, n.', in OED Online (Oxford University Press), accessed 18 December 2021, <https://www.oed.com/view/Entry/150719>.

Theory framework .

Viollet-le-Duc and restoration .

“To restore a building is not to preserve it, to repair or to rebuild it, it is to reinstate to a complete state that may never have existed at a given moment”.

(Viollet-le-Duc)

• Background

Viollet-le-Duc (1814-1879) is an influential thinker in restoration theory; he stated, “To restore a building is not to preserve it, repair or rebuild it, it is to reinstate to a complete state that may never have existed at a given moment.”⁶ The term restoration is to reinstate the building to an ever-exist completeness.⁷ This restoration theory rebuilds the damaged or decayed building to the original version as an expectation without significant alternation. Notably, regarding style, the appearance and structure must be identical.



Figure 1. Notre-Dame, West Portal (before restoration)



Figure 2. Notre-Dame (West Portal, after restoration)

⁶ Eugène-Emmanuel Viollet-le-Duc and Charles Wethered, On Restoration, Notice of His [Viollet-Le-Duc's] Works in Connection with the Historical Monuments of France. (London: Sampson Low, Marston Low, and Searle, 1875), 9, <https://babel.hathitrust.org/cgi/pt?id=hvd.32044034611160&view=lup&seq=17&skin=2021>.number-of-pages:"40",publisher:"Sampson Low, Marston Low, and Searle",publisher-place:"London",source:"HathiTrust",title:"On restoration",URL:"https://babel.hathitrust.org/cgi/pt?id=hvd.32044034611160&view=lup&seq=17&skin=2021",author:[{"family":"Viollet-le-Duc",given:"Eugène-Emmanuel"},{"family":"Wethered",given:"Charles"}],accessed:[{"date-parts":["2021",11,5]]},issued:[{"date-parts":["1875"]}],locator:"9"]],schema:"https://github.com/citation-style-language/schema/raw/master/csl-citation.json")

⁷ Viollet-le-Duc and Wethered, 9.number-of-pages:"40",publisher:"Sampson Low, Marston Low, and Searle",publisher-place:"London",source:"HathiTrust",title:"On restoration",URL:"https://babel.hathitrust.org/cgi/pt?id=hvd.32044034611160&view=lup&seq=17&skin=2021",author:[{"family":"Viollet-le-Duc",given:"Eugène-Emmanuel"},{"family":"Wethered",given:"Charles"}],accessed:[{"date-parts":["2021",11,5]]},issued:[{"date-parts":["1875"]}],locator:"9"]],schema:"https://github.com/citation-style-language/schema/raw/master/csl-citation.json")



Figure 3. Notre-Dame - replacement figures from Montfaucon



Figure 4. Notre-Dame - West portal figures

• Precedent: Notre-dame de Paris

The Notre Dame in Paris is one of the major works of Viollet-le-Duc under the theory of restoration. Viollet-le-Duc restored the entire building of Notre Dame inside and out, and the façade portal is the most criticized.⁸ However, this theory attempts to revitalize the decayed structure to the original state, with a building undergoing mutilation before restoration, which is controversial.

Due to mutilations, Reiff (1971) mentioned some differences between the original and the reinstated version. The figures are the West façade of Notre Dame, which has suffered from two mutilations from the Soufflot (1771) and the Revolution (1793), resulting in the loss of relief and sculpture on the façade. Hence, the question is to which preceded version should Viollet-le-Duc restores to without the trace of the precedent? Chosen sculptures from another cathedral from the same period are his approach to ensure the unity of style.⁹ Regarding this issue, he selected the sculptures from the old church of St. Etienne by Montfaucon in 1729 as an appropriate replacement for the lost figures. In the detail of these figures, slight modifications had been made such as on the head and crown. They were well-constructed in form but not in spirit,¹⁰ as Reiff (1971) commented on the discrepancy of borrowed sculptures' body proportion splayed in comparison to the original.

Considering the restoration definition, the borrowed features as replacements of the missing artifact are controversial since John Ruskin believes it is not identical because he advocated that it is impossible to raise the dead.¹¹ Furthermore, he criticized the restoration of the theory of Viollet-le-Duc as “a lie from beginning to end.”¹² Nevertheless, Viollet-le-Duc's works saved countless decayed armatures of “restored” churches in the 19th century.

⁸ Daniel D. Reiff, 'Viollet Le Duc and Historic Restoration: The West Portals of Notre-Dame', Journal of the Society of Architectural Historians 30, no. 1 (1 March 1971): 17, <https://doi.org/10.2307/988670>.

⁹ Reiff, 18.

¹⁰ Reiff, 19.

¹¹ John Ruskin, The Seven Lamps of Architecture (New York: Dover Publication, 1989), 301, <https://www.gutenberg.org/cache/epub/35898/pg35898-images.html>.

¹² Ruskin, 303; Kelly Freeman and Thomas Hughes, eds., Ruskin's Ecologies: Figures of Relation from Modern Painters to the Storm-Cloud (Courtauld Books Online, 2021), 158, <https://doi.org/10.33999/2021.56>.

Theory framework .

John Ruskin's theory to 21st century conservation .

“It is impossible, as impossible as to raise the dead, to restore anything that has ever been great or beautiful in architecture. That which I have insisted upon as the life of the whole, that spirit which is given only by the hand and eye of the workman, can never be recalled.”

(John Ruskin)

• Background

John Ruskin (1819-1900) was an English writer, social thinker, art critic and one of the fathers of conservation¹³ who built the foundation of contemporary conservation theory. In his book *The Seven Lamps of Architecture* (1885), under “The Lamp of Memory” chapter, restoration is an act of destruction of a building. Because he believes that “A building cannot be considered in its prime until four or five centuries have passed over it,”¹⁴ which means restoration to the ever-existing original state, according to Viollet-le-Duc, is unachievable and instead a deception. Generally, the endeavour to restore old focuses on the importance of style as Viollet-le-Duc is opposite to John Ruskin and the later conservationists' theory focusing on the importance of authenticity.

For over 30 years, many architects have followed John Ruskin's anti-restoration regarding authenticity.¹⁵ According to William Morris and Philip Webb's manifesto regarding style, they believe that dealing with an ancient building from a bygone art manner, and modern art intervention would likely destroy it during an attempt to rebuild the original.¹⁶ Regarding the relationship between old and new authenticity, in Rem Koolhaas's declaration, he stated that preservation is an acknowledgment of the old and its weight towards the present, the ruin holds a commemorative function, and it would be an indispensable part of the new structure.¹⁷ As the Restoration theory emphasized, the unity of style is not the aim in the modern view. Venice Charter (1964) argued that history and contemporary work must be concerning all period contributions.¹⁸

¹³ Freeman and Hughes, *Ruskin's Ecologies*, 157.

¹⁴ Rem Koolhaas, Content: AMOMA/Rem Koolhaas/ (London: Taschen: Köln, 2004), 459.

¹⁵ Ryan Roark, “The Afterlife of Dying Buildings: Ruskin and Preservation in the Twenty-First Century”, in *Ruskin's Ecologies: Figures of Relation from Modern Painters to The Storm-Cloud* (London: The Courtald, 2021), 326, <https://courtauld.ac.uk/research/research-resources/publications/courtauld-books-online/ruskins-ecologies-figures-of-relation-from-modern-painters-to-the-storm-cloud/14-the-afterlife-of-dying-buildings-ruskin-and-preservation-in-the-twenty-first-century-ryan-roark/>.

¹⁶ Roark, “The Afterlife of Dying Buildings”; William Morris and Philip Webb, “The SPAB Manifesto”, Text, [spab.org.uk](https://www.spab.org.uk/about-us/spab-manifesto), 30 January 2018, <https://www.spab.org.uk/about-us/spab-manifesto>.

¹⁷ Roark, “The Afterlife of Dying Buildings”; Rem Koolhaas, “Preservation Is Overtaking Us” (Cronocaos, Columbia University Graduate School of Architecture, Planning and Preservation, 2011), <https://www.arch.columbia.edu/books/reader/6-preservation-is-overtaking-us>; Rem Koolhaas, *Cronocaos Preservation*, Video, 2011, <https://www.oma.com/lectures/cronocaos-preservation>.

¹⁸ Roark, “The Afterlife of Dying Buildings”, 332.

Theory framework .

John Ruskin's theory to 21st century conservation .

• Precedent: Hedmark Museum

The application of conservation is evident in the Hedmark Museum, including all theory strategies. The Hedmark Museum is in a medieval context of a bishop castle which is a home of relics and exhibitions from the archaeological excavation of the site. The ruin has two areas of the same castle with the protection by architectural intervention and accessibility to the public. "Only by manifesting the present can you make the past speak";¹⁹ this is a dialogue between the old and the new in the "horizon of experience" drawn from the bridge journey leading the visitor experience.²⁰

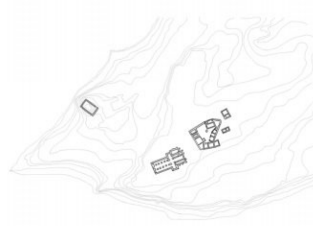
In the site with mutilations, three conservation treatments were applied upon the ruin:

- The indispensable structural intervention aims to reconstruct the missing roof by different materials to that of the original.
- The ramp installation supports the architect's idea of the horizon between the earth and the sky that snakes through doors, windows, and space in the building, giving a moment of encountering the exhibited artifacts and the ruin to the memory.²¹
- The function of the building has been changed throughout its lifetime, and by the time Sverre Fehn designed this building, it became a museum whose adaptive reuse upon a non-functioned ruin became a meaningful place in conservation.



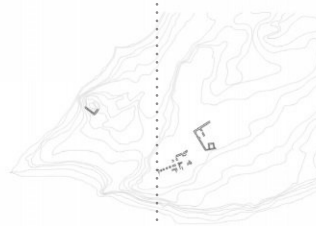
1230

A small settlement where the Archbishop of Norway took residence.



1567

Expanded to house a small monastery, a garden, stables and some farms and fortified.



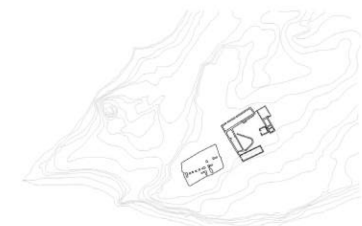
1716

Swedes invaded Hamar, and burned all three major structures down.



1973

The existing walls of the bishop's residence were reused in an expanded structure to house farm animals.



2005

In 1967 Sverre Fehn started his design to turn the broken barn into a museum. The site, as well as the museum have been expanded ever since.



03. Timber Roof Structure
Light, temporary shelter floating above the ruins. Controlling the light conditions in each wing.



02. Concrete Ramps
The journey through the museum. Placing visitor between heaven and earth.



01. Old Walls
The existing layered story of the site.

Figure 5. Hedmark Museum. Preservation elements diagram



Figure 6. Hedmark Museum. Photos

¹⁹ Christophe Marin, 'Josh Mings - Architectural Exploration', accessed 18 December 2021, https://www.academia.edu/18923960/Josh_Mings_Architectural_Exploration.

²⁰ Mette Aamodt, 'Sverre Fehn: The Space Between Earth and Sky', The Slow Space Movement (blog), 4 April 2019, <https://medium.com/the-slow-space-movement/sverre-fehn-the-space-between-earth-and-sky-a6f3d9326a2f>; Randal Lawrence, 'Sverre Fehn: The Architect Who Built on the Horizon', Architectural Research Quarterly 13, no. 1 (March 2009): 11–15, <https://doi.org/10.1017/S1359135509990054>.

²¹ Per Olaf Fjeld and Sverre Fehn, Sverre Fehn: The Pattern of Thoughts, 1st ed., Book, Whole (New York: Monacelli Press, 2009), <https://go.exlibris.link/h63FrSM3>.

Figure 7. Hedmark Museum. Story of the site

“My most important journey was perhaps into the past, in the confrontation with the Middle Age, when I built a museum among the ruins of the Bishops’ Fortress at Hamar. I realized, when working out this project, that only by manifestation of the present, you can make the past speak. If you try to run after it, you will never reach it.”²²

(Sverre Fehn - Pritzker prize 1997 speech)

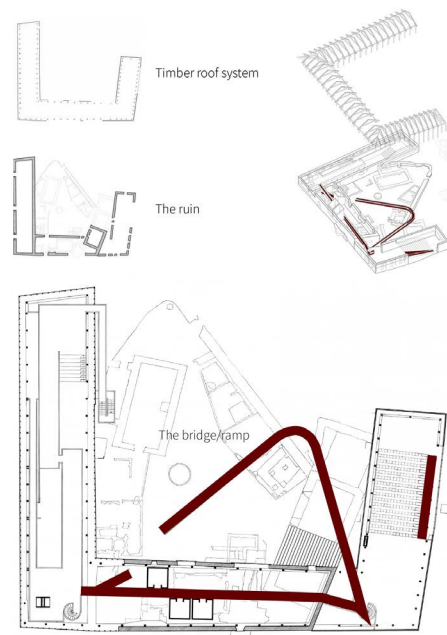
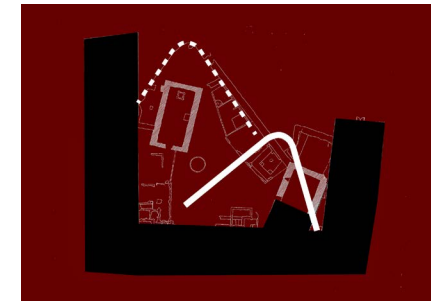


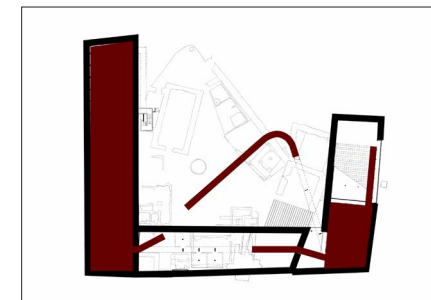
Figure 8. Hedmark Museum. Preservation elements diagram



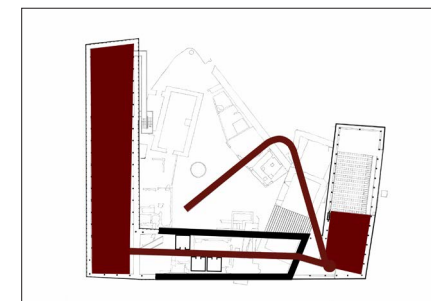
Site



Ground floor



Second floor



Third floor

Figure 9. Hedmark Museum. Circulation diagram

Theory summary .

The mentioned two theories can be simplified and summarised by imagining how they each might inform the design of a destroyed space represented for the ruin. In the context of “The Destroyed Room 1978” by Jeff Wall, these are speculative responses of these two schools of preservation based on their theories.



Figure 10. The Destroyed Room 1978 by Jeff Wall
Cinematographic photography
National Gallery of Canada, Ottawa
Purchased 1988 © The artist



Figure 11. The Destroyed Room 1978 by Viollet-le-Duc and John Ruskin

PART II. ALTERNATIVE PRESERVATION .

Introduction .

Referring to the Definition in Part One (see page 2) and the Conservation Mag, restoration is a precise, distinct term to describe an action of restoring the original subject condition. However, the two other terms: preservation and conservation, are usually confusing. Conservation is a broad subject that includes many approaches, such as heritage treatment, embracing the past, present and future speculation. Meanwhile, preservation is a negotiation between the past and future but holds agency in the present.²³ The radical 21st-century vision focuses beyond the prevention from damage but also to the ever-changing future of conservation, such as Rem Koolhaas, Jorge Otero-Pailos and Fred Scott's theories. Over the past half-century, the definition of "historic preservation" has enhanced its meaning beyond conservation and restoration usually considered before.²⁴ Contemporary preservationists are paid to focus more on the past than future projection²⁵ and this seems to be a threatening historic preservation issue. Alternative preservation is the proposed theory, following restoration, conservation and preservation as a future adaptive strategy. The second part of the thesis will discourse this matter in depth.

²³ Freeman and Hughes, Ruskin's Ecologies, 332; Jorge Otero-Pailos, 'Now Is the Future Anterior for Advancing Historic Preservation Scholarship', University of Minnesota Press 1, no. 1 (Spring 2004 (2004): 8-9.

²⁴ Freeman and Hughes, Ruskin's Ecologies, 165.

²⁵ Rem Koolhaas and Jorge Otero-Pailos, Preservation Is Overtaking Us (Columbia Books on Architecture and the City, 2014), 2, <https://www.arch.columbia.edu/books/reader/6-preservation-is-overtaking-us>; Freeman and Hughes, Ruskin's Ecologies, 326.

PART II. ALTERNATIVE PRESERVATION .

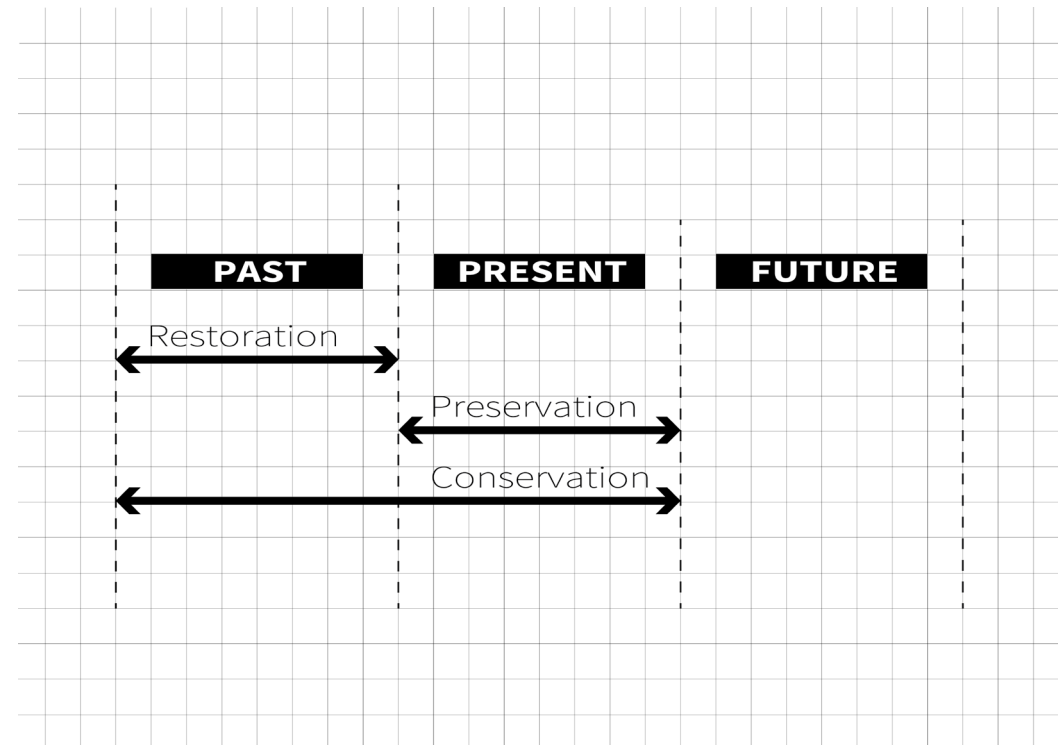


Figure 12. Diagram. Restoration, Preservation, Conservation in time (based on Conservation Mag)

Re-imagine preservation .

An urge to change .

As mentioned in the two schools of restoration and conservation, there are issues in the future which these theorists have not considered as it is exclusively past-and-present- focused,. also The same is true with contemporary preservation. Soon, tThe environmental condition for those practices is not as beforeis changing, leading to a need to for re-envisioning future preservation. The reason for this matter is preservation intervals and climate-culture changes.

• Preservation intervals

Koolhaas argued that the preservation age ceiling is shrinking compared to the first Act: Ancient Monuments Protection Act 1882 (see figure 13).²⁶ From 2200 years of age, after 125 years from 1882, the interval has decreased over 73 times to only under 30 years of age to be listed. Hence, Koolhaas called talks about the present state by saying “preservation is overtaking us.” Koolhaas’s project Maison à Bordeaux (1998) was given French monument status three years after completion due to the owner’s death.²⁷ It is one of the shortest intervals of the building to be listed as a heritage monument for preservation. Thus, the attitude toward the past value will decrease, in paradox with the increase of future value, at the point where the preservation interval is close to the soon-to-vanish point or even surpass it. Consequently, the approach to future preservation needs to embrace potential negative-impacts on heritage sites. As a result of shortened intervals, the newer the heritage, the broader the heritage site can be. In the future, heritage site is no longer Euro-centric.²⁸ Besides preservation intervals driving the change of preservation, the focal point of this thesis is the climate-culture changes in the next section.



Figure 13. Maison à Bordeaux © Hans Werlemann, courtesy OMA

26 Freeman and Hughes, Ruskin’s Ecologies, 326; Koolhaas and Otero-Pailos, Preservation Is Overtaking Us, 2.
27 Teresa Stoppani, ‘Altered States of Preservation: Preservation by OMA/AMO’, Future Anterior 8, no. 1 (Summer 2011) (2011): 99, <https://doi.org/10.1353/fta.2011.0000>.
28 Koolhaas, Cronocaos Preservation.

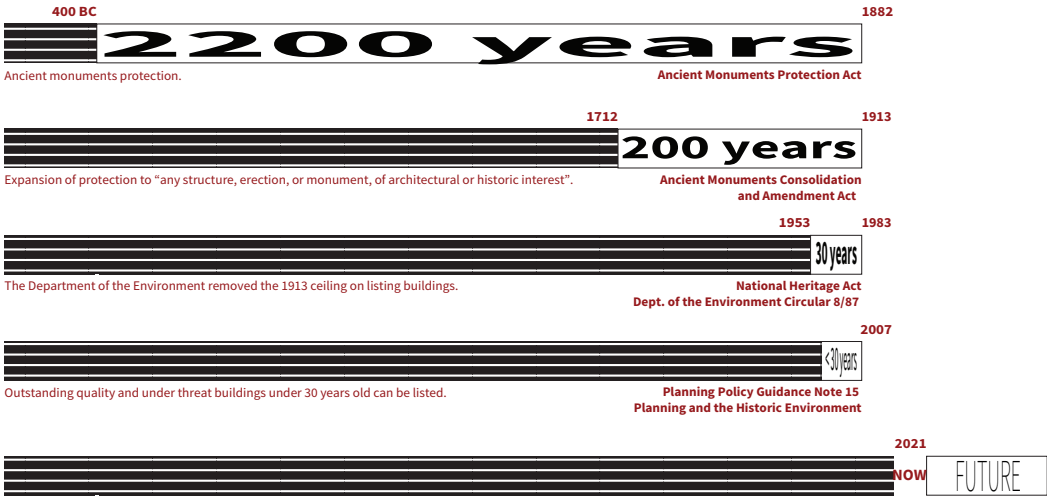


Figure 14. Diagram. British Heritage Law revisions (based on G.J. Ashworth Heritage Planning and Rem Koolhaas)



Figure 15. Diagram. UNESCO World Heritage Site Map
There are currently over 800 heritage sites around the world.
Data Source: UNESCO World Heritage List

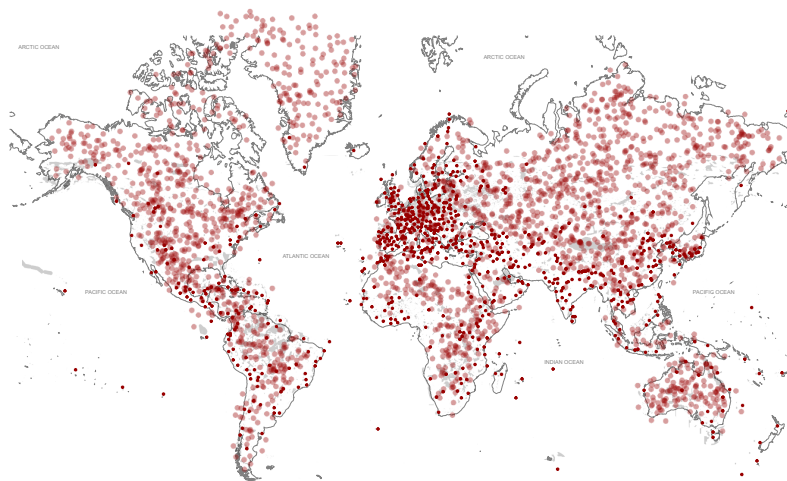


Figure 16. Diagram. UNESCO World Heritage Site Map. (Future)
One day, the whole world can be the heritage site

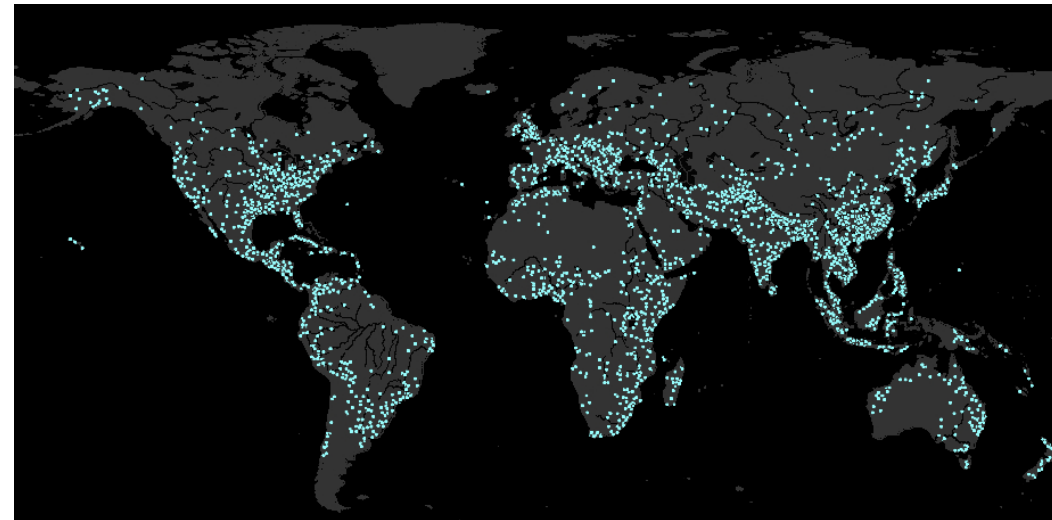


Figure 17. Map. Geographic Centres of floods in the Flood Archive GIS file, 1985-2010
Data Source: Dartmouth Flood Observatory, University of Colorado, USA

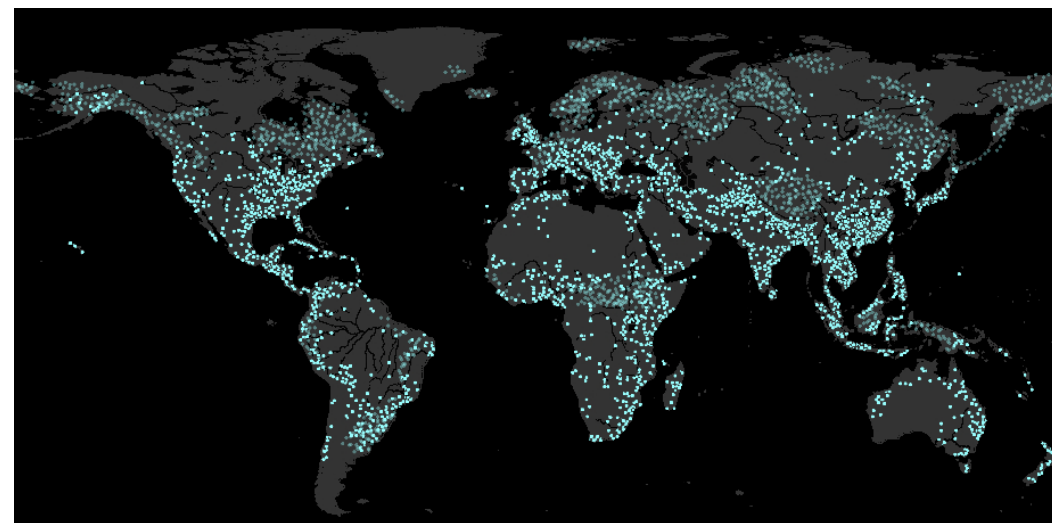


Figure 18. Map. Top Climate Risk Across the Globe by 2040
Data Source: Four Twenty-Seven and The New York Times



Figure 20. Photo. A collapsed brick wall of a house in Venice, a victim of rising damp and increased salinity in the water.



Figure 21. Photo. Mayor of Venice Luigi Brugnaro on St. Mark's Square



Figure 22. Photo. A room in the flooded Gritti Palace is pictured during an exceptional high tide in Venice on Nov. 12, 2019.
Marco Bertorella—AFP via Getty Images



Figure 23. Photo. Venice aftermath

Volunteers try to save ancient music books by placing them to dry at the first floor of Venice Conservatory after recovering them from ground floor, Italy, Saturday, Nov. 16, 2019. High tidal waters returned to Venice on Saturday, four days after the city experienced its worst flooding in 50 years. Young Venetians are responding to the worst flood in their lifetimes by volunteering to help salvage manuscripts, clear out waterlogged books and lend a hand where needed throughout the stricken city.

Luca Bruno, AP

Re-imagine preservation .

An urge to change .

• Climate-culture changing context

Of the several climate impact on cultural heritage (fire, water, land, and many more) this thesis focuses on water. Because water is a subject and acts as both a constructive and destructive cultural factor of a place. Venice is an ideal context for the chosen subject. Besides Koolhaas's vision of culture, which will be revealed in the next section (see more on "Towards the (a)lternative preservation." on page <?>), culture is the fundamental value of the new alternative preservation.

Regarding this context, the city of Venice and its lagoon is the cultural context that has accumulated cultural heritage over the centuries.¹ The invention of hydraulic and architectural works in this unique landscape is the constructive cultural factor. However, water rising is the destructive factor that this city suffers and will predictably increase over time. It has been facing multiple threats relating to water: rising sea levels, sinking city,² and catastrophic flooding hazards. The first issue: high tide, which is expected to increase a few centimetres per century, is permanently higher than the damp-proof course of Venetian architecture³ and slowly damages heritage buildings (see Figure 20). The second issue is the sinking city as a nature of coastal area due to the city's weight compression upon the soil and draining underground water for drinking.⁴ The final disastrous concern in Venice is the extreme sea-level event, which was a centurial event but speeds up to recur every six years by 2050 and every five months by 2100.⁵ Regarding catastrophic flooding hazards, the high tide event in 2019 damaged heritage buildings and numerous valuable heritage objects inside (see Figure 22 and Figure 23). Although the site has an inlet structure to manage the water from the Adriatic Sea to the inner water, the event of unexpected sirocco wind combined with the geographic basin of the Adriatic Sea raised the water level tremendously in the northern part,⁶ resulting in Venice's extreme flooding issue. This city is at risk of losing its UNESCO heritage status,⁷ as the Director of UNESCO's World Heritage Center stressed. Venice is under extreme threat with the richness of heritage in this site. The need to consider alternative preservation for the upcoming 200 years is crucial.

1 UNESCO World Heritage Centre, 'Venice and Its Lagoon', UNESCO World Heritage Centre, accessed 29 December 2021, <https://whc.unesco.org/en/list/394/>.
2 'Venice Floods Threaten Priceless Artwork and History — and a Unique Way of Life', Washington Post, accessed 29 December 2021, <https://www.washingtonpost.com/history/2019/11/17/venice-floods-threaten-priceless-artwork-history-unique-way-life/>.
3 Beth Eaglescliffe, 'Venice, Italy Is Being Destroyed by Tourism and Flooding', WanderWisdom, accessed 20 December 2021, <https://wanderwisdom.com/travel-destinations/Venice-Tourism-Sinking>.
4 'Venice Floods Threaten Priceless Artwork and History — and a Unique Way of Life'.
5 'Venice Floods Threaten Priceless Artwork and History — and a Unique Way of Life'.
6 Christian Ferrarin et al., 'Integrated Sea Storm Management Strategy: The 29 October 2018 Event in the Adriatic Sea', Natural Hazards and Earth System Sciences 20, no. 1 (13 January 2020): 73–93, <https://doi.org/10.5194/nhess-20-73-2020>. forecasting models, early warning systems, and coastal management and planning. Such great effort is sometimes possible only through transnational cooperation, which becomes thus vital to face, effectively and promptly, the marine events which are responsible for damage impacting the environment and citizens' life. Here we present a shared and interoperable system to allow a better exchange of and elaboration on information related to sea storms among countries. The proposed integrated web system (IWS p.81.
7 Stefan Dege, 'After the Floods: Could Venice Lose Its World Heritage Status?', DW.COM, 15 November 2019, sec. Culture, <https://www.dw.com/en/after-the-floods-could-venice-lose-its-world-heritage-status/a-51271328>.



Figure 24. Climate impact on cultural heritage



Figure 25. Water culture in Venice

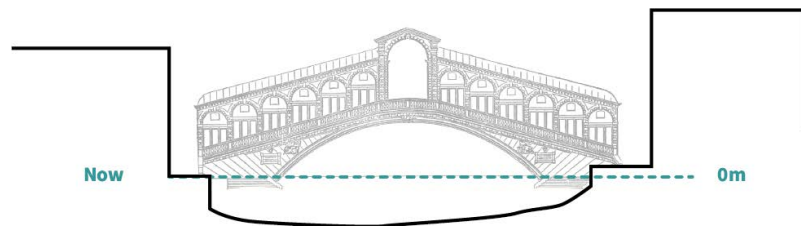


Figure 26. Annual water rise at 1m

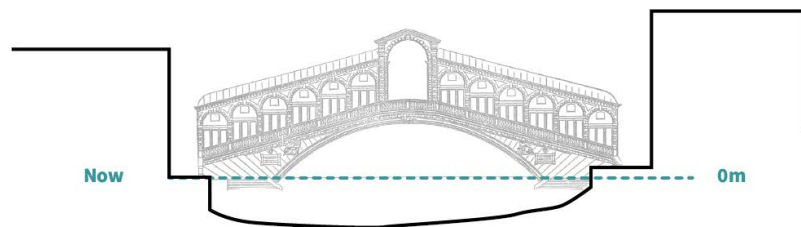
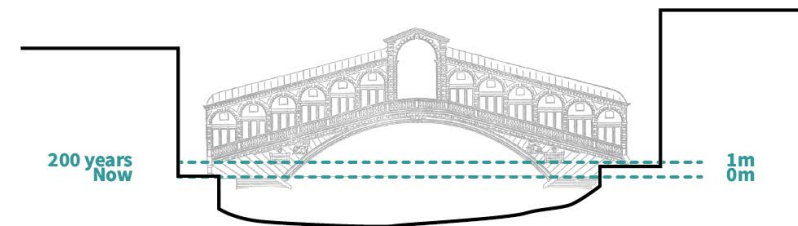


Figure 27. Destructive water event at 3m

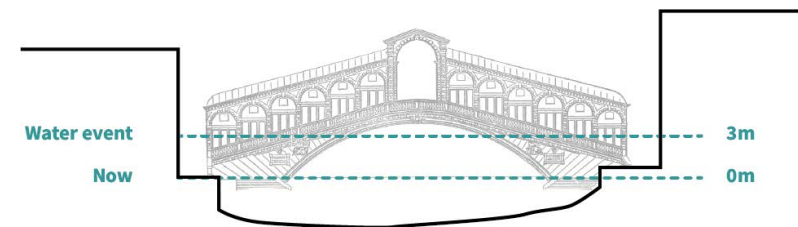


Figure 28. Destructive water event at 3m in plan



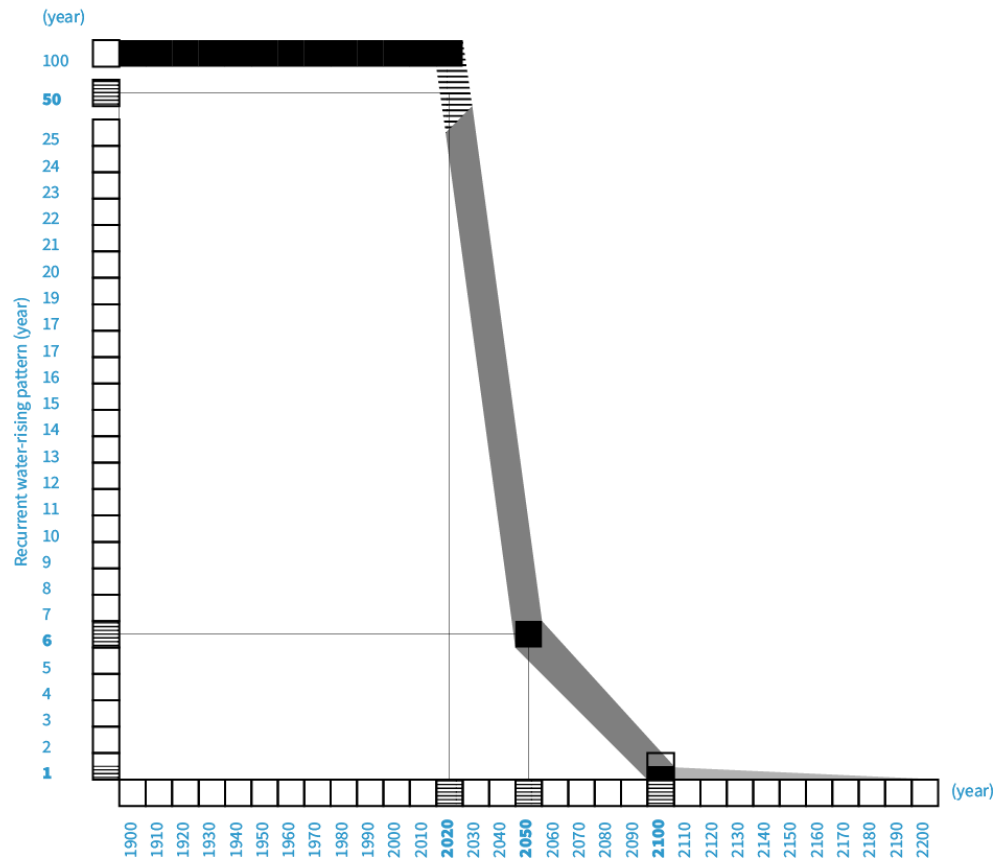


Figure 29. Recurrent pattern of Destructive water event diagram (1900-2200 speculative)

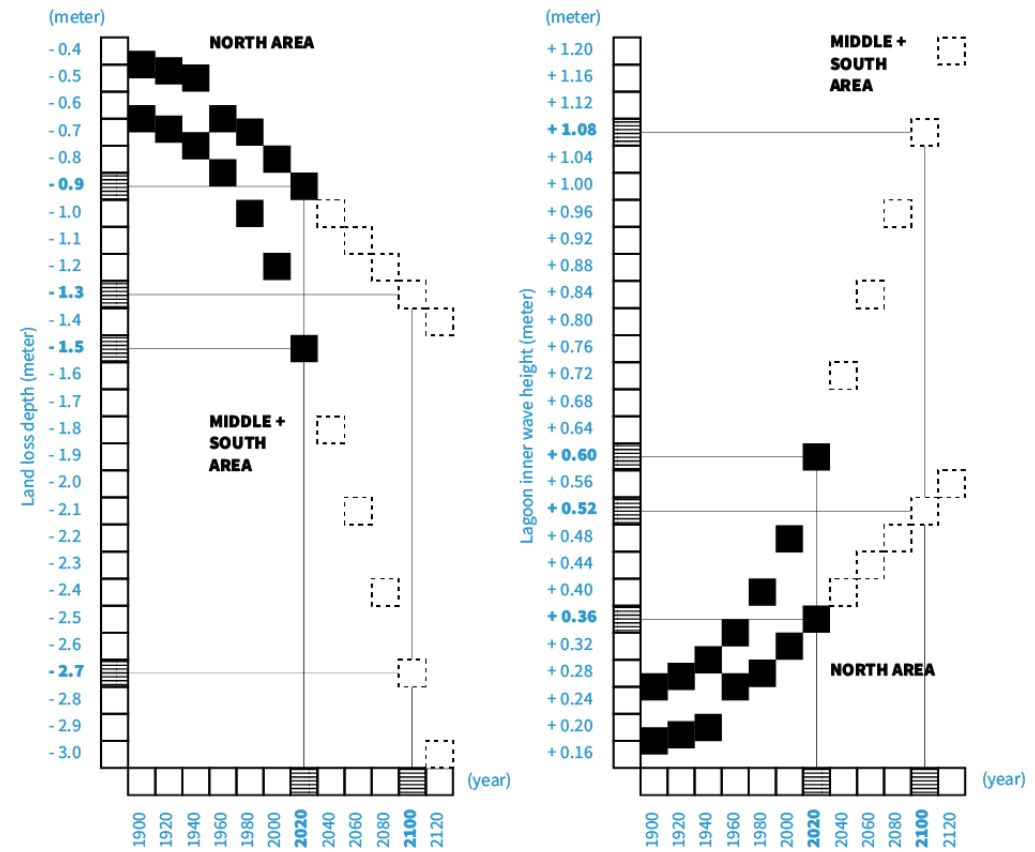


Figure 30. Land loss and water wave change diagram (1900-2120 speculative)

MOSE project.

To deal with this, an ongoing MOSE project aims to enclose inner Venice water and temporarily cut off 1.1m of water. This red is one unit in a multi-unit system located in these three channels that close Venice from the Adriatic Sea.

This is an urban scale project, and my project is on a building scale. My project criticizes several problems of the MOSE, including:

- The failure to deal with higher water at higher levels
- The impact on the ecosystem every 1 hour this watergate is operated
- Heavily rely on the weather forecast

This thesis argues that preservation in Venice has to foresee the factor of water and accept it as a part of the architecture rather than preventing it. Because the attempt to go against nature always comes with consequences.

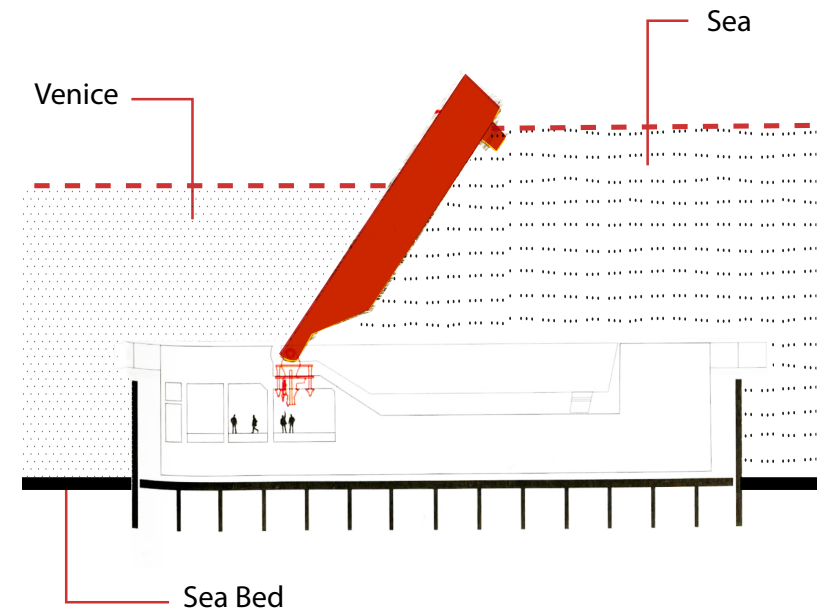


Figure 31. Diagram of MOSE project - Venice on-going solution of water rising

Towards an alternative preservation .

An urge to change .

• Climate-culture changing context

Of the several climate impact on cultural heritage (fire, water, land, and many more) this thesis focuses on water. Because water is a subject and acts as both a constructive and destructive cultural factor of a place. Venice is an ideal context for the chosen subject. Besides Koolhaas's vision of culture, which will be revealed in the next section (see more on "Towards the (a)lternative preservation." on page 31), culture is the fundamental value of the new alternative preservation.

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31 UNESCO World Heritage Centre, 'Venice and Its Lagoon', UNESCO World Heritage Centre, accessed 29 December 2021, <https://whc.unesco.org/en/list/394/>.

32 'Venice Floods Threaten Priceless Artwork and History — and a Unique Way of Life', Washington Post, accessed 29 December 2021, <https://www.washingtonpost.com/history/2019/11/17/venice-floods-threaten-priceless-artwork-history-unique-way-life/>.

33 Beth Eaglescliffe, 'Venice, Italy Is Being Destroyed by Tourism and Flooding', WanderWisdom, accessed 20 December 2021, <https://wanderwisdom.com/travel-destinations/Venice-Tourism-Sinking>.

34 'Venice Floods Threaten Priceless Artwork and History — and a Unique Way of Life'.

35 'Venice Floods Threaten Priceless Artwork and History — and a Unique Way of Life'.

36 Christian Ferrarin et al., 'Integrated Sea Storm Management Strategy: The 29 October 2018 Event in the Adriatic Sea', Natural Hazards and Earth System Sciences 20, no. 1 (13 January 2020): 73–93, <https://doi.org/10.5194/nhess-20-73-2020>. forecasting models, early warning systems, and coastal management and planning. Such great effort is sometimes possible only through transnational cooperation, which becomes thus vital to face, effectively and promptly, the marine events which are responsible for damage impacting the environment and citizens' life. Here we present a shared and interoperable system to allow a better exchange of and elaboration on information related to sea storms among countries. The proposed integrated web system (IWS p.81.

37 Stefan Dege, 'After the Floods: Could Venice Lose Its World Heritage Status?', DW.COM, 15 November 2019, sec. Culture, <https://www.dw.com/en/after-the-floods-could-venice-lose-its-world-heritage-status/a-51271328>.



Figure 32. Amphitheatres and urban absorption (Rodrigo Perez de Arce) in "On altering architecture" by Fred Scott

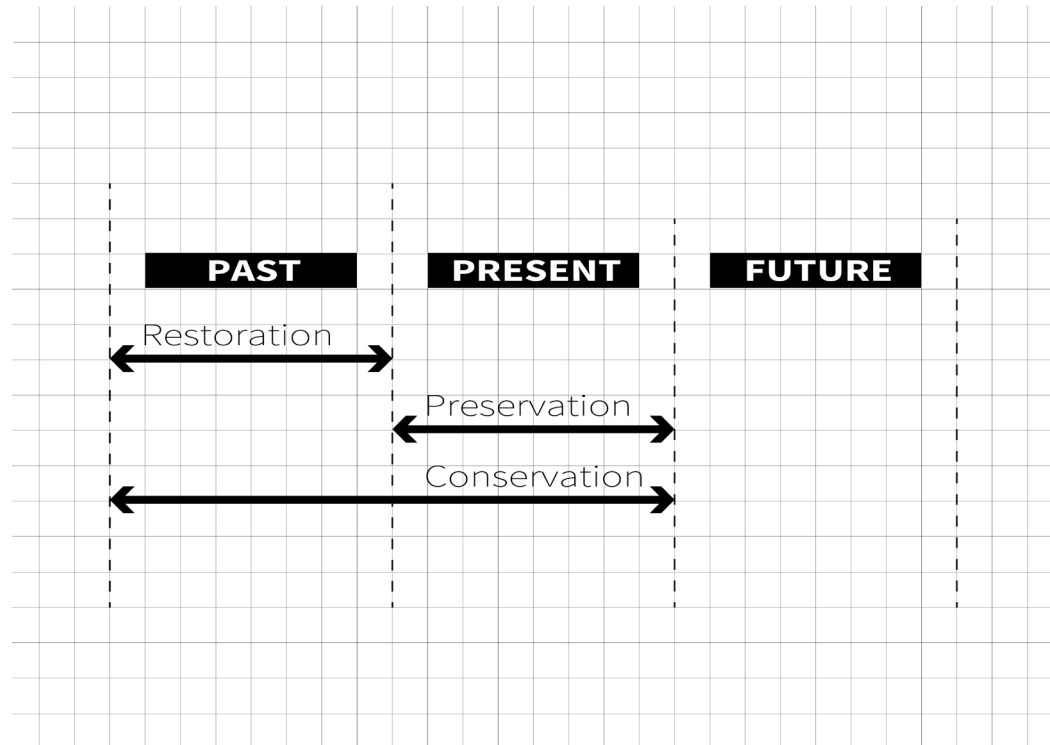


Figure 12. Diagram. Restoration, Preservation, Conservation in time

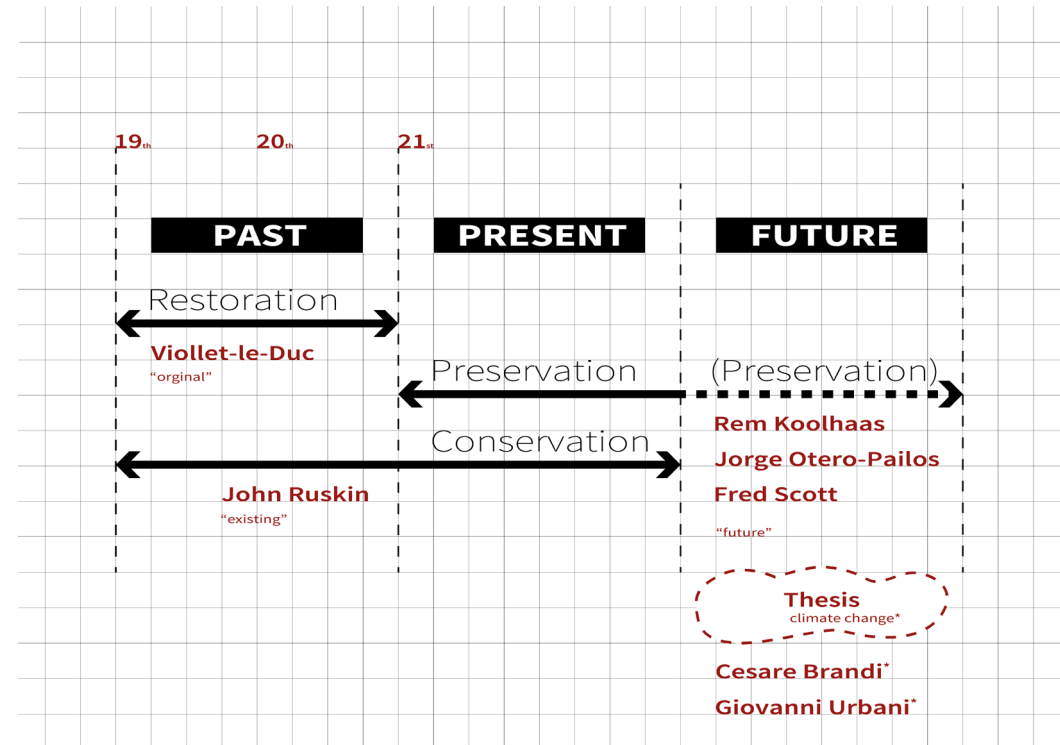


Figure 33. New diagram of Restoration, Preservation, Conservation in time and thesis position

From A to (A) .

The matter of changing context .

“focused not so much on the opposition of “original” and “existing” but rather on the process that, for future accessibility and enjoyment (and sustainment), requires drastic transformative actions (such as the boiling of fruit with sugar)”³⁸

(Teresa Stoppani noted on Rem Koolhaas/OMA)

“Building changes as the city changes.”

(Fred Scott)

With the changing context that has been discussed leading to the urge to re-imagine preservation, there is an essential difference in restoration, conservation, and alternative preservation. In comparison, the “original” or “existing” is the focal point of Violet-le-Duc or John Ruskin’s theory.³⁹ Rem Koolhaas and OMA’s alternative preservation focus on the “future prospective.” The alternative definition of preservation is also different from its contemporary counterpart by the concern of future projection. Preservation is not a “retroactive activity” but rather “prospective activity” with present intervention.⁴⁰ They re-define preservation as a constant drastic action to ensure it is timely and relevant;⁴¹ it is an evolving rather than a permanent change. Relatively close to the development of Koolhaas, Fred Scott names his vision as “alteration.” Alteration is “the mediation between preservation or demolition.”⁴² Scott places his vision between Ruskin’s restoration as deconstruction and Viollet-le-Duc’s restoration as reconstruction.⁴³ He argues that the fall and obsolescence of heritage derive from contextual transformation, which means “building changes as the city changes.”⁴⁴

38 Stoppani, ‘Altered States of Preservation’, 101.
39 Stoppani, ‘Altered States of Preservation’, 101.
40 Freeman and Hughes, Ruskin’s Ecologies, 326; Koolhaas and Otero-Pallos, Preservation Is Overtaking Us, 2; Stoppani, ‘Altered States of Preservation’, 103.
41 Stoppani, ‘Altered States of Preservation’, 101.
42 Koolhaas, CronoCaos Preservation, 105; Fred Scott, On Altering Architecture (London ; New York: Routledge, 2008), 17.
43 Koolhaas, CronoCaos Preservation, 106.
44 Scott, On Altering Architecture, 17.



Figure 34. Diagram. Thesis position and comparison

From A to (A) .

Alternative preservation .

“Preservation creates relevance without new forms.”

“Preservation is architecture’s formless substitution”

(Jorge Otero-Pailos supplement note on Rem Koolhaas)

As mentioned in the above section of the matter of culture (see on page 35) and changing context (see on page 35), it is a significant factor in Koolhaas’s preservation vision. “Architecture is saved from obsolescence and appears contemporary as it is framed and reframed by preservation as culturally significant.”⁴⁵ Jorge Otero-Pailos argues that preservation is a new path or an expansion of architecture regarding cultural relevance.⁴⁶ The public did not perceive several historical-significant-status buildings as a cultural significance.⁴⁷ For example, the Ruhr Museum was under preservation renovation by OMA to transform public perception of the Zeche Zollverein mine as World Heritage. This project has been successfully done by using the technique of supplementation to generate the formless change and culturally significant (see more on page 43). Evgenii Mikhailovskii, a Soviet preservationist, supports this vision by stating that preservation is not a means of change but a perception of architecture.⁴⁸ Refer to Figure 28 (above).

(A)lternative preservation .

In the context of Venice and this thesis position toward Koolhaas’s manifesto, Venice is not an obsolete architecture as the Zeche Zollverein mine but rather a soon-to-be vanished heritage. This thesis argues the issue of existing approaches toward heritage is reparation but not prevention, in parallel with the future projection vision of Koolhaas. As mentioned in the section “Re-imagine preservation.” on page 27, water is a dual constructive-destructive cultural aspect in Venice. Water, the “horizontal water,” was accepted as a constructive cultural aspect of a place, but raising “vertical” water is considered destructive. The thesis questions the possibility of how the “vertical” water can be the future cultural landscape, and Venice can sustain this major threat beyond 100 years if concerned with this factor of future contextualism. The loss of heritage is irreversible; hence, prevention is the key. To prepare for this, preservation with formless supplementation to achieve future cultural relevance and change the perception of Venice heritage value in an anticipated future context is key. Refer to Figure 28 (below).

45 Koolhaas and Otero-Pailos, Preservation Is Overtaking Us, 80.
46 Koolhaas and Otero-Pailos, 97.
47 Koolhaas and Otero-Pailos, 95.
48 Koolhaas and Otero-Pailos, 91.

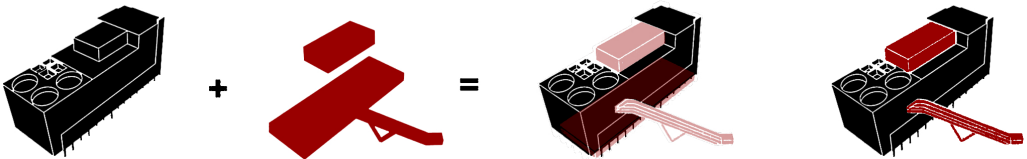


Figure 35. Ruhr Museum. Formless supplementation. Escalator

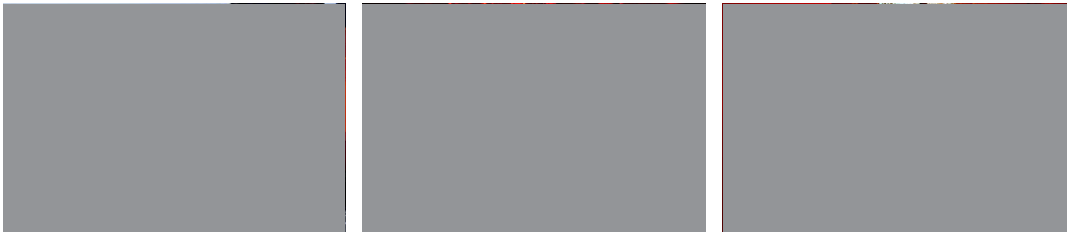


Figure 36. Ruhr Museum. Formless supplementation. Lighting installation

From A to (A) .

Precedents .

. Ruhr Museum (at obsolescence risk)

Information

Work: Connection renovation

Supplementation: Escalator + Lighting

Architect: Rem Koolhaas/OMA (Renovation)

Location: Essen, Germany

Year: 2007

Status: Completed

Description

This building is one of the largest coal mine and coking plants in Europe.⁴⁹ It was declared World Heritage Site in 2001, and OMA was commissioned to design without changing the building but rather the public's perception to recognize it culturally. Lack of entrance and poor circulation is the site's issue; hence, OMA created an escalator relatively close in form compared to the old structure as a formless supplementation to revitalize this heritage. Besides the structure, lighting is the second formless supplementation to simulate the extreme heat flow of the coking plant and furnaces. The mentioned supplementation is one of the tactics that Koolhaas called "pure simulation."⁵⁰ It successfully calls the public attention and creates cultural relevance to this historical significance.

⁴⁹ Koolhaas and Otero-Pailos, 95.
⁵⁰ Koolhaas and Otero-Pailos, 95.

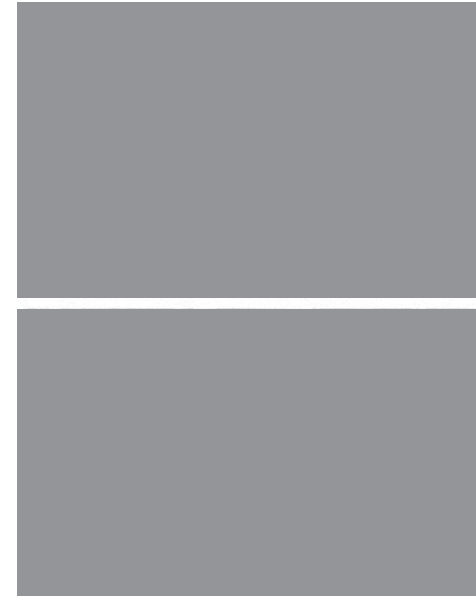


Figure 37. Museum of Anthropology. Site (above) and Renovation site (below)

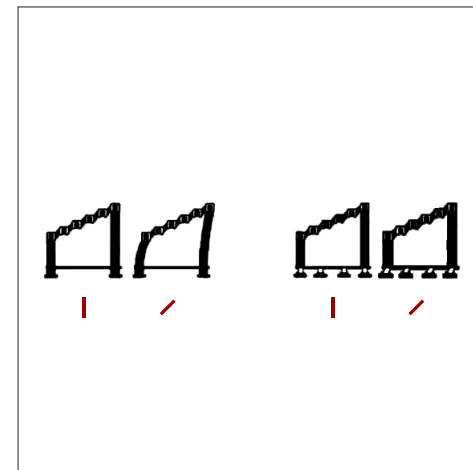


Figure 38. Museum of Anthropology. Without (left) and with (right) Base Isolation – Structural Seismic Extension.

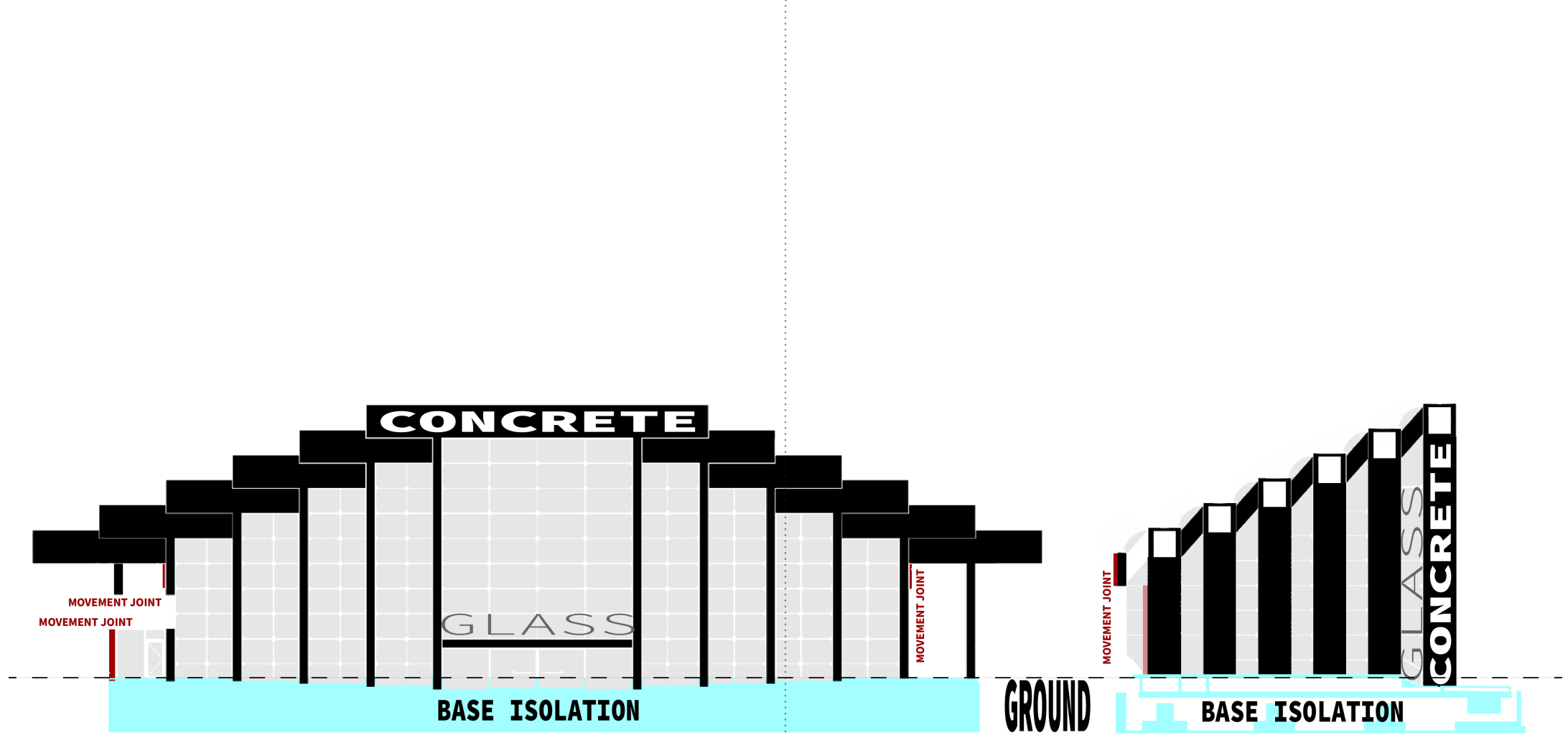


Figure 39. Museum of Anthropology. Without (left) and with (right) Base Isolation – Structural Seismic Extension.

PART III. SITE.

Site .

Ca' d'Oro (1422-1440) Venice, Italy .

"Long considered one of Venice's finest residential palazzos, Ca' d'Oro has, over its six-century history, become a well-photographed landmark on tours of the city's Grand Canal. Today, Ca' d'Oro is also a valuable component in the cultural life of the city; WMF's conservation work helped restore elements of the building's famous façade and contributed to the reopening of its interior after years without public access for use as a museum. Since 1983, the palazzo has housed a fine collection of paintings from the Venetian and Tuscan schools, and a smaller collection of sculpture and ceramics."¹

(World Monument Fund)

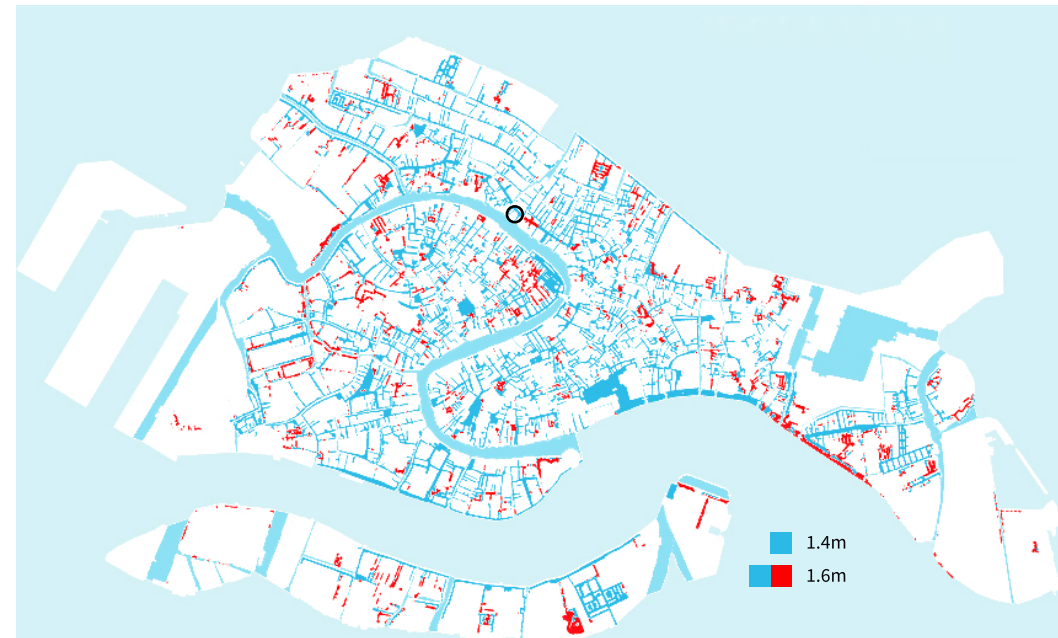


Figure 40. Site. Flood risk map

¹ 'Ca' D'oro', World Monuments Fund, accessed 4 January 2022, <https://www.wmf.org/project/ca-doro>.



Figure 41. Ca' d'Oro. Site context

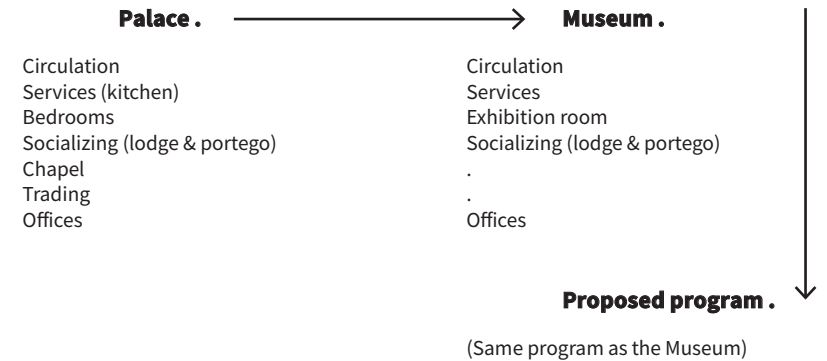


Figure 42. Ca' d'Oro. Site



Figure 43. Ca' d'Oro. Facade model

Program .



Methodology .

The design brief is to extend the museum with more space for exhibition, gathering spaces and an escape route; ultimately, to prevent flood impact on the building for 200 years onwards. This thesis aims to preserve the structure and change the perspective of extreme water to be the quintessential part of new architecture culture.

The alternative preservation strategy includes:

1. "Extension" of the structure to meet the spatial requirement
 - Create the narrative to exhibit and navigate people compelled to the theme of the existing museum
2. "Formless supplementation" for extreme water-rising emergency circumstances
 - Manage water flow
 - Create circulation for people to escape
 - Invent an adaptive structure used both with and without water emergency

The design process includes:

- Research Venice predict flooding map for 200 years
- Identify extreme flood-affected and non-affected area
- Analyze site context to create escape routes
- Research the history of the museum

Site anlysis .

Water issue .

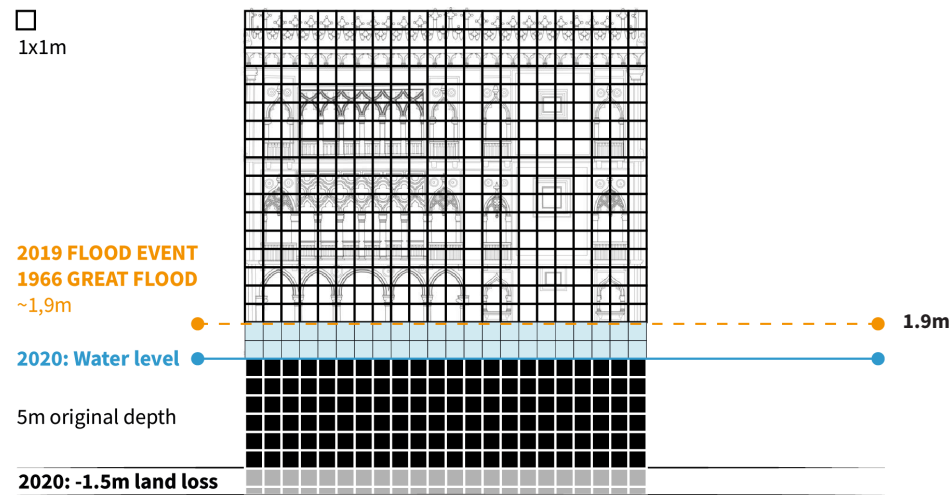


Figure 44. Present water level summary

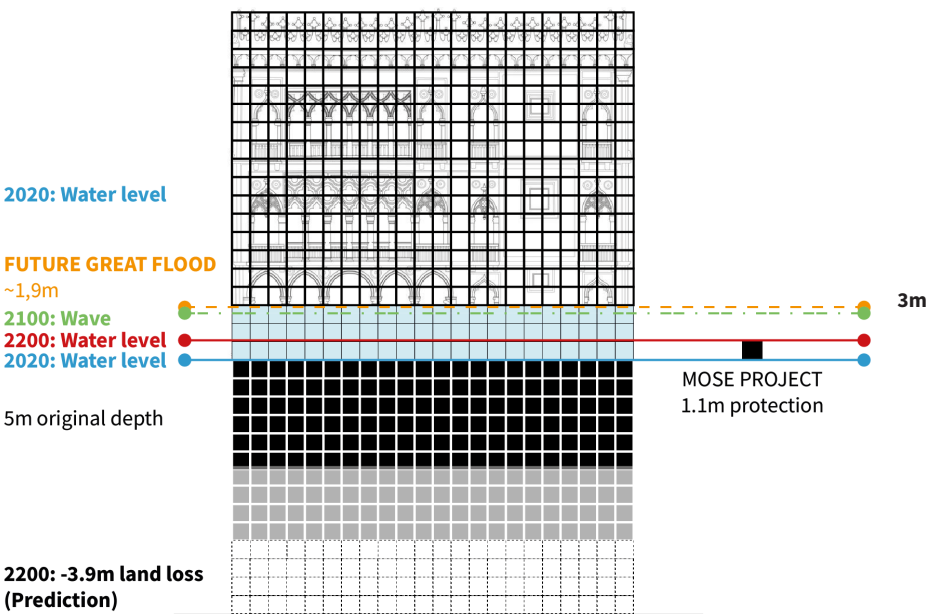


Figure 45. 200-year water level summary

Site anlysis .

Water issue .

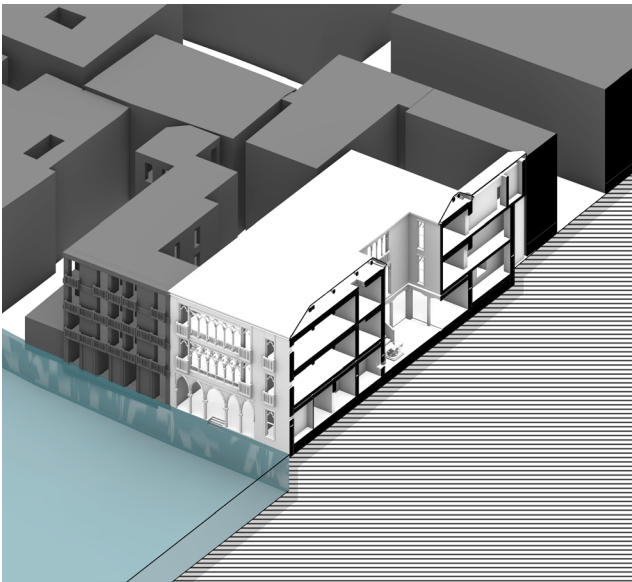


Figure 46. Present water level diagram

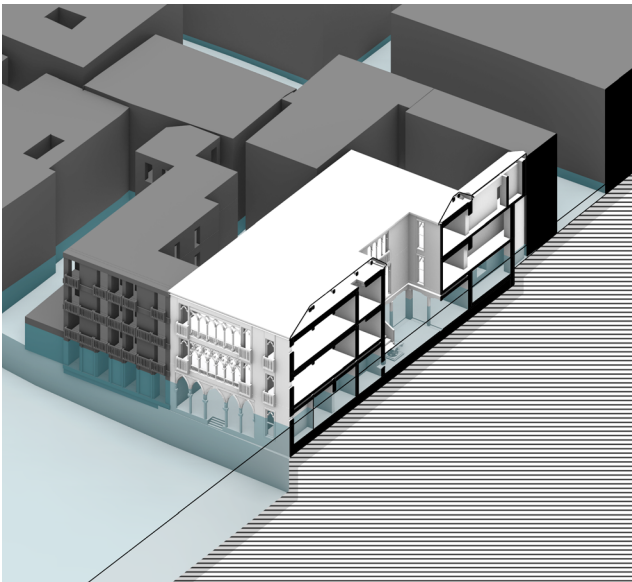


Figure 47. 200-year water event at 3m diagram

Site analysis .

Structure issue .

To emphasize how the critical preservation is, the failure of structural integrity is the failure of the entire building. The salt from the rising water is brick's enemy. The primary loadbearing structure and the fluctuation of brackish water thinner the brick; eventually, it weakens the building.

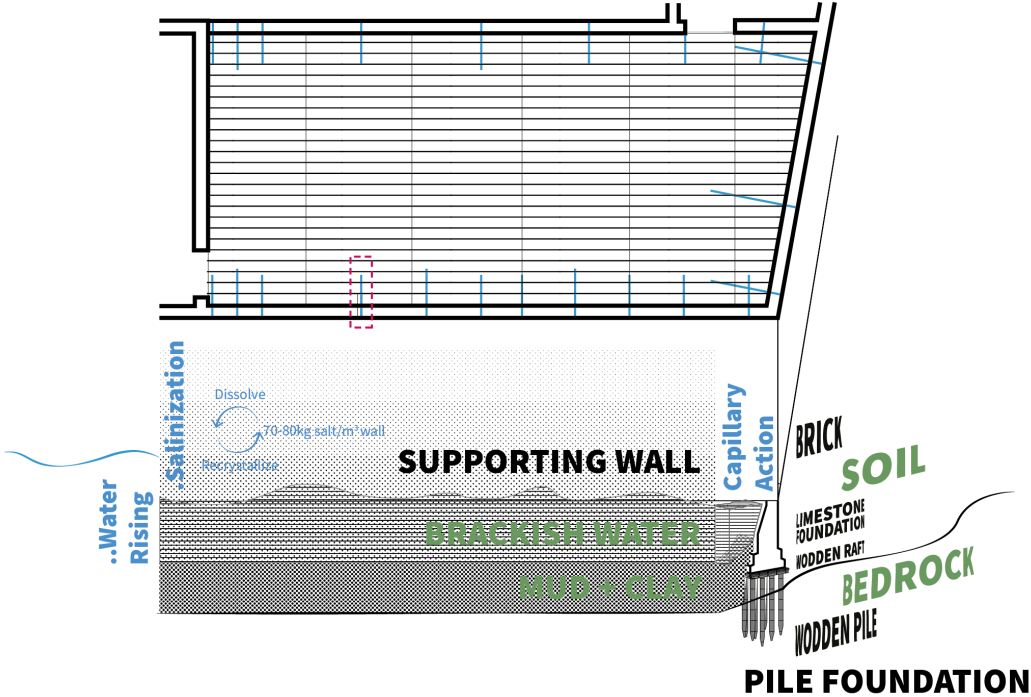


Figure 48. Salt impact on structural integrity diagram

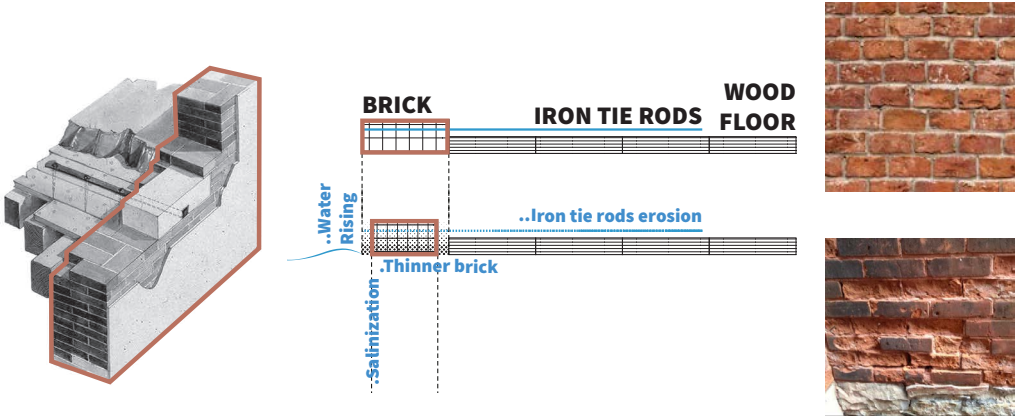


Figure 49. Salt impact on brickwork diagram

Site analysis .

Ca’ d’Oro history analysis.

Aiming to unpack the significance of Ca’ d’Oro, these serial diagrams analyze the most important object to unpack the historical values of this site’s richness. Lately, it lead to the Recognition of Values which dissects the value of the place and subject to preserve.

This building was a trade house built in the 15th century. It was initially a palazzo of the Contarini family. After several owners, it is now the home of many famous paintings by Titian, Van Dyck, and Bernini...

- Besides the luxurious façade, there are many interesting things within this building.
- The ground floor with the masterpiece Mosaic floor from Franchetti’s design
 - The courtyard with the abandoned well cistern area and the beautifully carved wellhead next to the external staircase.
 - The museum and exhibition area on the first and second floors. The visitor will have a chance to look over the Grand Canal from a high viewpoint, which is the tourist’s favourite area.

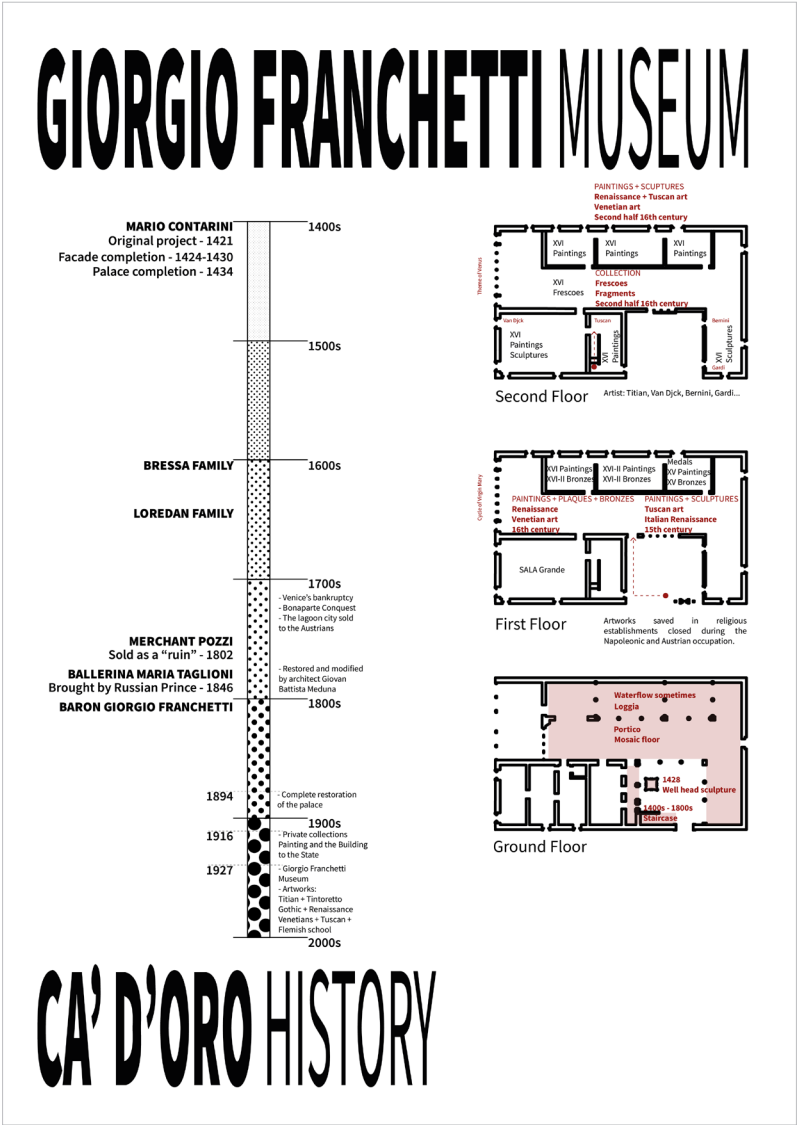


Figure 50. History analysis

Site anlysis .

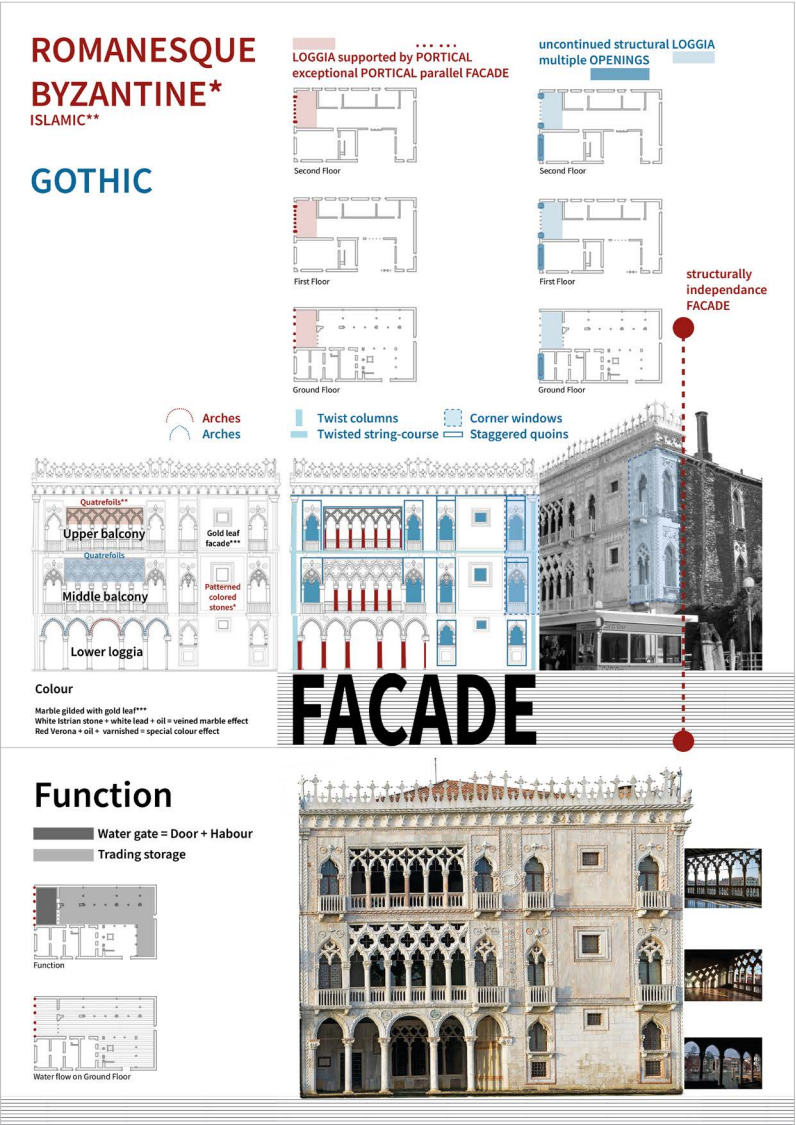


Figure 51. Facade analysis

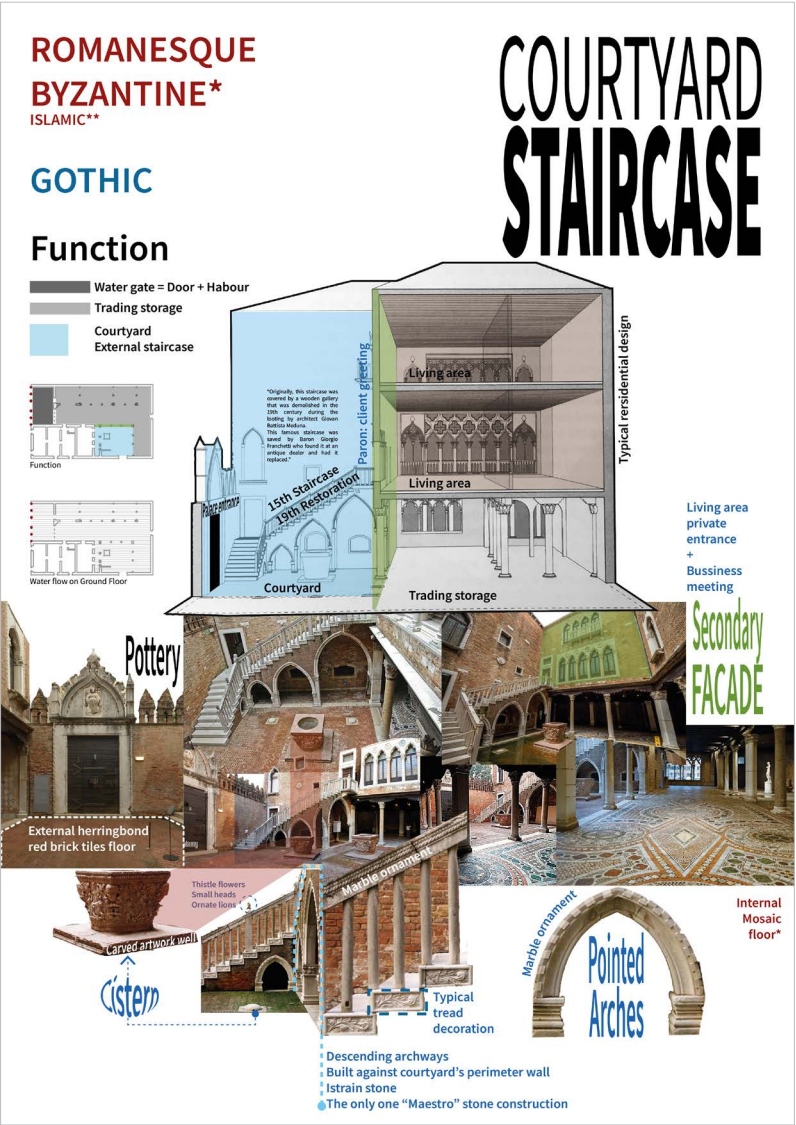


Figure 52. Courtyard and staircase analysis

Site anlysis .

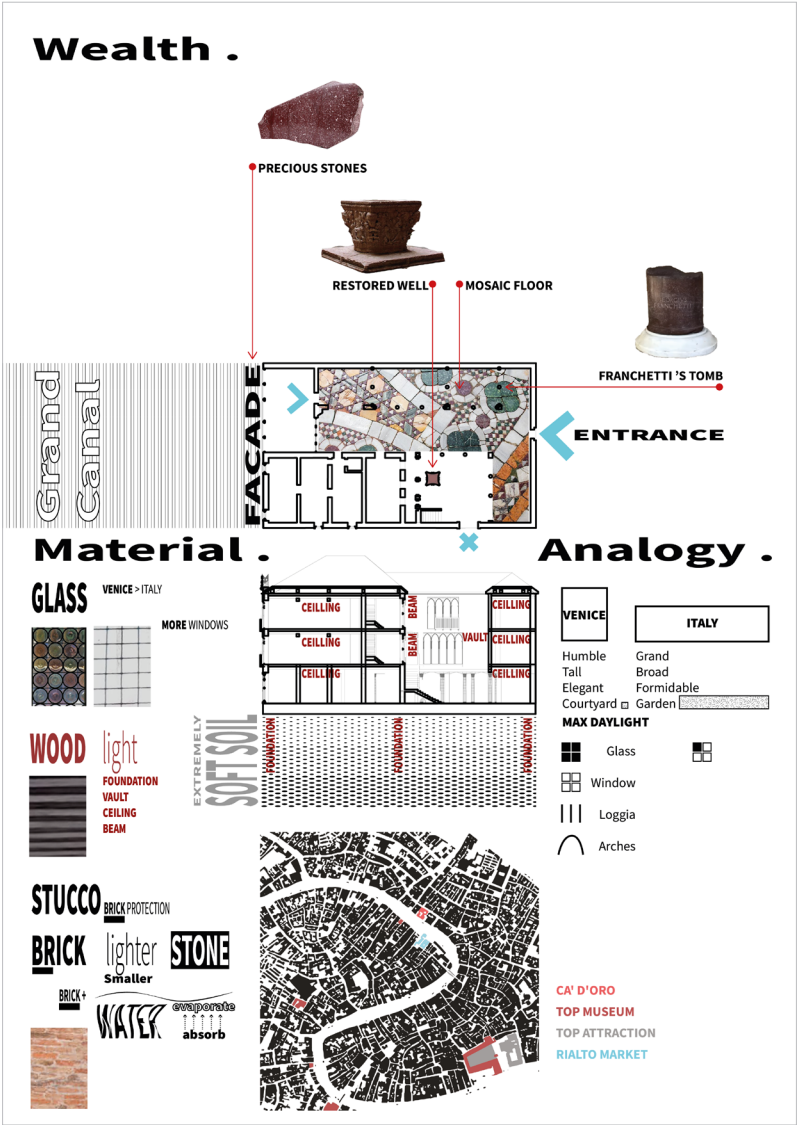


Figure 53. Material analysis

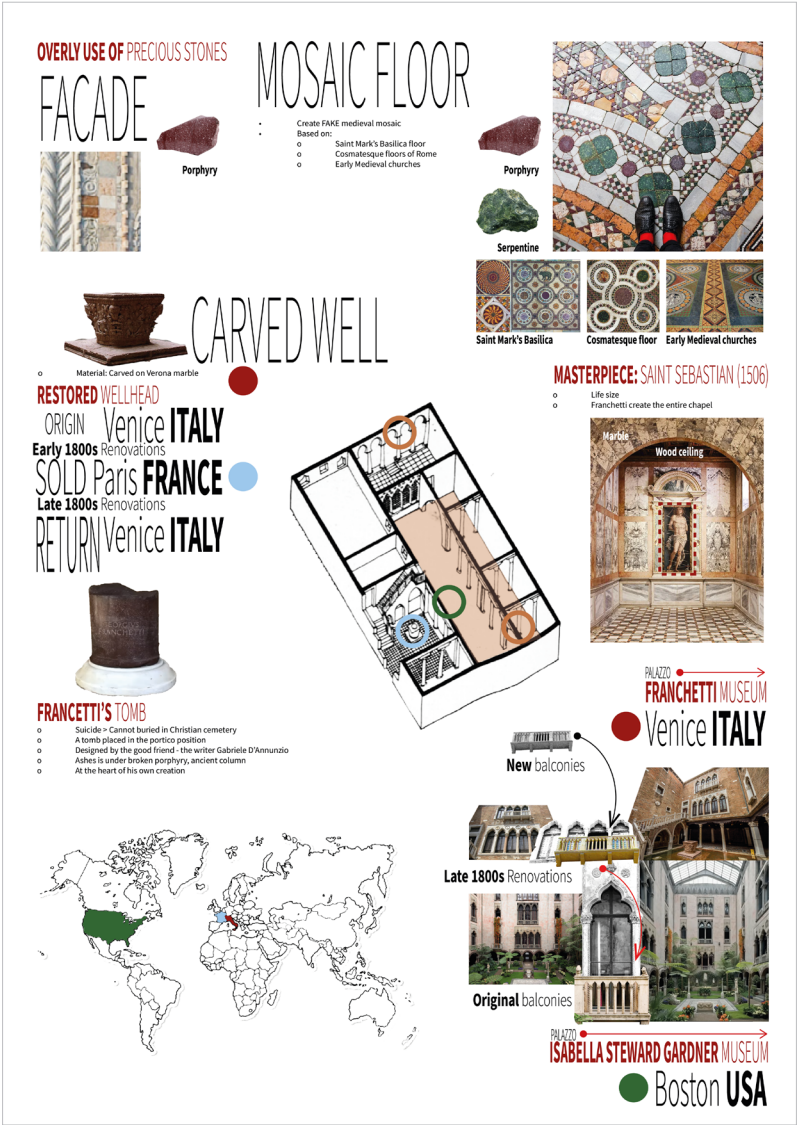


Figure 54. Significant objects analysis

Recognition of Values .

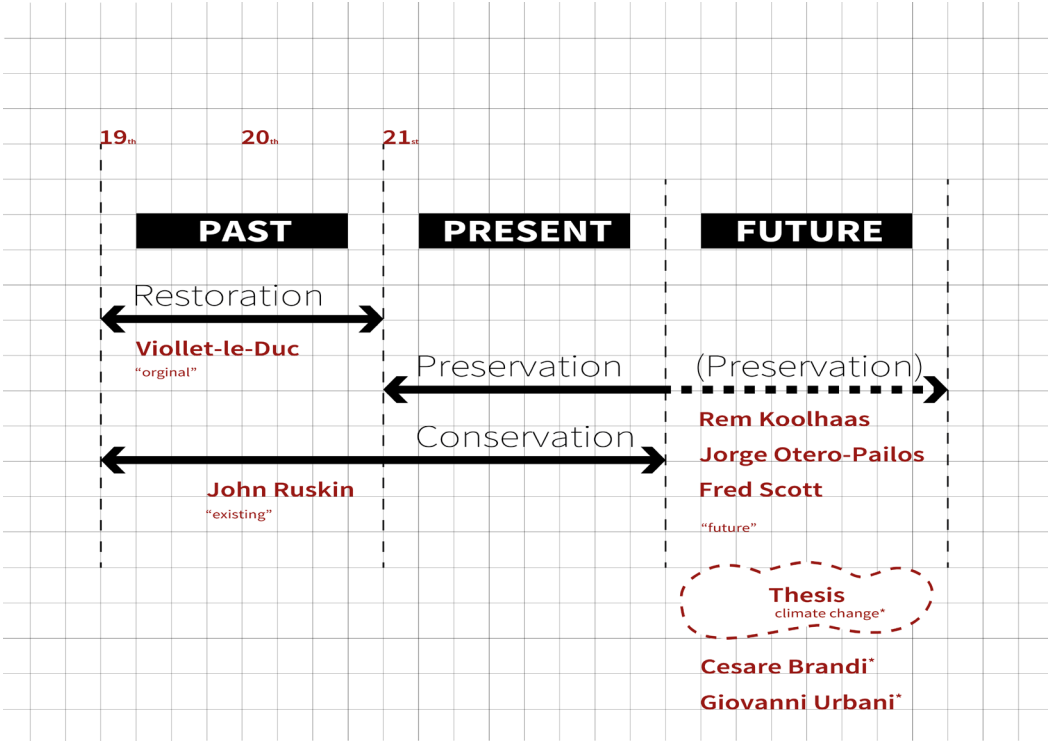


Figure 55. New diagram of Restoration, Preservation, Conservation in time and thesis position

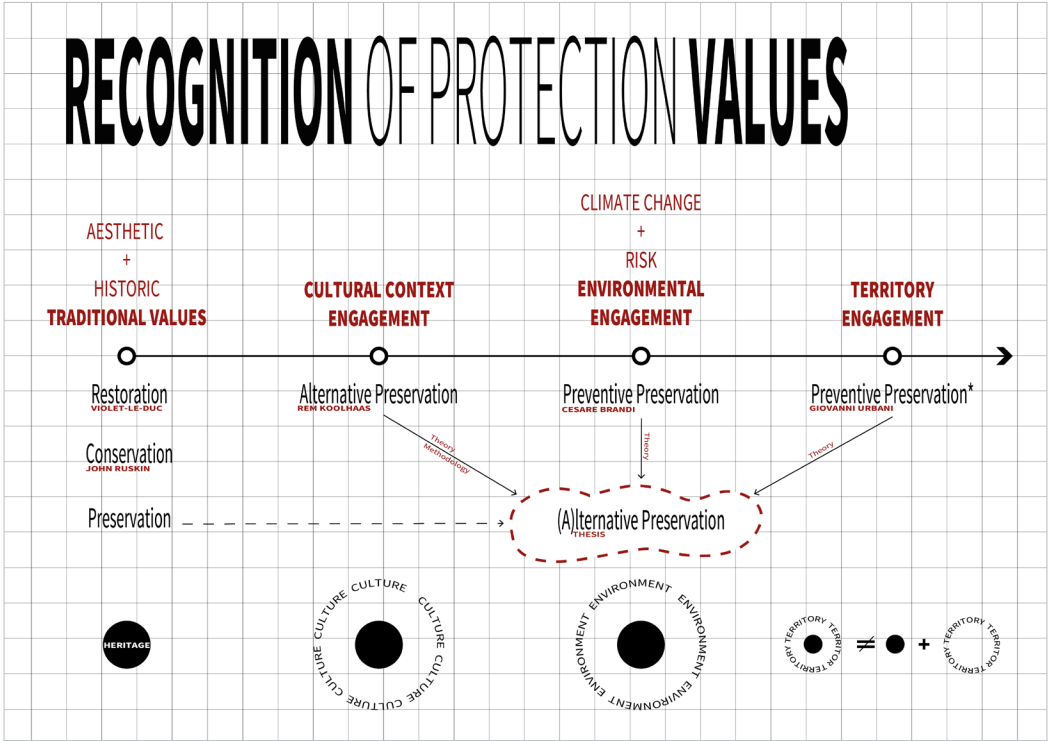


Figure 56. Recognition of Values: Material, Use, Form

Recognition of Values .

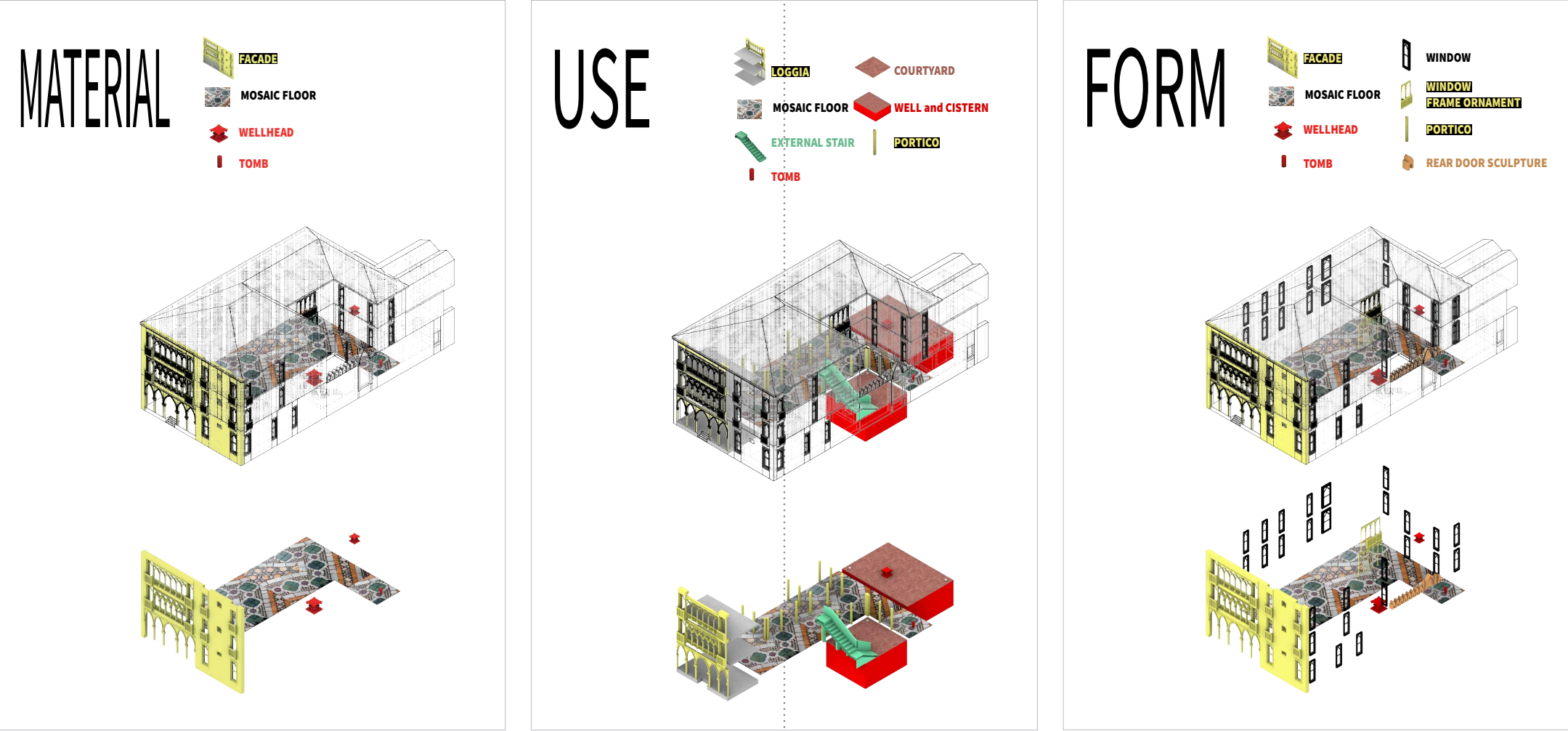


Figure 57. Recognition of Values: Material, Use, Form diagram

Recognition of Values .

Material - Use - Form .

This action identifies the most important architectural element of the building base on the significance of material, use and form, focusing on the ground floor because the ground floor of the 15th Venetian trade house is the distinguishable factor compared to other buildings.

Firstly, objects that fall into all three categories are considered critical significant and will be preserved as original; or will be relocated if it is under threat. Such as:

- Facade and Mosaic floor and Franchetti's tomb are untouched
- Wellhead is considered to be replaced by a crystal replica in the original location because it is a sensitive object that is being damaged. The original wellhead will be protected within the museum space on the upper floor.

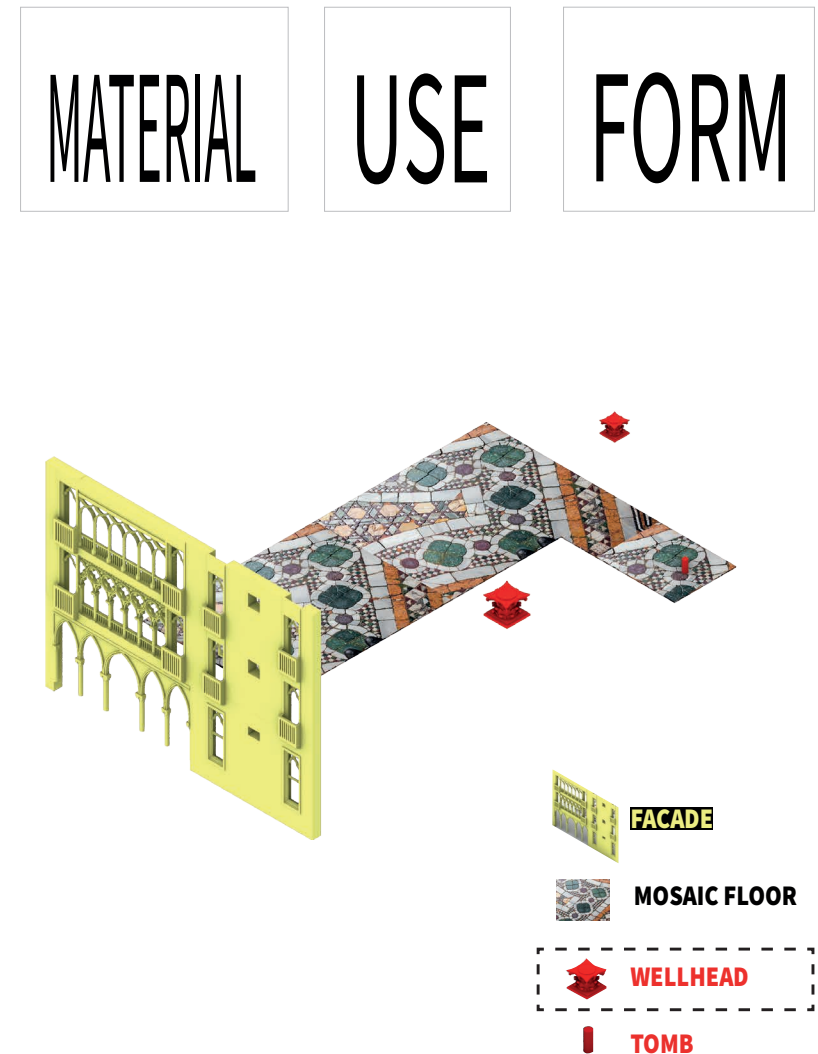


Figure 58. Material - Use - Form listed and treatment

Recognition of Values .

Use .

Secondly, elements that fall into the Use category are essential and will be preserved as an impression only because it is inefficient for the current use and future design. For instance:

- External stair is the unique architectural element in the trade house. It will be replaced by a newly constructed stair to ensure the efficient circulation for future use, especially concerning the water
- Well and cistern is now unused due to sanitary reasons, so the impression of its location will be the preservation method
- Columns in the portico area are also a critical element in the trade house ground floor. So it will be taken further in the design concept rather than its original use of structural support

USE

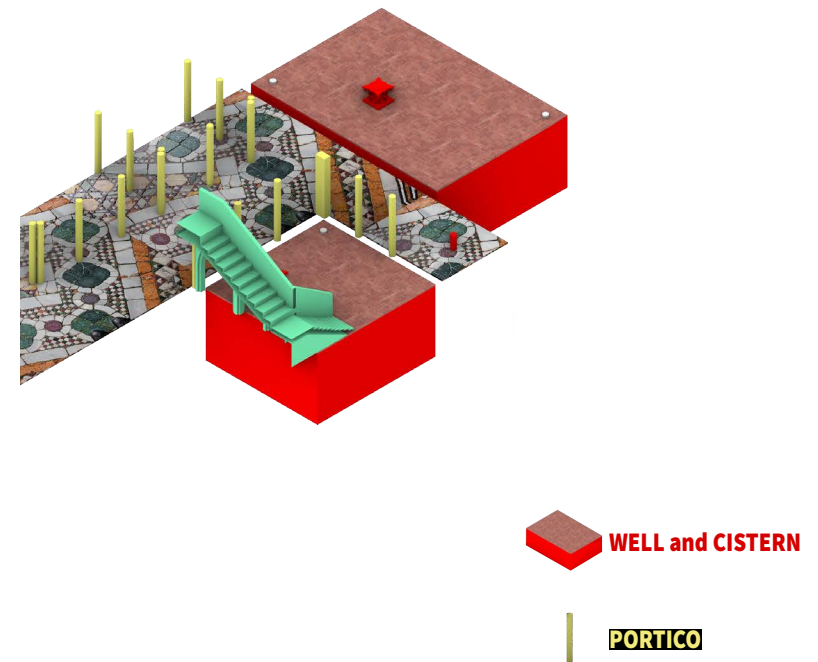


Figure 59. Use listed and treatment

PART IV. INVENTION.

Concept .

From this thesis preservation standpoint, preserving the building is incomplete without concerning the interaction of the building along with its culture and environment. In Venice, water and building are indispensable. The impression of water with light upon this building is extraordinary. It conceals and reveals architectural elements and sometimes leaves marks on the material. In Ca' d'Oro the portico and loggia with columns are iconic, especially on the flooded ground floor. The ground floor is the most critical location to preserve the entire building.

The concept is based on the impression of light, and water.

For the sensible preservation, what is not directly affected by water, which is everything above the ground floor, will be lifted one-floor height to ensure the use of the façade on the upper floor and the intervention of water resistance framing structure. This opens an opportunity for light and water:

- Firstly, it invites more natural light that intensifies the moment of light, reflection, and water engagement
- Secondly, it allows water to be a part of the building.



Figure 60. Concept diagram by new (red) and old (black)

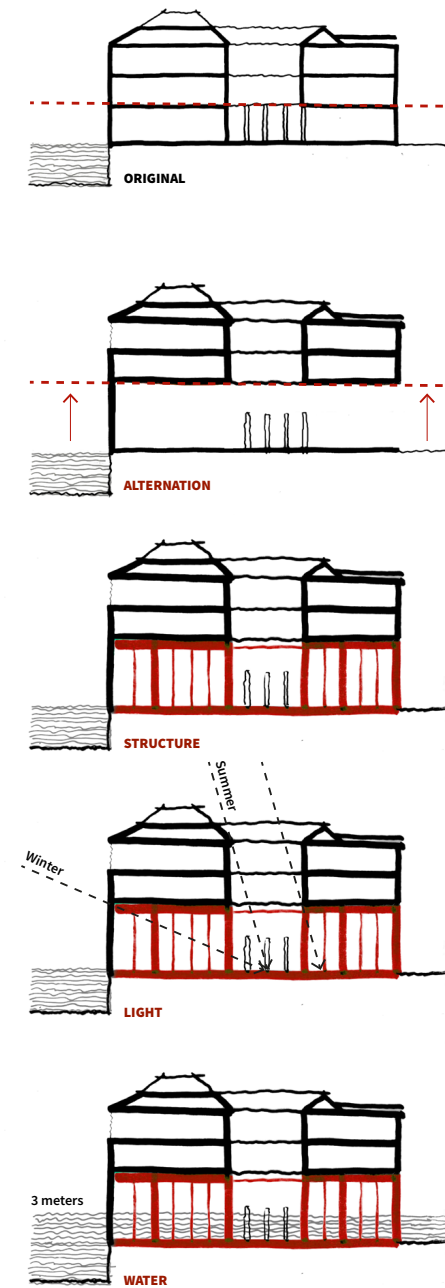


Figure 61. Concept diagram by serial sections

Light and Structure .

The structural grid of the building is defined by the light direct at 12 o'clock that hit the columns in the loggia and portico. It also defines where is dark and light.

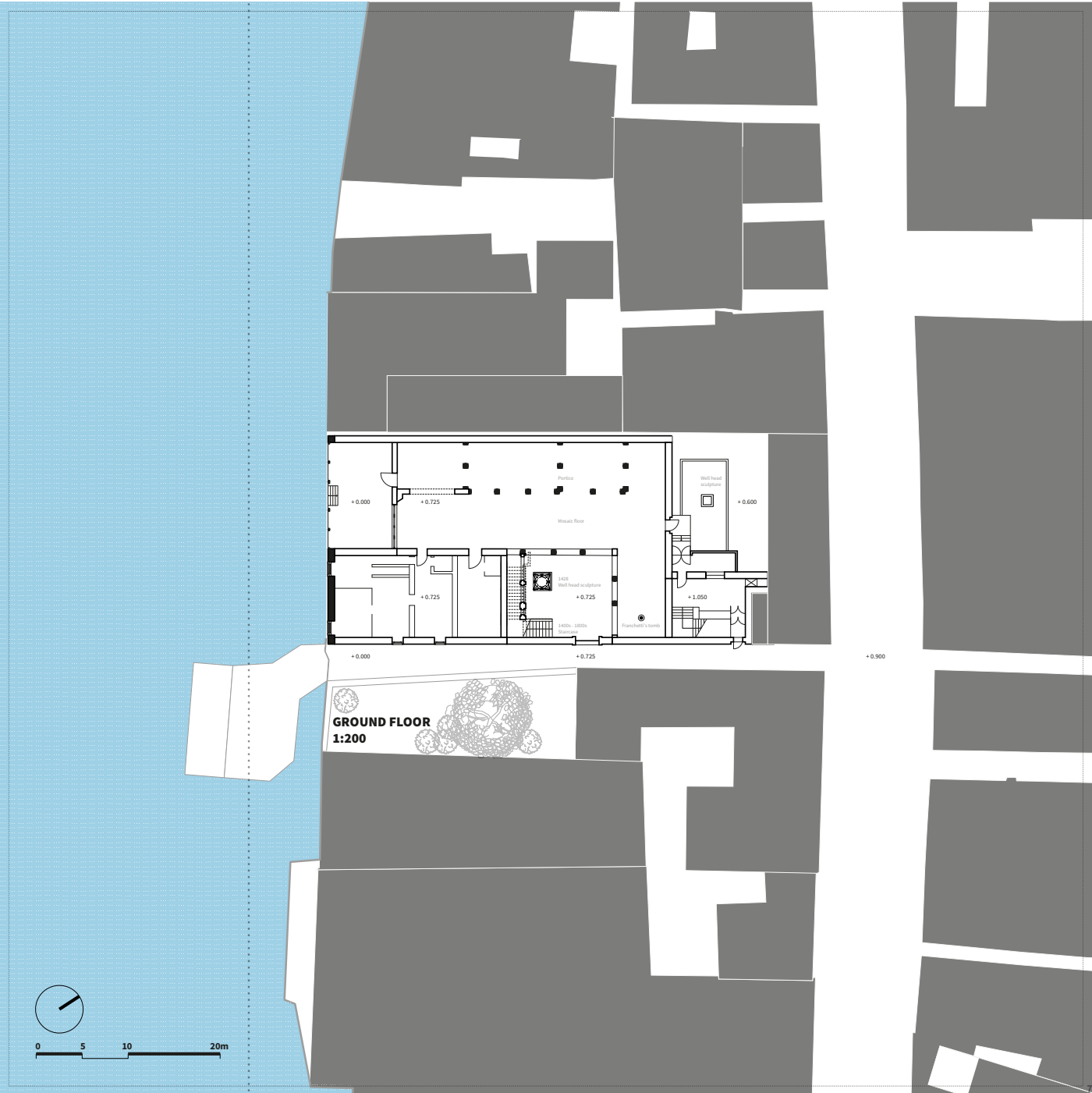
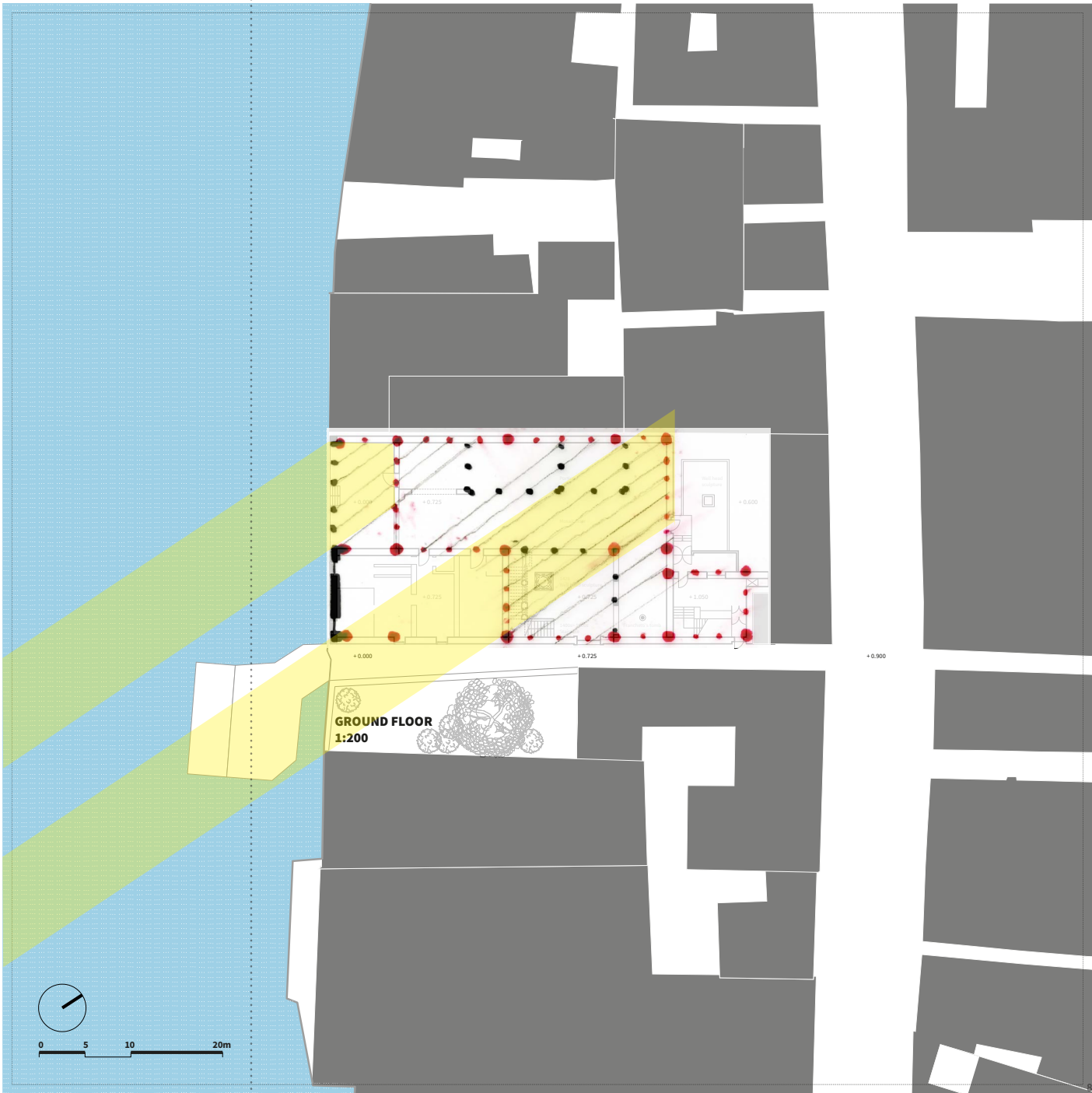


Figure 62. Site plan - Existing

Light and Structure .



Figure 63. Site plan with light and structural diagram



Light and Structure .

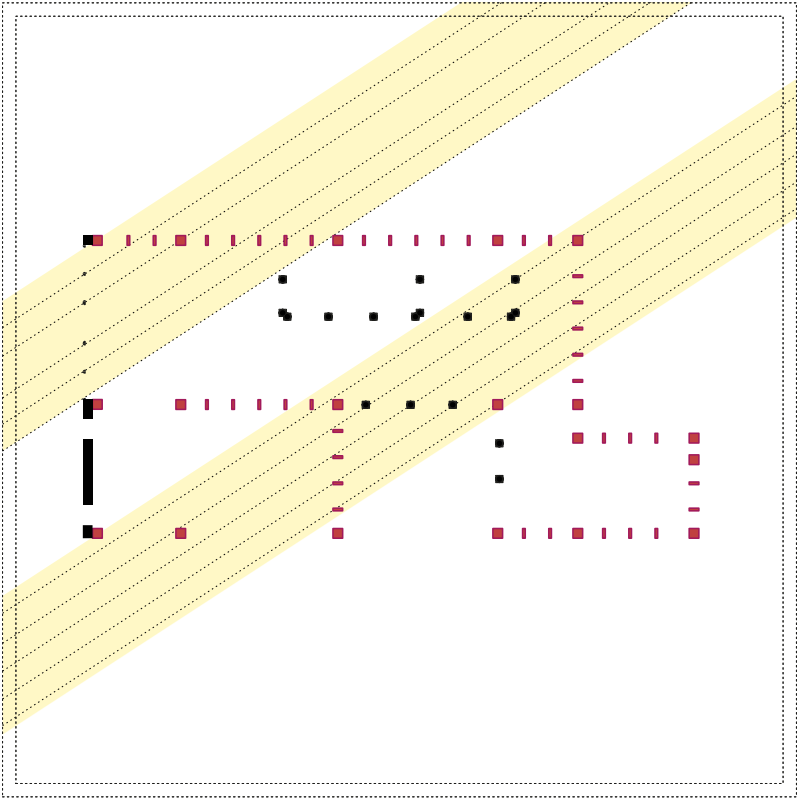


Figure 64. Structural diagram

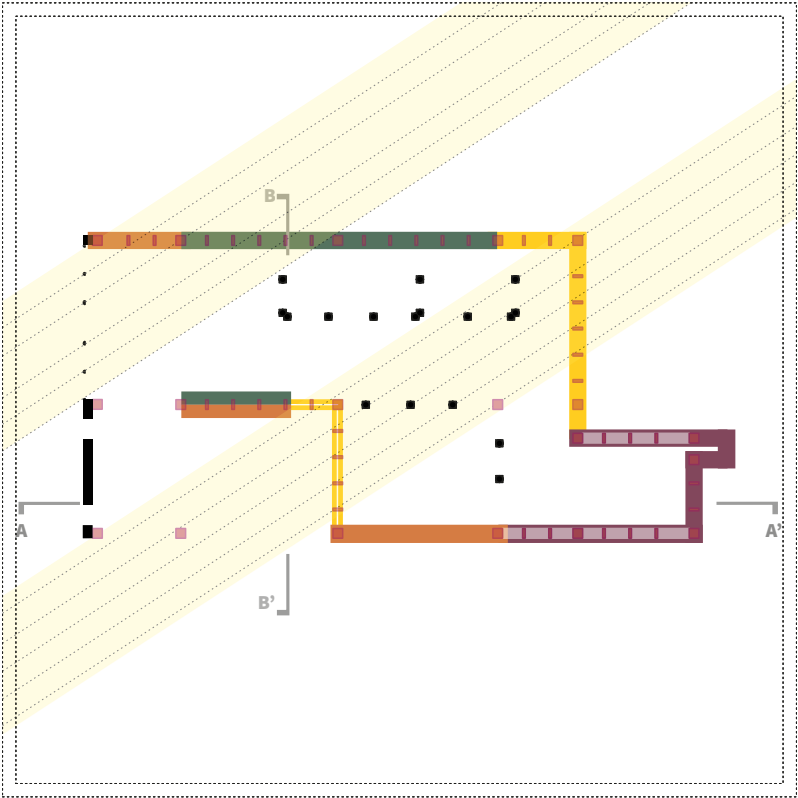


Figure 65. Wall colour diagram

Water .

This building is famous because of the impression of wealth that all the owners try to achieve by using expensive stone for the facade and the Mosaic floor. However, losing the impression of colour from precious stones like Porphyry (imperial red) or Serpentine (green) is losing the core historical value of this building.

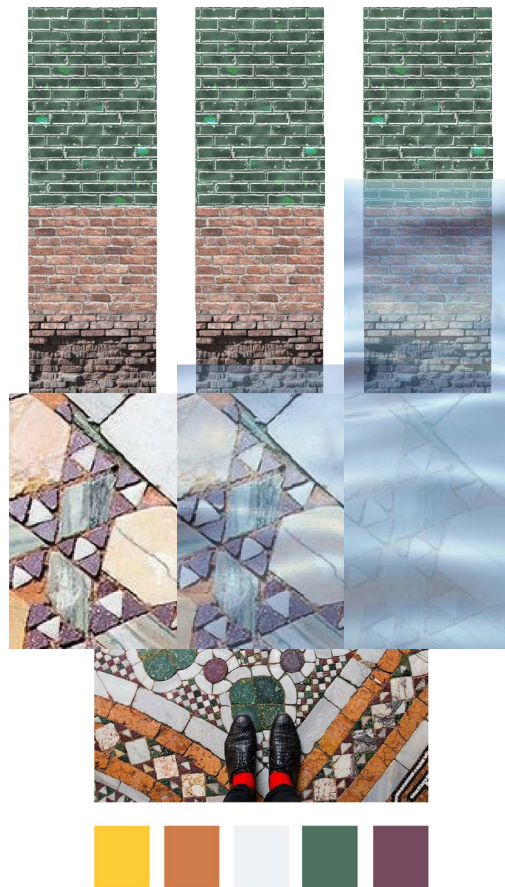
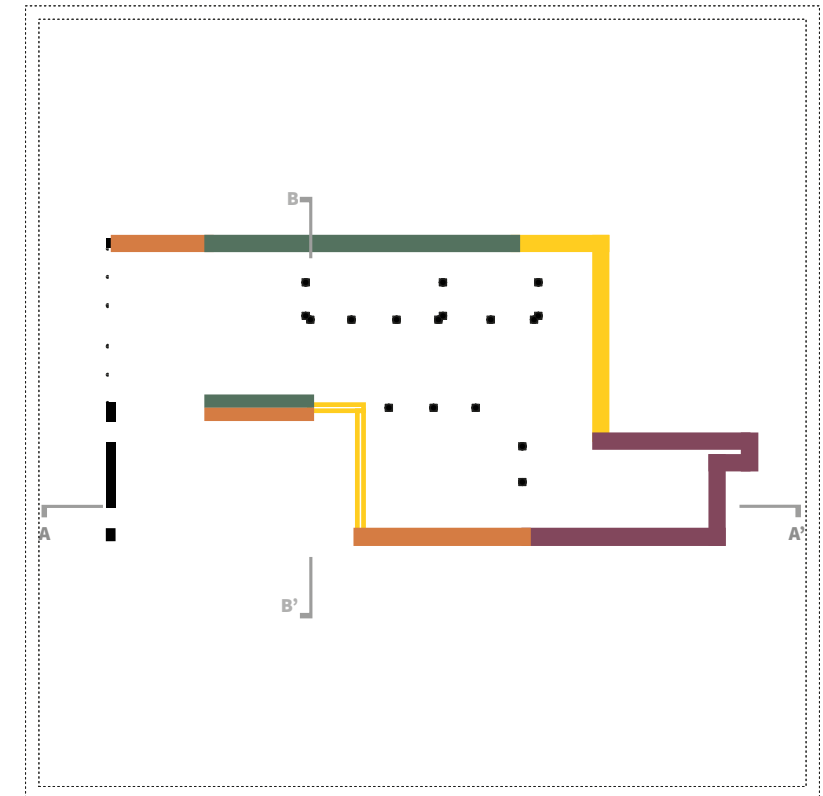


Figure 66. Colour concept

All colours extracted from the Mosaic floor are green, imperial red, orange and yellow, covering the wall brick to preserve this impression.

Wall colour is defined by function and the space lightness. For instance:

- Yellow is where the light hit the most
- Orange is where has a visual connection to the neighbour
- Green is where the shadowed area
- Imperial red is the shadowed area and also a means of connection to the above floor



Water .

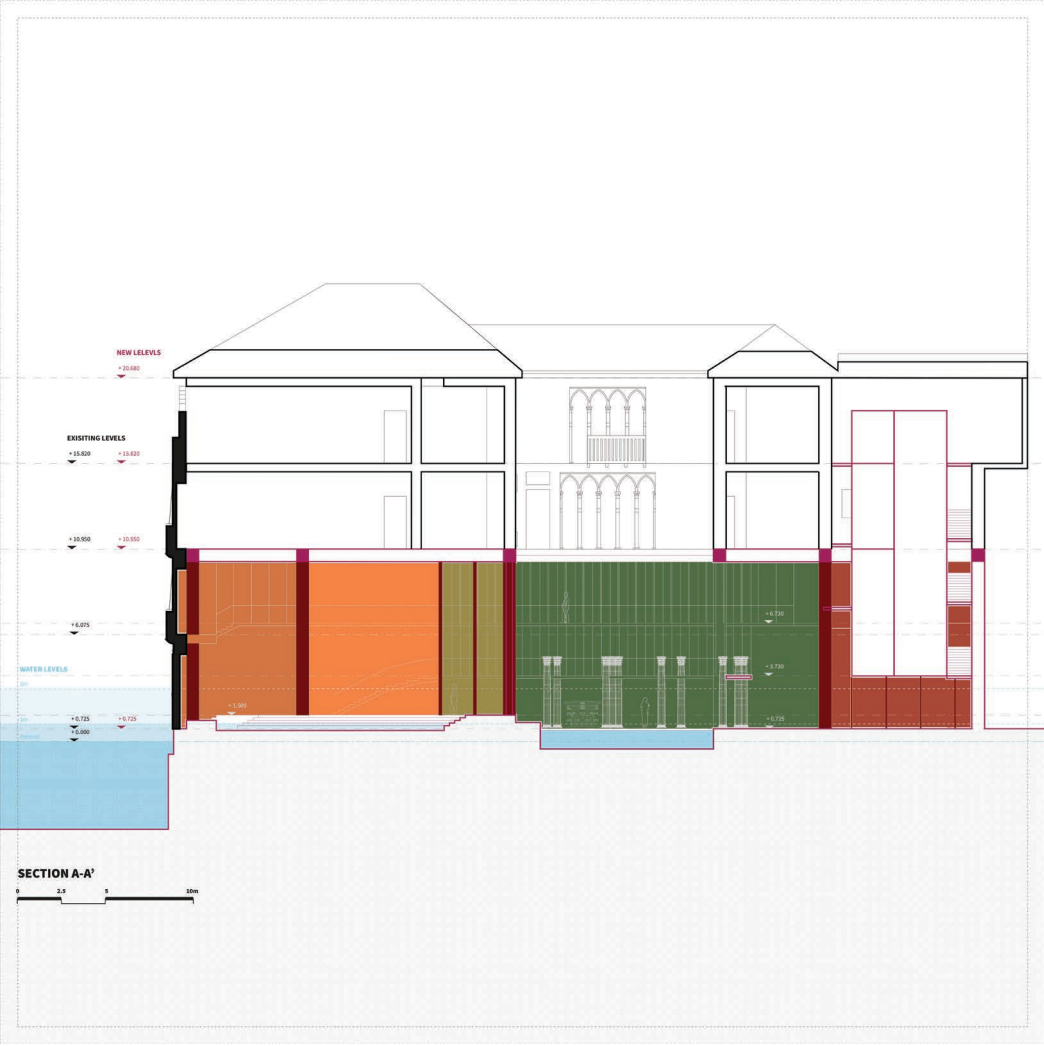


Figure 67. Section A-A'

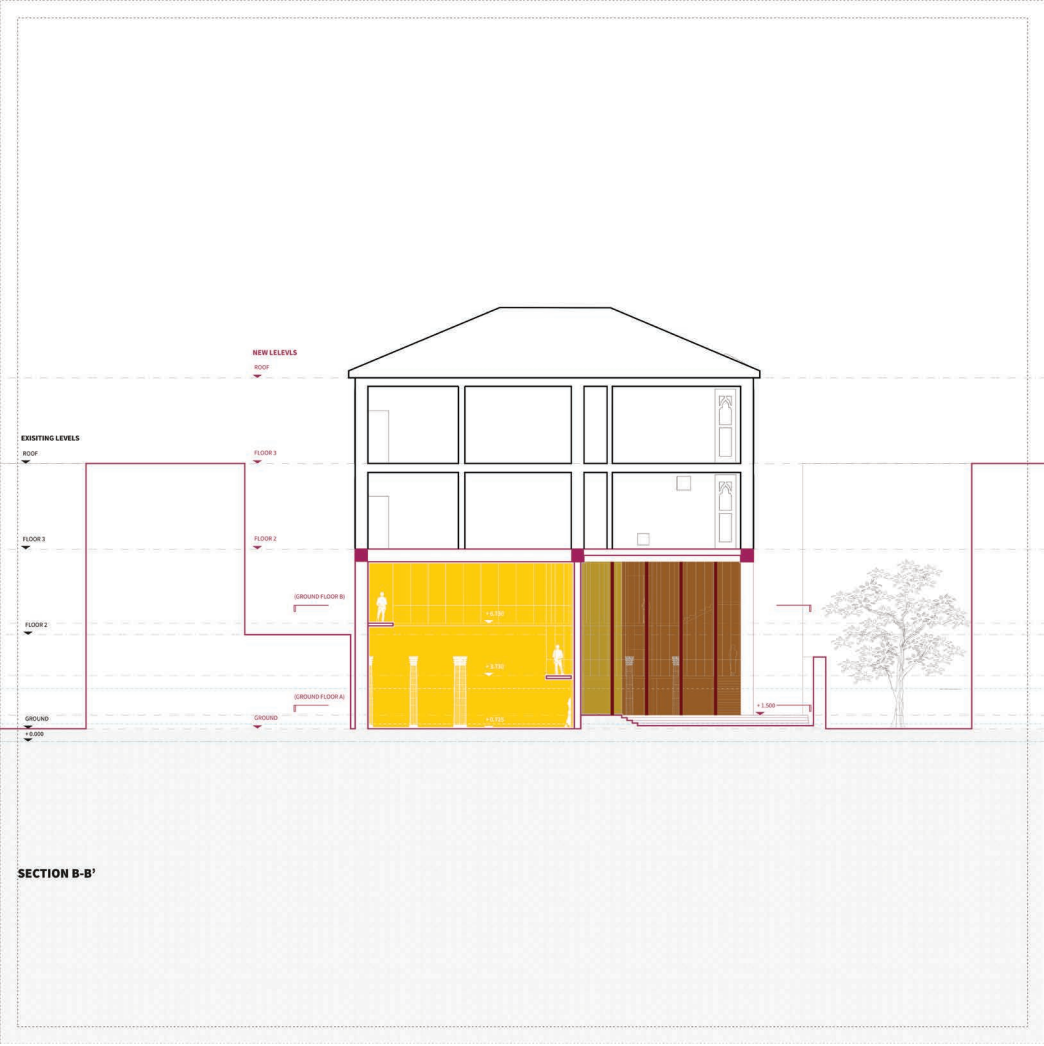


Figure 68. Section B-B'

Water .

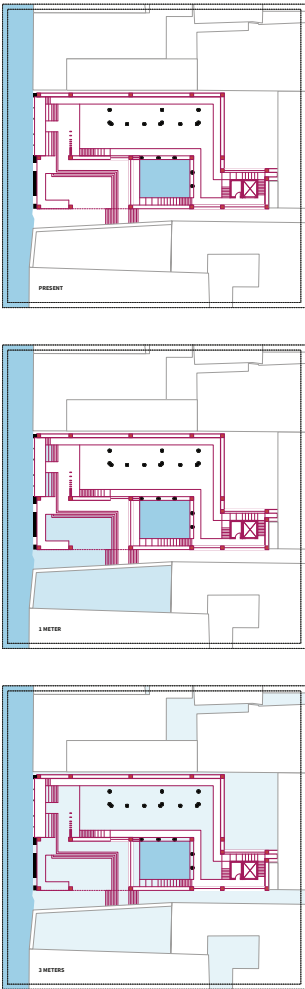
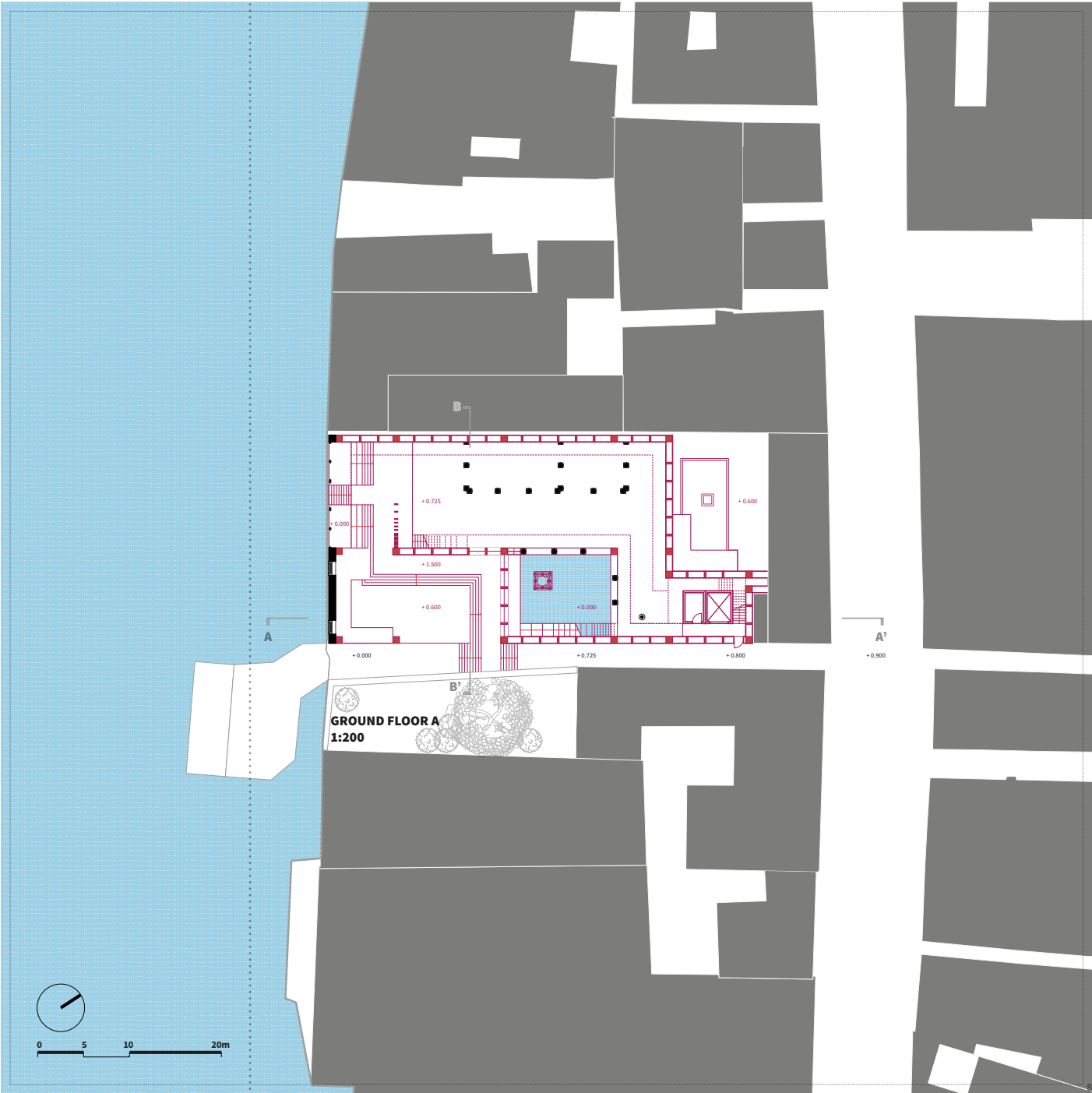


Figure 69. Water level serial diagrams

Figure 70. Site plan - New - Ground floor A



Light and water experience .

At 10 am in June, people can enter the building either from the north side or the sea bus stop on the south. After 200 years, this area is the harbour that still welcomes to enter on both sides to the front entrance.



Figure 71. Canal-facing perspective (10 am June 2022) - Water level 0m

At 10 am in June, people can enter the building either from the north side or the sea bus stop on the south. After 200 years, this area is the harbour that still welcomes to enter on both sides to the front entrance.

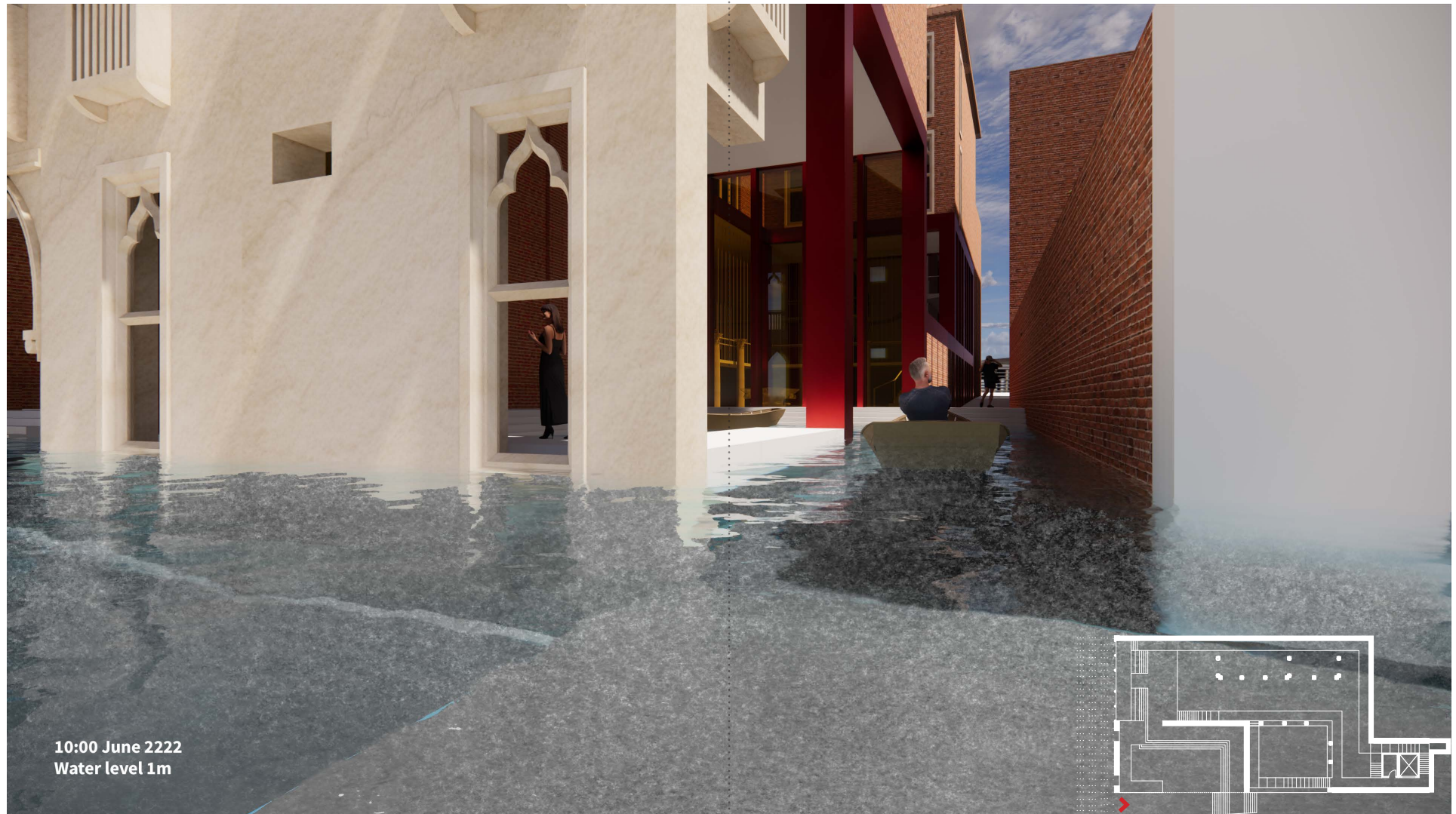


Figure 72. Canal-facing perspective (10 am June 2222) - Water level 1m

The harbour is a space full of light.

This is the location of the yellow glazing wall that intensify the moment that sunlight hits the building, and it is also the connection of light from outside to inside.

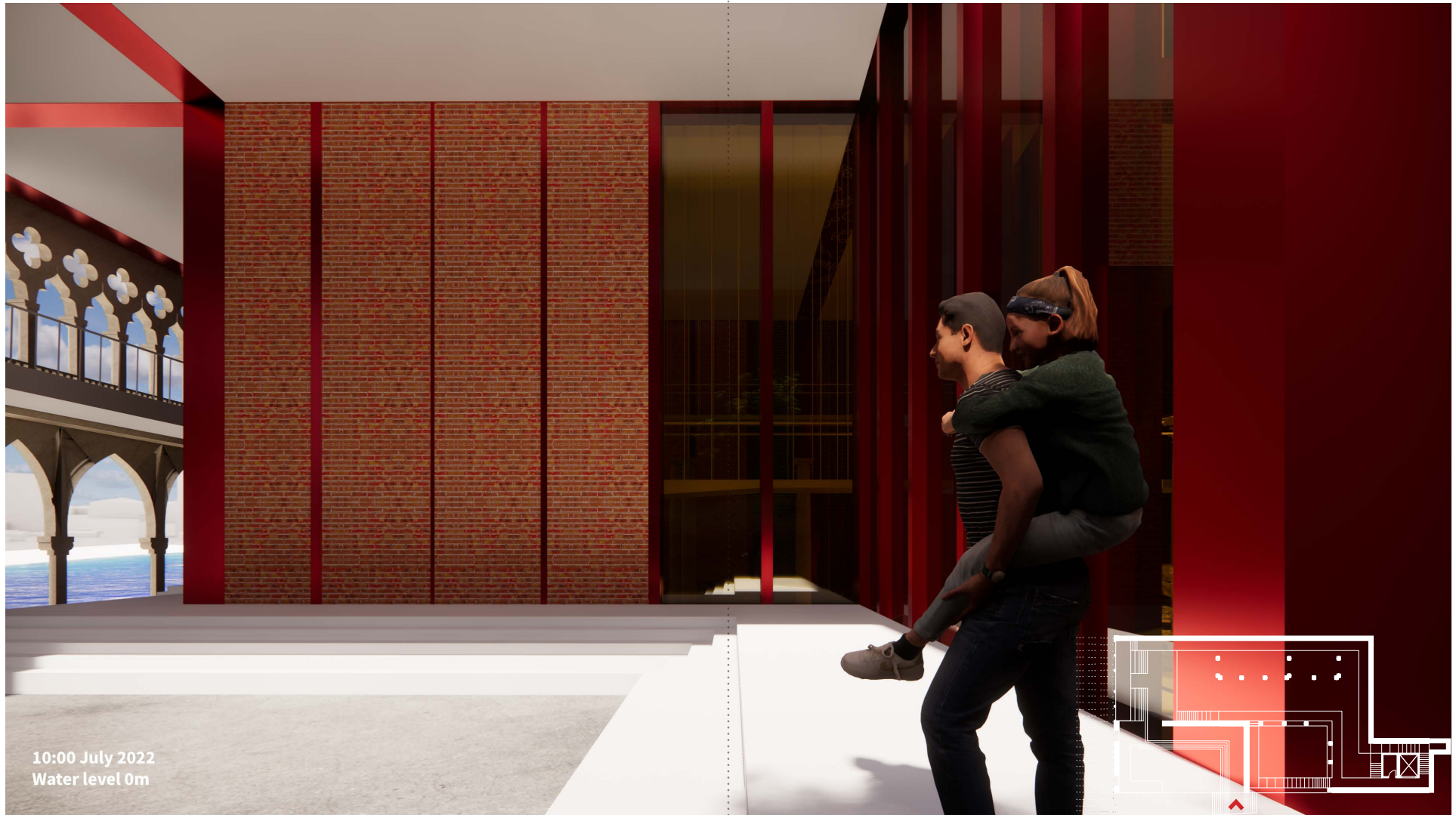


Figure 73. Entrance perspective (10 am July 2022) - Water level 0m

The harbour is a space full of light.

This is the location of the yellow glazing wall that intensify the moment that sunlight hits the building, and it is also the connection of light from outside to inside.

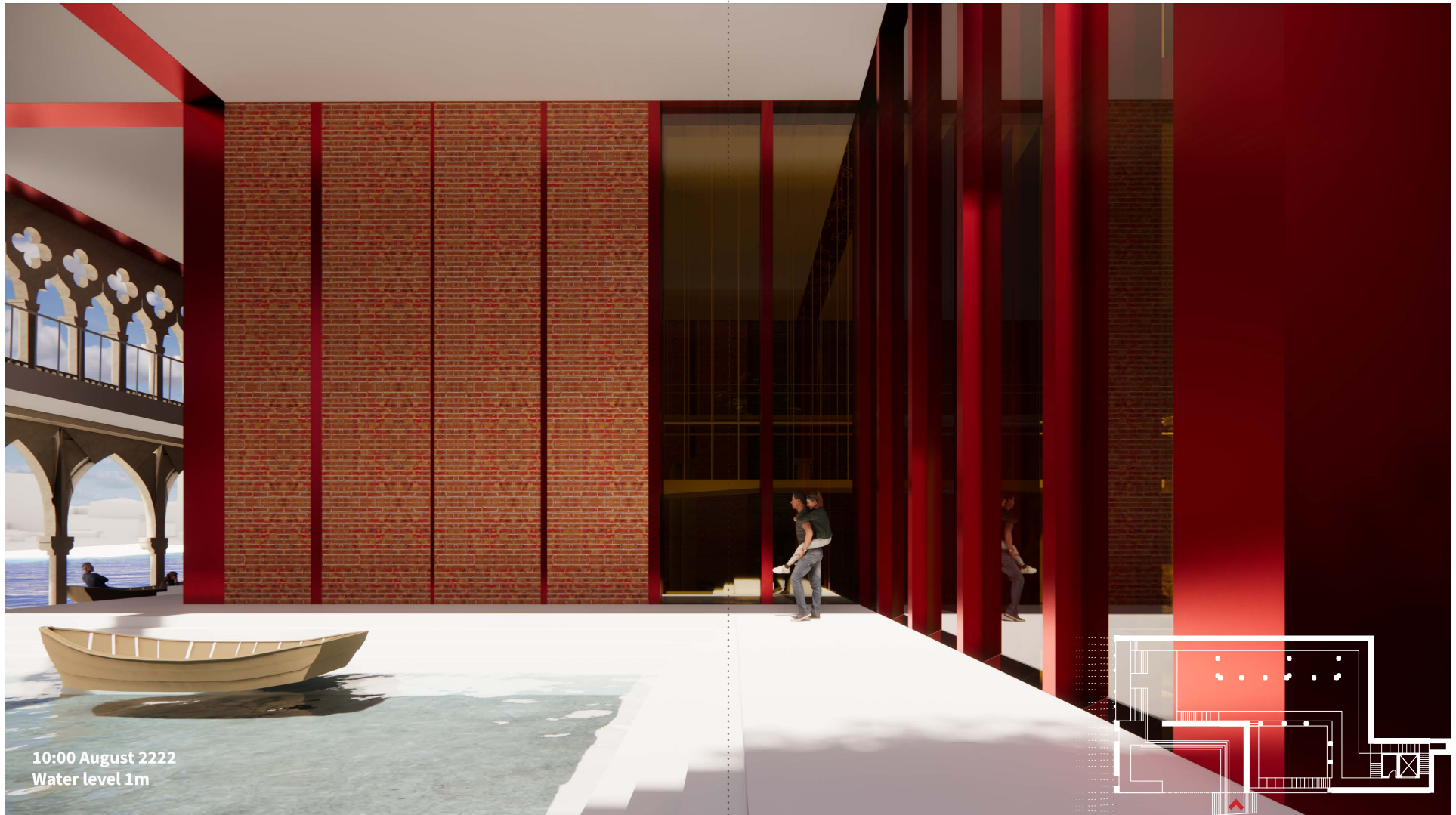


Figure 74. Entrance perspective (10 am August 2222) - Water level 1m

The harbour is a space full of light.

This is the location of the yellow glazing wall that intensify the moment that sunlight hits the building, and it is also the connection of light from outside to inside.



10:00 September 2222
Water level 1m

Figure 75. Entrance perspective (10 am September 2222) - Water level 1m

After visitor encounters the façade and goes through the entrance, the new circulation walk path plays a key role.

And where people can use the walking path depends on the water level.



Figure 76. Interior perspective (11 am November 2022) - Water level 0m

After visitor encounters the façade and goes through the entrance, the new circulation walk path plays a key role.

And where people can use the walking path depends on the water level.



Figure 77. Interior perspective (12 pm November 2022) - Water level 1m

After visitor encounters the façade and goes through the entrance, the new circulation walk path plays a key role.

And where people can use the walking path depends on the water level.



Figure 78. Interior perspective (1 pm November 2022) - Water level 1m

Lastly, this is when the old meets the new; the change in weather and water might be the prevention factor for now but might not be in the future 200 years.



Figure 79. Courtyard perspective (12 pm January 2022) - Water level 0m

Lastly, this is when the old meets the new; the change in weather and water might be the prevention factor for now but might not be in the future 200 years.



Figure 80. Courtyard perspective (13 pm January 2022) - Water level 1m

Lastly, this is when the old meets the new; the change in weather and water might be the prevention factor for now but might not be in the future 200 years.



Figure 81. Courtyard perspective (14 pm January 2022) - Water level 2m

Lastly, this is when the old meets the new; the change in weather and water might be the prevention factor for now but might not be in the future 200 years.



Figure 82. Courtyard perspective (15 pm January 2022) - Water level 3m

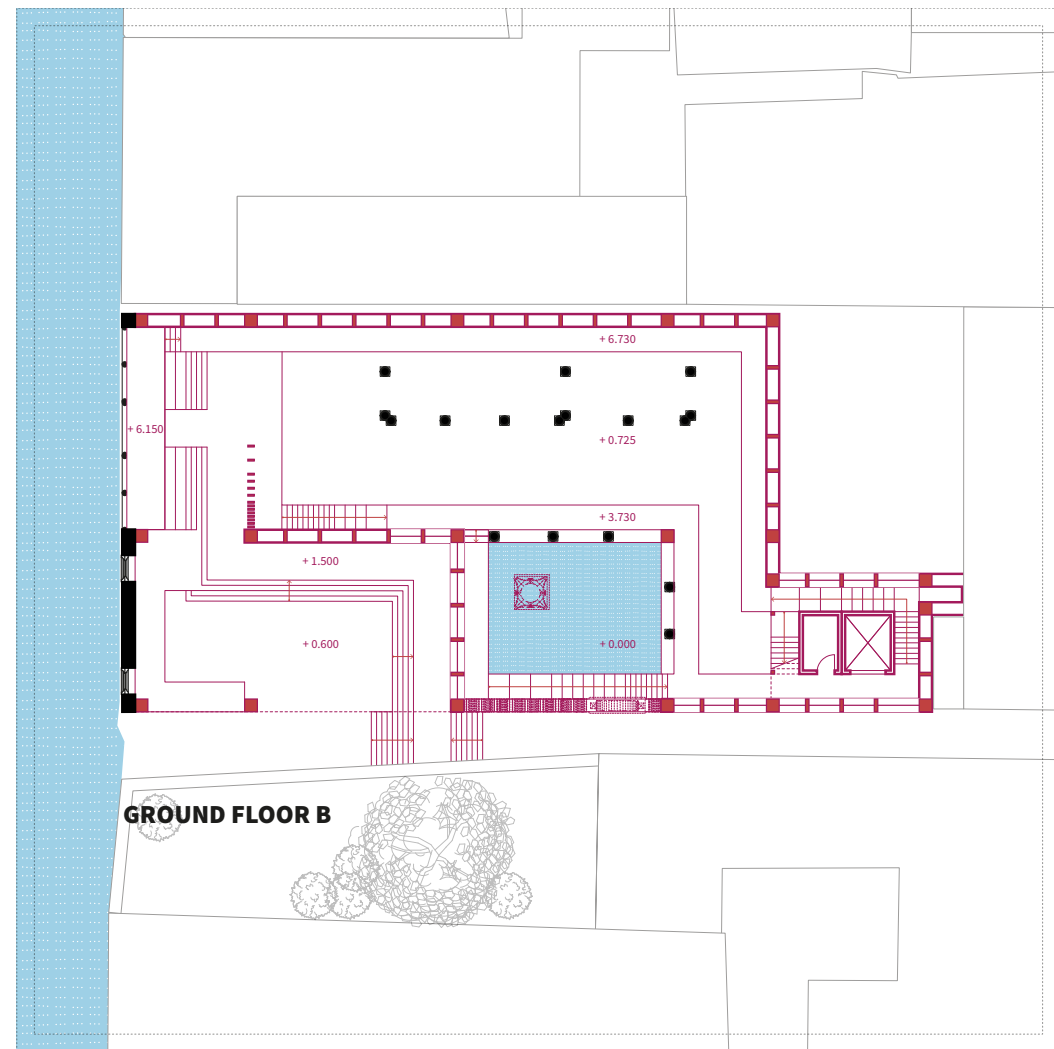
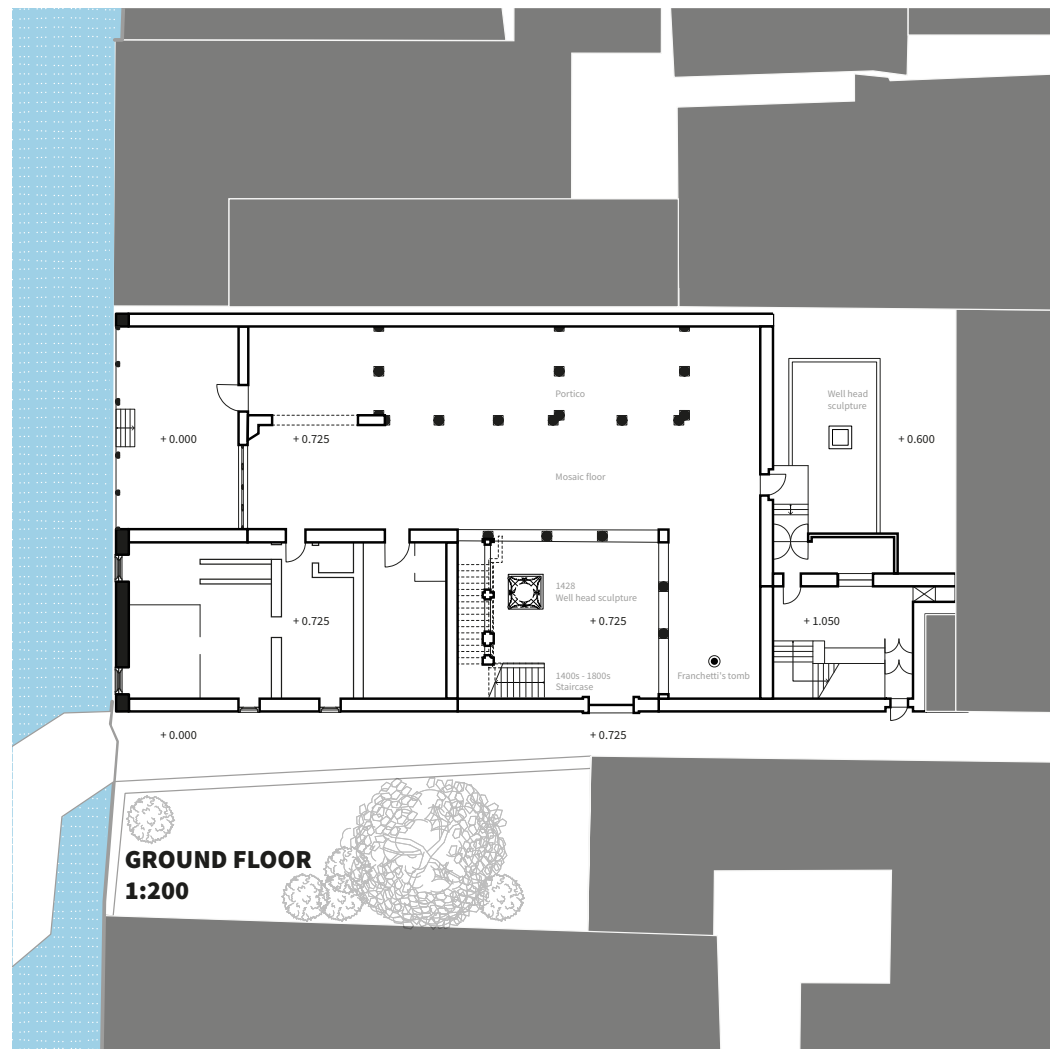
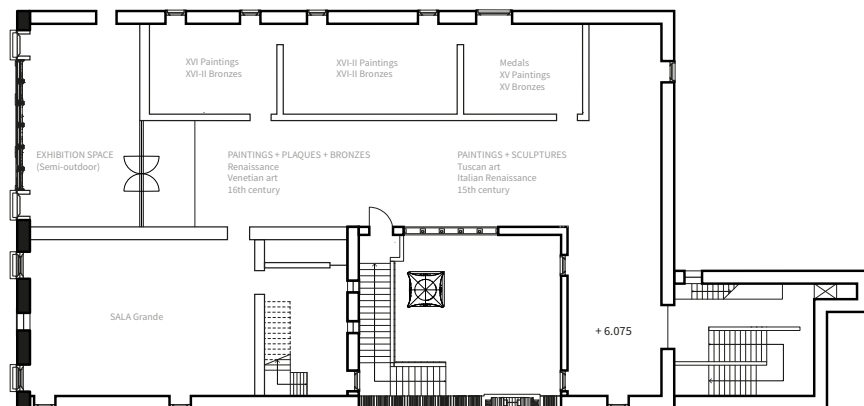
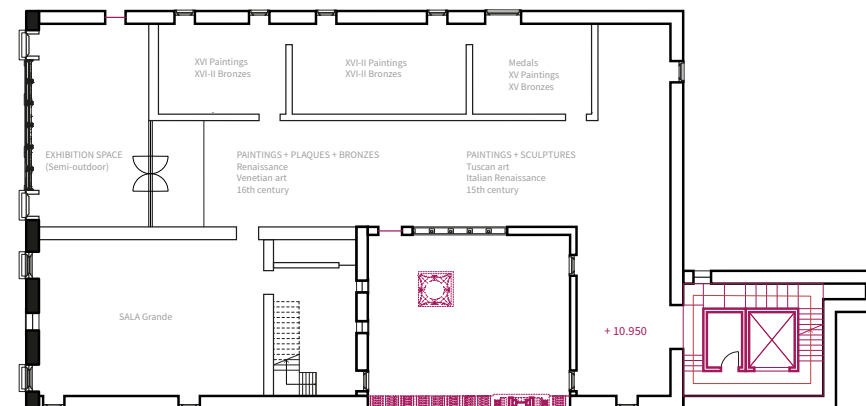


Figure 83. Ground floor exiting (left) and new invention (right)

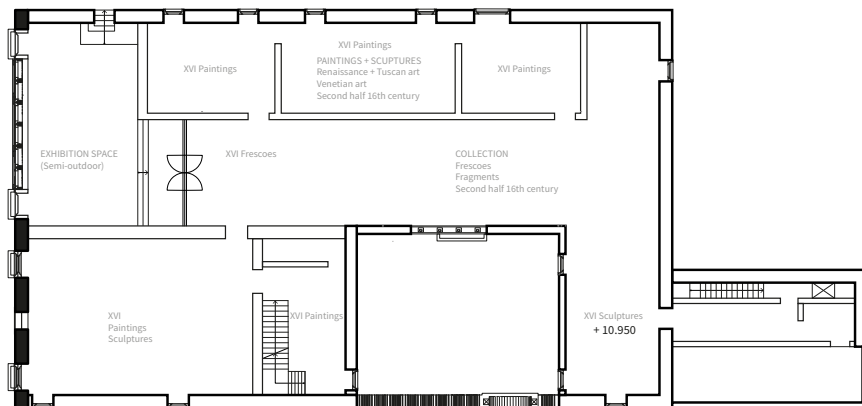


FLOOR 2

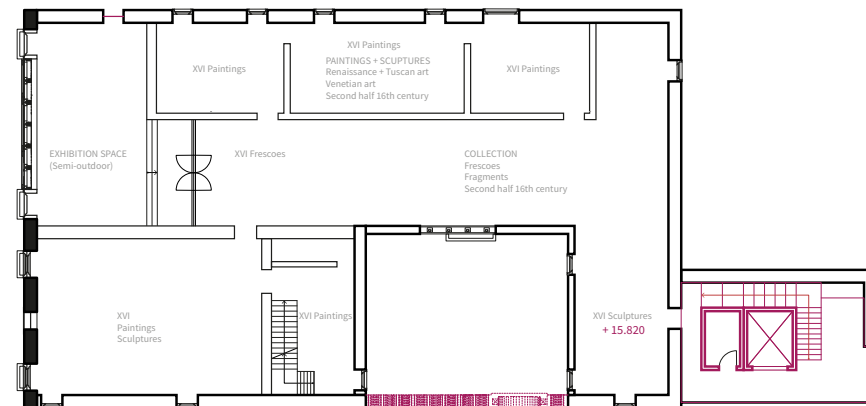


FLOOR 2

Figure 84. Floor 2 exiting (left) and new invention (right)



FLOOR 3



FLOOR 3

Figure 85. Floor 3 exiting (left) and new invention (right)

PART V. PHYSICAL MODEL APPENDIX.



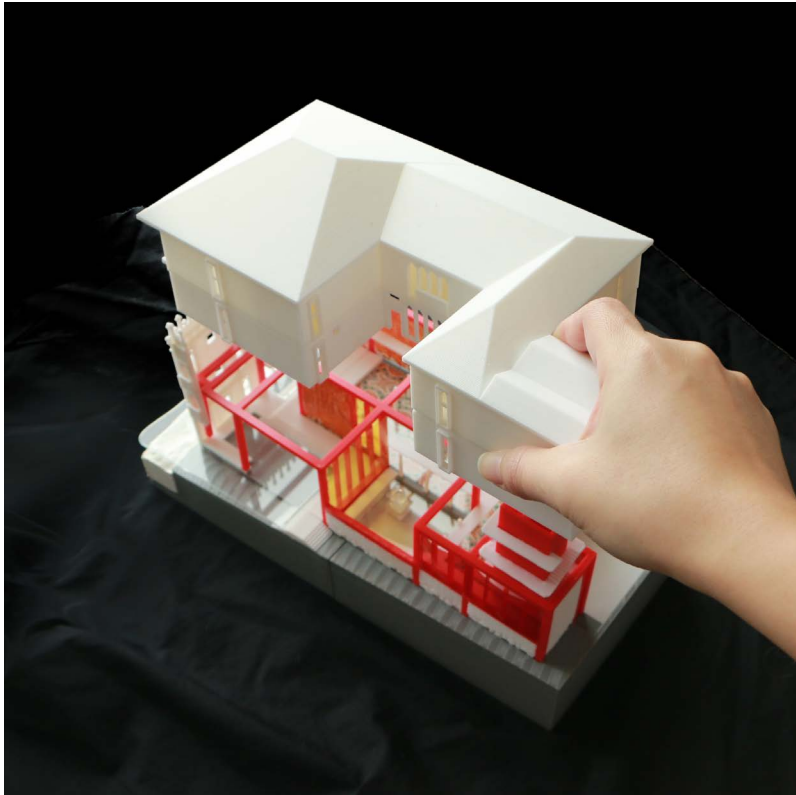
Model 1:200 .



Model 1:200 .



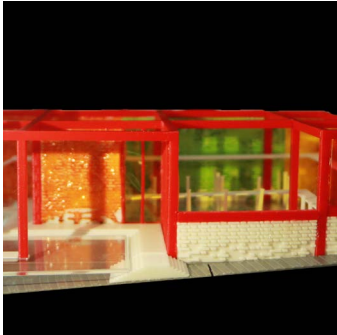
Model 1:200 .



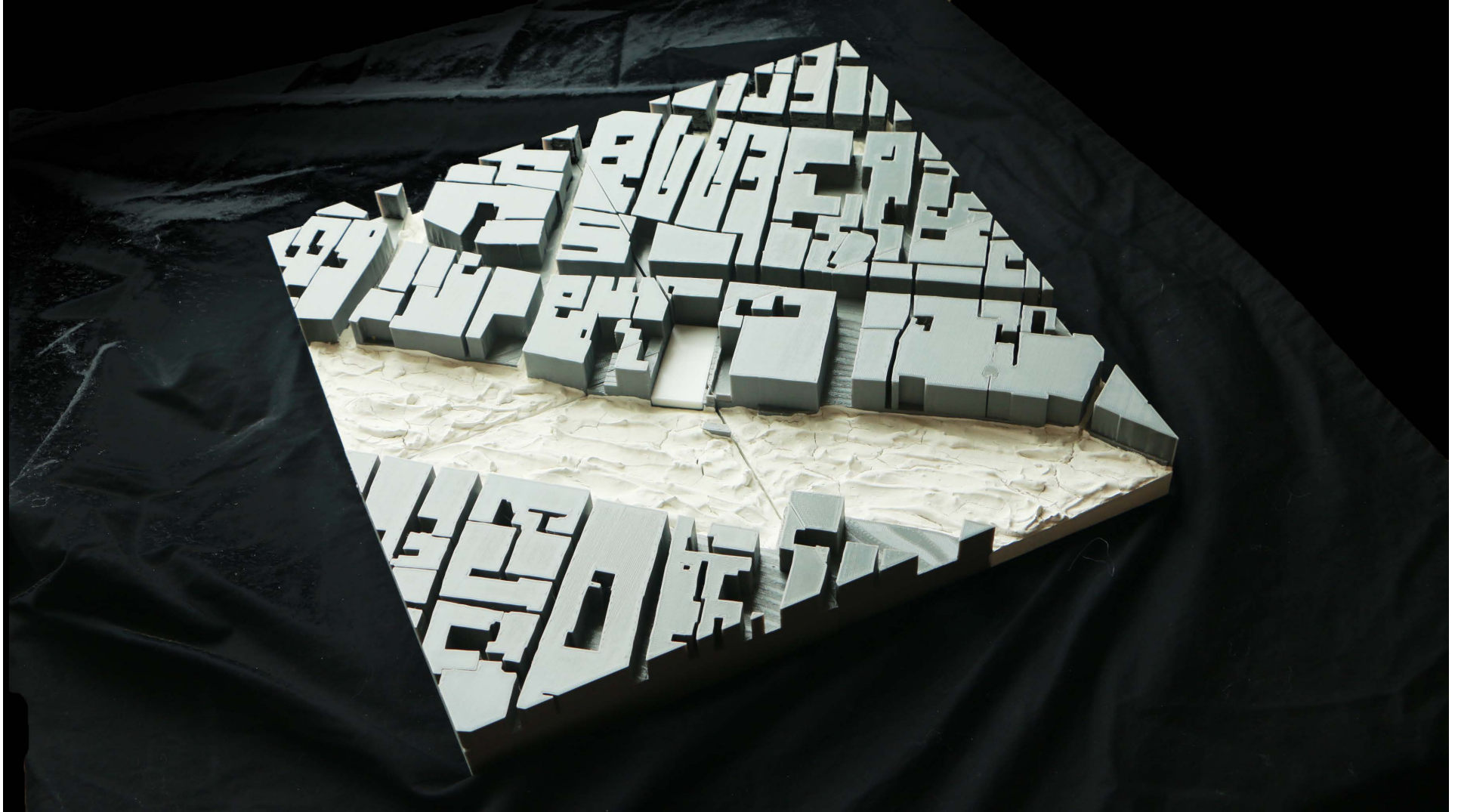
Model 1:200 .



Model 1:200 .



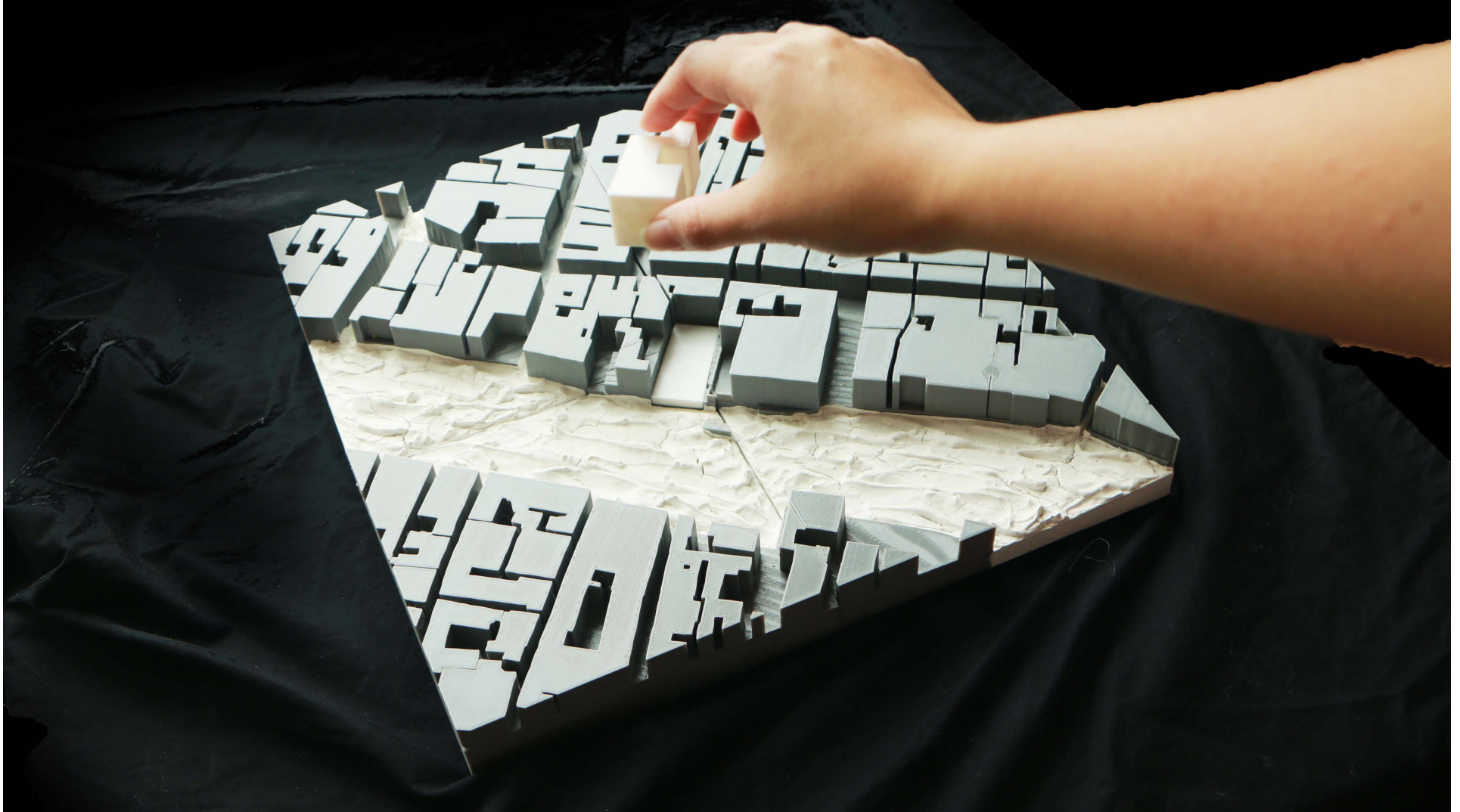
Site model 1:1000 .



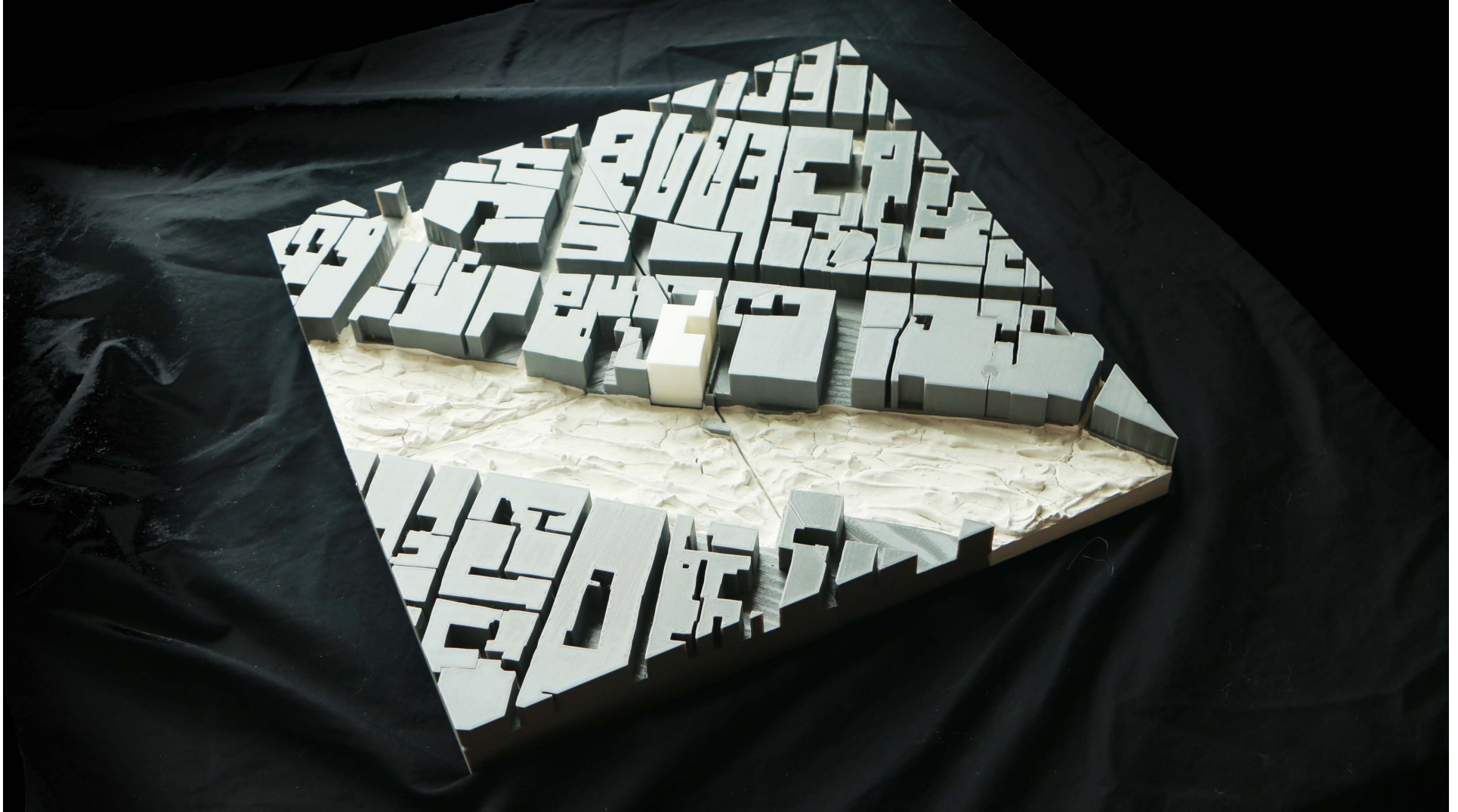
Site model 1:1000 .



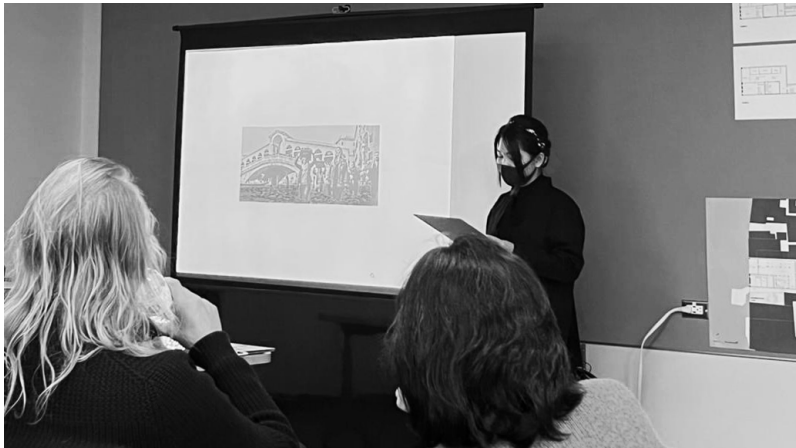
Site model 1:1000 .



Site model 1:1000 .



Final review presentation 29 April 2022 .



PART V. BIBLIOGRAPHY.

Aamodt, Mette. 'Sverre Fehn: The Space Between Earth and Sky'. The Slow Space Movement (blog), 4 April 2019. <https://medium.com/the-slow-space-movement/sverre-fehn-the-space-between-earth-and-sky-a6f3d9326a2f>.

Centre, UNESCO World Heritage. 'Venice and Its Lagoon'. UNESCO World Heritage Centre. Accessed 29 December 2021. <https://whc.unesco.org/en/list/394/>.

'Conservation, n.' In OED Online. Oxford University Press. Accessed 18 December 2021. <https://www.oed.com/view/Entry/39564>.

'Conservation Noun - Definition, Pictures, Pronunciation and Usage Notes | Oxford Advanced Learner's Dictionary at OxfordLearnersDictionaries.Com'. Accessed 18 December 2021. <https://www.oxfordlearnersdictionaries.com/definition/english/conservation?q=conservation>.

Dege, Stefan. 'After the Floods: Could Venice Lose Its World Heritage Status?' DW.COM, 15 November 2019, sec. Culture. <https://www.dw.com/en/after-the-floods-could-venice-lose-its-world-heritage-status/a-51271328>.

Eaglescliffe, Beth. 'Venice, Italy Is Being Destroyed by Tourism and Flooding'. WanderWisdom. Accessed 20 December 2021. <https://wanderwisdom.com/travel-destinations/Venice-Tourism-Sinking>.

Ferrarin, Christian, Andrea Valentini, Martin Vodopivec, Dijana Klaric, Giovanni Massaro, Marco Bajo, Francesca De Pascalis, et al. 'Integrated Sea Storm Management Strategy: The 29 October 2018 Event in the Adriatic Sea'. *Natural Hazards and Earth System Sciences* 20, no. 1 (13 January 2020): 73–93. <https://doi.org/10.5194/nhess-20-73-2020>.

Fjeld, Per Olaf, and Sverre Fehn. *Sverre Fehn: The Pattern of Thoughts*. 1st ed. Book, Whole. New York: Monacelli Press, 2009. <https://go.exlibris.link/h63FrSM3>.

Freeman, Kelly, and Thomas Hughes, eds. *Ruskin's Ecologies: Figures of Relation from Modern Painters to the Storm-Cloud*. Courtauld Books Online, 2021. <https://doi.org/10.33999/2021.56>.

'Galleria Giorgio Franchetti Alla Ca' d'Oro | The Museum'. Accessed 4 January 2022. <https://www.cadoro.org/the-museum/?lang=en>.

<https://plus.google.com/+UNESCO>. 'Culture & Sustainable Development'. UNESCO, 14 September 2020. <https://en.unesco.org/culture-development>.

Koolhaas, Rem. *Content: AMOMA/Rem Koolhaas/OMA*. London: Taschen: Köln, 2004.

———. *Cronocaos Preservation*. Video, 2011. <https://www.oma.com/lectures/cronocaos-preservation>.

———. 'Preservation Is Overtaking Us'. Columbia University Graduate School of Architecture, Planning and Preservation, 2011. <https://www.arch.columbia.edu/books/reader/6-preservation-is-overtaking-us>.

Koolhaas, Rem, and Jorge Otero-Pailos. *Preservation Is Overtaking Us*. Columbia Books

on Architecture and the City, 2014. <https://www.arch.columbia.edu/books/reader/6-preservation-is-overtaking-us>.

Lawrence, Randal. 'Sverre Fehn: The Architect Who Built on the Horizon'. *Architectural Research Quarterly* 13, no. 1 (March 2009): 11–15. <https://doi.org/10.1017/S1359135509990054>.

Marin, Christophe. 'Josh Mings - Architectural Exploration'. Accessed 18 December 2021. https://www.academia.edu/18923960/Josh_Mings_Architectural_Exploration.

Morris, William, and Philip Webb. 'The SPAB Manifesto'. Text. spab.org.uk, 30 January 2018. <https://www.spab.org.uk/about-us/spab-manifesto>.

Otero-Pailos, Jorge. 'Now Is the Future Anterior for Advancing Historic Preservation Scholarship'. *University of Minnesota Press* 1, no. 1 (Spring 2004 (2004): 7–9.

'Preservation, n.' In OED Online. Oxford University Press. Accessed 18 December 2021. <https://www.oed.com/view/Entry/150719>.

Reiff, Daniel D. 'Viollet Le Duc and Historic Restoration: The West Portals of Notre-Dame'. *Journal of the Society of Architectural Historians* 30, no. 1 (1 March 1971): 17–30. <https://doi.org/10.2307/988670>.

'Restoration, n.' In OED Online. Oxford University Press. Accessed 18 December 2021. <https://www.oed.com/view/Entry/163986>.

Roark, Ryan. 'The Afterlife of Dying Buildings: Ruskin and Preservation in the Twenty-First Century'. In *Ruskin's Ecologies: Figures of Relation from Modern Painters to The Storm-Cloud*. London: The Courtauld, 2021. <https://courtauld.ac.uk/research/research-resources/publications/courtauld-books-online/ruskins-ecologies-figures-of-relation-from-modern-painters-to-the-storm-cloud/14-the-afterlife-of-dying-buildings-ruskin-and-preservation-in-the-twenty-first-century-ryan-roark/>.

Ruskin, John. *The Seven Lamps of Architecture*. New York: Dover Publication, 1989. <https://www.gutenberg.org/cache/epub/35898/pg35898-images.html>.

Scott, Fred. *On Altering Architecture*. London; New York: Routledge, 2008.

Engineering Management Institute. 'Seismic Upgrades To the Museum of Anthropology (MOA)', 7 January 2021. <https://engineeringmanagementinstitute.org/tsec-42-seismic-upgrades-museum-of-anthropology-moa/>.

Museum of Anthropology at UBC. 'Shake Up'. Accessed 1 January 2022. <https://moa.ubc.ca/exhibition/shake-up/>.

Stefano Della Torre, 'Italian Perspective on the Planned Preventive Conservation of Architectural Heritage', *Frontiers of Architectural Research* 10, no. 1 (1 March 2021): 108–16, <https://doi.org/10.1016/j.foar.2020.07.008>.

Stoppani, Teresa. 'Altered States of Preservation: Preservation by OMA/AMO'. *Future*

Anterior 8, no. 1 (Summer 2011) (2011): 96–109. <https://doi.org/10.1353/fta.2011.0000>.

UBC. 'Museum of Anthropology Great Hall Renewal | UBC Campus & Community Planning'. UBC Campus & Community Planning. Accessed 1 January 2022. <https://planning.ubc.ca/museum-anthropology-great-hall-renewal>.

Upatnieks, Ingmars. 'Landscape of Memories: Storing Memories about Religion, Christian Architecture and Mortals in Jesmond Dene.' *University of Northumbria at Newcastle*, 2018.

'Venice Floods Threaten Priceless Artwork and History — and a Unique Way of Life'. *Washington Post*. Accessed 29 December 2021. <https://www.washingtonpost.com/history/2019/11/17/venice-floods-threaten-priceless-artwork-history-unique-way-life/>.

Viollet-le-Duc, Eugène-Emmanuel, and Charles Wethered. *On Restoration. Notice of His [Viollet-Le-Duc's] Works in Connection with the Historical Monuments of France*. London: Sampson Low, Marston Low, and Searle, 1875. <https://babel.hathitrust.org/cgi/pt?id=hvd.32044034611160&view=1up&seq=17&skin=2021>.

