

CONSERVATION AND CHANGE IN HERITAGE ARCHITECTURE

*An inspired vision on Heritage Design and Adaptive Reuse through the works of Carlo
Scarpa, Wessel de Jonge and Anne Lacaton & Jean Philippe Vassal*

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Introduction

In an era characterized by uncertainty, where the architect has to refine its role and architecture's role within the city, dealing with heritage is essential. Defining heritage is challenging but it can be understood as "all the qualities of life" that have a strong impact on society and are worth preserving for future generations. Whether it is tangible and/or intangible, heritage is more relevant to the present than the past.¹ People refer to history for romantic connotations with a glorious lost world when in fact it can reveal answers for future questions.² Regarding architecture, designing with heritage offers multiple advantages. Economically, it addresses the vacancy issue resulting from the crisis of 2008. Renovating the existing stock, using it as place-maker, can revitalize local communities. Environmentally, it is more sustainable to improve the existing structures in terms of the overall carbon footprint.³ Yet, the intangible heritage of architectural components for me is the primary reason why it should attract our attention. The narrative behind the existing structures along with the context in which they were constructed, the changes that have occurred throughout their lifespan can be used by people and architects to reconsider the future direction of our societies.⁴ As described by Vitruvius, it is the fourth dimension of time and its layers which are visible in the tangible and intangible qualities of buildings and should thus be the starting point for heritage architects.⁵ Heritage Design is not a new trend and an important debate on how to approach it has begun from the mid-19th century with most dominating views being that of John Ruskin and Eugene Viollet-le-Duc.⁶ The architect is confronted with the dilemma of choosing the right approach, to find the right balance between continuity and change, preservation and transformation. This essays attempts to illustrate my personal vision approaching heritage design through the works of Carlo Scarpa, Wessel De Jonge and Anne Lacaton & Jean Philippe Vassal.

¹ De Jonge, W. (2017). *Methodology: Heritage and Architecture*. Lecture on Methodologies of Architectural Reuse, AR1AR010, TU Delft, 16/10,2017.

² Meurs, P., 2016. *Heritage-based design*. 1st ed. Delft: TU Delft - Heritage & Architecture, p. 25

³ De Jonge, W. (2017). *Methodology: Heritage and Architecture*. Lecture on Methodologies of Architectural Reuse, AR1AR010, TU Delft, 16/10,2017.

⁴ Meurs, P., 2016. *Heritage-based design*. 1st ed. Delft: TU Delft - Heritage & Architecture, p. 36

⁵ De Jonge, W. (2017). *Methodology: Heritage and Architecture*. Lecture on Methodologies of Architectural Reuse, AR1AR010, TU Delft, 16/10,2017.

⁶ Kuipers, M. and de Jonge, W. (2017). *Designing from heritage*. Delft: TU Delft - Heritage & Architecture, p.67

Carlo Scarpa's Approach – Castelvecchio Museum Renovation, Verona 1959-1973

The Castelvecchio Museum is located in a medieval castle, with four major transformations prior to Scarpa's intervention.⁷ Scarpa's approach entails three steps: his interpretation of the past, conducting a coherent research of the castle's history, a value assessment where he puts in new hierarchy the architectural and cultural components of the existing complex and finally an understanding of the spatial requirements of the new programme.⁸ His intervention strives for balance between the three.

The value assessment is used to define the areas suitable for demolition in order to enhance the boundaries between the various layers of time and thus separate the individual buildings without compromising the "structural integrity" of the whole, providing visitors with an "Authentic Historical Experience". Critical demolition followed by creative addition allows every element to retain its identity but simultaneously to be part of "a harmonious whole".⁹ His assessment is translated into architectural components such as window openings in the floor or cuts in the walls which concurrently provide the new programme with the appropriate daylight qualities. His new layer comes in the form of nothing more than a route, a stage path which allows the visitors of the museum to experience the various historical layers of the complex and understand the story Scarpa wants to tell. A constant dialogue between old and new takes place. New floors are placed at a distance from the original walls so as to clearly define their boundaries. Original door openings become high windows in order to bring more light and the arrangement of the exhibits and emphasise his new path while the sequence of space is defined by existing components.¹⁰

⁷ Onniboni, L. (2017). *Castelvecchio Museum - A masterpiece by Carlo Scarpa* / *Archiobjects*. [online] Archiobjects. Available at: <https://archiobjects.org/museo-castelvecchio-verona-italy-carlo-scarpa/> [Accessed 17 Dec. 2017]

⁸ Rab, S. (1998). Carlo Scarpa's Re-design of Castelvecchio in Verona, Italy. In: S. Rab, ed., *86th ACSA Annual Meeting Proceedings, Constructing Identity*, 1st ed., p 450. [online] Available at: <http://apps.acsa-arch.org/resources/proceedings/indexsearch.aspx?txtKeyword1=%22Rab%2C+Samia%22&ddField1=1> [Accessed 17 Dec. 2017].

⁹ Rab, S. (1998). Carlo Scarpa's Re-design of Castelvecchio in Verona, Italy. In: S. Rab, ed., *86th ACSA Annual Meeting Proceedings, Constructing Identity*, 1st ed., p 444. [online] Available at: <http://apps.acsa-arch.org/resources/proceedings/indexsearch.aspx?txtKeyword1=%22Rab%2C+Samia%22&ddField1=1> [Accessed 17 Dec. 2017].

¹⁰ Rab, S. (1998). Carlo Scarpa's Re-design of Castelvecchio in Verona, Italy. In: S. Rab, ed., *86th ACSA Annual Meeting Proceedings, Constructing Identity*, 1st ed., p 448. [online] Available at: <http://apps.acsa-arch.org/resources/proceedings/indexsearch.aspx?txtKeyword1=%22Rab%2C+Samia%22&ddField1=1> [Accessed 17 Dec. 2017].

In Scarpa's approach specific elements of the existing architecture are used in a new way, a new hierarchy, where there is a dialogue between the old the new but the new is also autonomous.¹¹ The new design offers a reinterpretation of the value of a monument, extending its life so that it does not just represent relicts of another world that has disappear but it acquires an active role for reflection and contemplation in the present.¹²



Figure 1. Courtyard



Figure 2. Entrance



Figure 3. Cut through the roof and wall



Figure 4. Cut through the wall top view

¹¹ Meurs, P., 2016. *Heritage-based design*. 1st ed. Delft: TU Delft - Heritage & Architecture, p. 75

¹² Rab, S. (1998). Carlo Scarpa's Re-design of Castelvecchio in Verona, Italy. In: S. Rab, ed., *86th ACSA Annual Meeting Proceedings, Constructing Identity*, 1st ed., p 450. [online] Available at: <http://apps.acsa-arch.org/resources/proceedings/indexsearch.aspx?txtKeyword1=%22Rab%2C+Samia%22&ddField1=1> [Accessed 17 Dec. 2017].



Figure 5. Cut through the floor



Figure 6. Interior Gallery

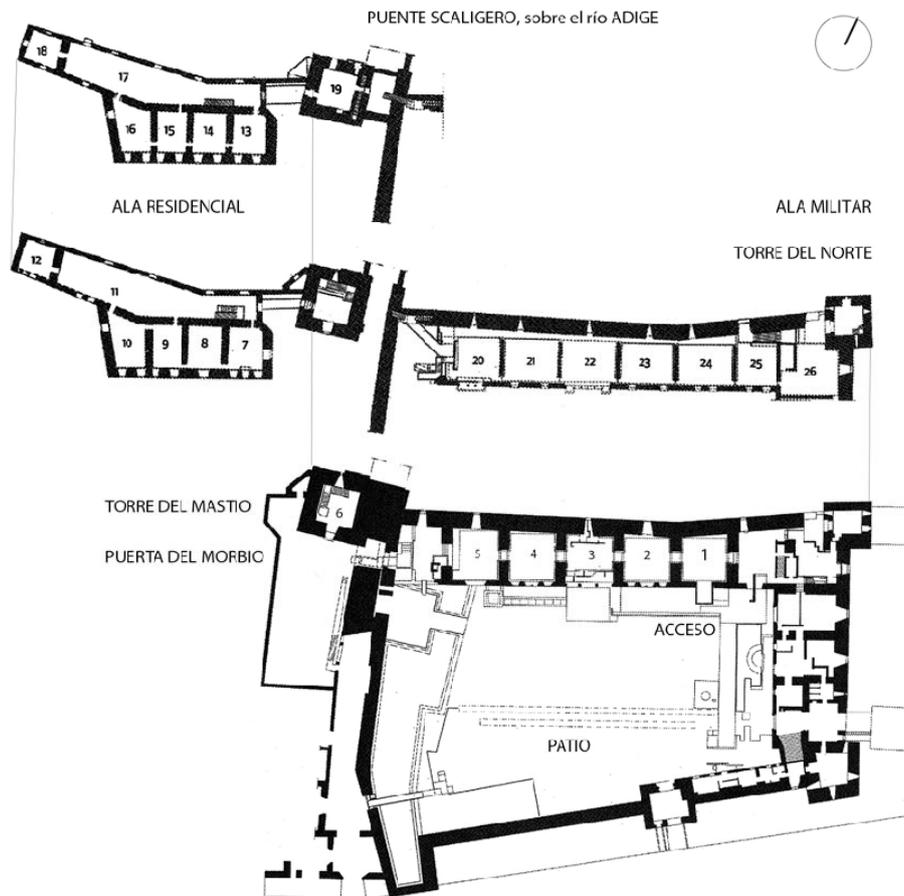


Figure 7. Plan

Wessel de Jonge's Approach – St. Jobsveem, Rotterdam 2007

De Jonge's approach presents similarities and contradictions with Scarpa's approach. Jobsveem, a warehouse on Lloydpier quay constructed in 1912 by J.J. Kanters, was designed to protect goods from exposure to daylight, rain and wind.¹³ De Jonge's approach begins with an in depth analysis of the existing building, an assessment of historic, technical, cultural and architectural value, expressed through drawings and colour schemes.¹⁴ This process, independent of the design intentions, allows an understanding of the authentic elements of the structure, defines the limitations of intervention, the possibilities for change, therefore formulates his transformation framework.¹⁵ Then follows the re-programming, understanding the requirements of the new function which in the case of Jobsveem were contradictory to the original concept.¹⁶ De Jonge's intervention approach is expressed through three main principles.

Primarily, making use of the building qualities. This implies a thorough understanding of technical characteristics regarding building construction. The concrete loading bays are used as balconies, whereas the small houses on the roof, originally used for rain protection, are reconstructed and used for storage.

Secondly, critically selecting what can change or be reinterpreted. The free standing cast iron columns and the wooden beams in the interior were maintained, creating a unique atmosphere in the apartments, while the historical colours were brought back enhancing the original character of the building.

Finally, tackling multiple problems simultaneously so as to minimize the intervention's impact. Three glazed atria were introduced so that light could reach the apartments.¹⁷ The use of glass and steel provided a contrast with the monumental structure enhancing its robust character. Concurrently, the atria were used for circulation, and environmental control. Glass plates allow

¹³ Dutcharchitects. (2017). *Appartments St. Jobsveem, Rotterdam - Dutcharchitects*. [online] Available at: <http://www.dutcharchitects.org/project/appartments-st-jobsveem-rotterdam/> [Accessed 18 Dec. 2017].

¹⁴ Kuipers, M. and de Jonge, W. (2017). *Designing from heritage*. Delft: TU Delft - Heritage & Architecture, p.73

¹⁵ De Jonge, W. (2017). *Methodology: Heritage and Architecture*. Lecture on Methodologies of Architectural Reuse, AR1AR010, TU Delft, 16/10,2017.

¹⁶ Dutcharchitects. (2017). *Appartments St. Jobsveem, Rotterdam - Dutcharchitects*. [online] Available at: <http://www.dutcharchitects.org/project/appartments-st-jobsveem-rotterdam/> [Accessed 18 Dec. 2017].

¹⁷ De Jonge, W. (2017). *Methodology: Heritage and Architecture*. Lecture on Methodologies of Architectural Reuse, AR1AR010, TU Delft, 16/10,2017.

air into the atria while at the same time protect users from wind and rain. An unconventional structure is implemented to support the panels so as not to compromise the existing.¹⁸

De Jonge's approach can be seen as value-based design where the exterior is significantly preserved and restored while the interior follows the requirements, building regulations and climate control concepts of our time. It provides high quality of technical design which however wishes to remain secondary. The architect puts his feet in the shoes of the original architect.



Figure 8. Exterior View



Figure 9. Relation between atrium and apartment

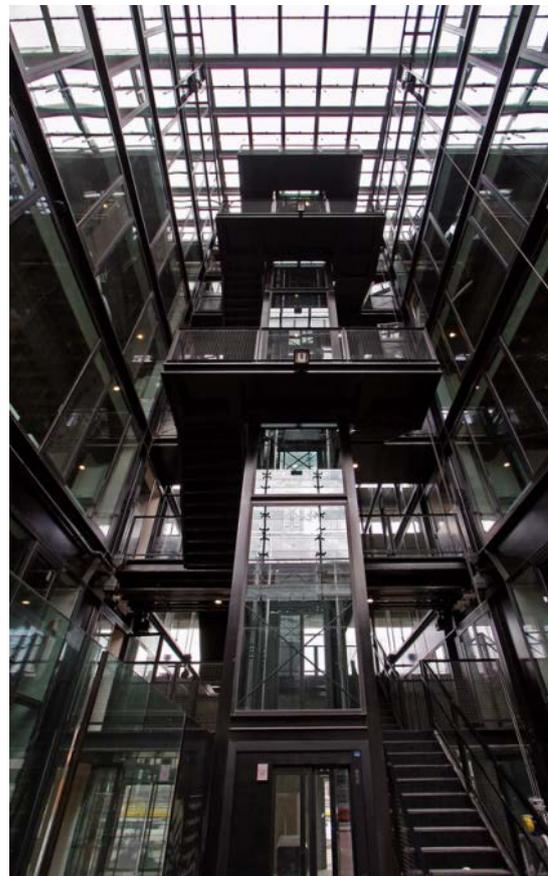


Figure 10. Atrium

¹⁸ Elcee.nl. (2017). *Parts St. Jobsveem*. [online] Available at: <http://www.elcee.nl/en/projects/projects-facade-components/st-jobsveem/> [Accessed 18 Dec. 2017].



Figure 11. Apartment interior



Figure 12. Iron Column with wooden beam

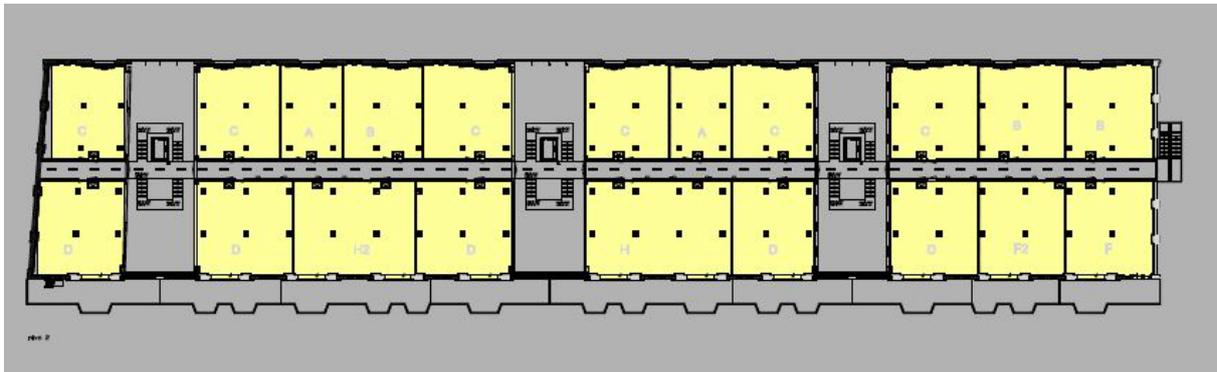


Figure 13. Plan

Anne Lacaton & Jean Philippe Vassal's Approach – FRAC Nord-Pas-de-Calais, Dunkirk 2013-2015

A warehouse constructed in 1949, located in the old Chantiers de France, was transformed from a workshop of prefabricated construction into an exhibition space for contemporary art.¹⁹ The architects' approach is clearly defined: "*Never demolish, never remove or replace, always add, transform, and reuse!*".²⁰ They leave the existing structure untouched, attaching an additional volume of identical proportions. The extension houses the spaces needed for the new programme while the existing retains its original scale and character and is used for large exhibitions or public events. The new volume does not impose itself onto the old volume or work as a new monumental icon but instead highlights the character of the original.²¹

For some people not intervening at all can be seen as a "cowardly" approach without any adaptation of the old structure into the new programme. For me, it seems as a smart solution, that provides the existing building with a new use, suitable to its immense size and attracts people back to the site, where they can actually reflect on the era that has ended (nostalgic value). Their intervention is characterized by flexibility and sustainability. The new structure, free of load-bearing walls, is independent of the organization of the interior spaces providing the necessary flexibility for its future evolution over time into something else if needed.²² The extension can be disassembled and removed while the existing structure would remain intact, preserving its original character. The functioning of each building can be both independent and combined.

Moreover, the use of prefabricated materials, which on one hand is characteristic of the architects' architectural style, in this case complies with the original use of the building creating also a dialogue between past and present techniques. The use of polycarbonate sheets and ETFE cushions underlines the importance of sustainable development and economic feasibility. Additionally, the transparency of the new structure allows the old structure to retain its strong

¹⁹ ArchDaily. (2017). *FRAC Dunkerque / Lacaton & Vassal*. [online] Available at:

<https://www.archdaily.com/475507/frac-of-the-north-region-lacaton-and-vassal> [Accessed 18 Dec. 2017]

²⁰ Metropolis. (2017). *Lacaton & Vassal Have a Strategy to Save France's Social Housing - Metropolis*. [online] Available at: <http://www.metropolismag.com/ideas/preservation/lacaton-vassal-pioneered-strategy-saving-france-social-housing/> [Accessed 18 Dec. 2017].

²¹ ArchDaily. (2017). *FRAC Dunkerque / Lacaton & Vassal*. [online] Available at:

<https://www.archdaily.com/475507/frac-of-the-north-region-lacaton-and-vassal> [Accessed 18 Dec. 2017]

²² Fracnpdc.fr. (2014). *Frac Nord - pas de Calais Dossier Pedagogique*. [online] Available at:

http://www.fracnpdc.fr/wp-content/files_mf/1384484019dossierp%C3%A9dagogiquelacatonvassalDEF.pdf [Accessed 18 Dec. 2017].

and solid character with appropriate minimal interventions while at the same time creates a dialogue with the broader industrial context, reactivating the history of the workshop and the French shipyards.²³ In this case the approach can be seen as “non-designed” intervention where XL furniture provides the area with new vitality and economic perspective.²⁴



Figure 14. Exterior View



Figure 15. Entrance



Figure 16. Interior view of old warehouse



Figure 17. Interior view of extension



Figure 18. ETFE cushions



Figure 19. Entrance

²³ Fracnfdc.fr. (2014). *Frac Nord - pas de Calais Dossier Pedagogique*. [online] Available at: http://www.fracnfdc.fr/wp-content/files_mf/1384484019dossierp%C3%A9dagogiquelacatonvassalDEF.pdf [Accessed 18 Dec. 2017].

²⁴ Meurs, P., 2016. *Heritage-based design*. 1st ed. Delft: TU Delft - Heritage & Architecture, p. 113

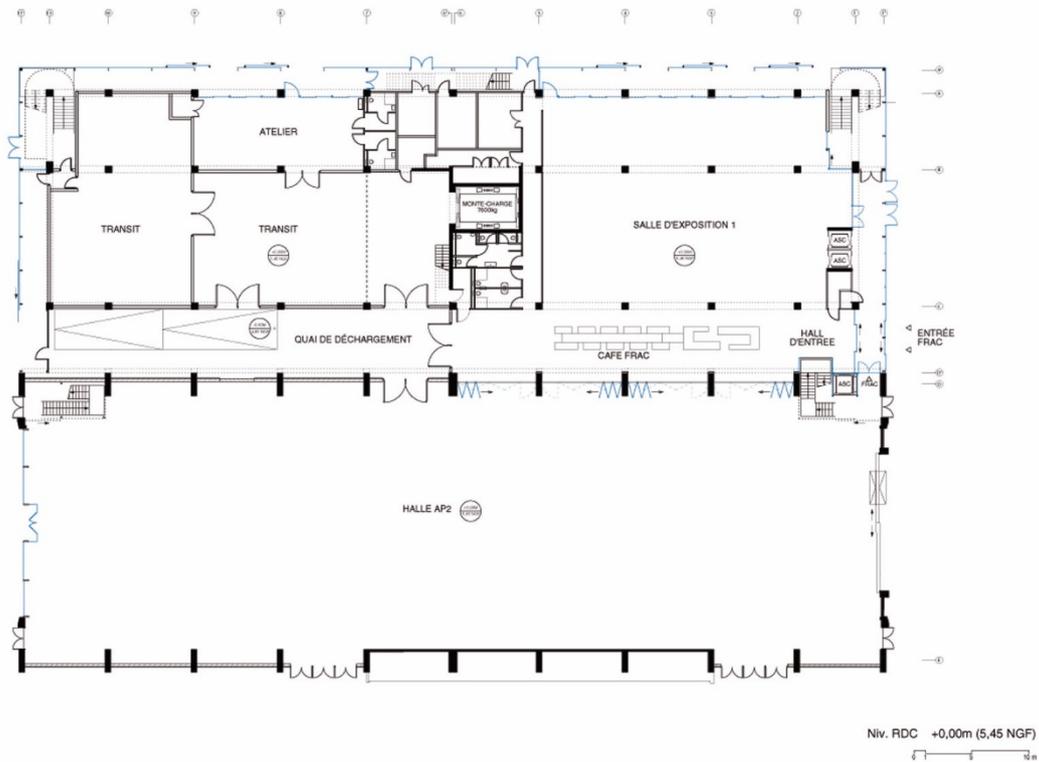


Figure 20. Ground floor Plan

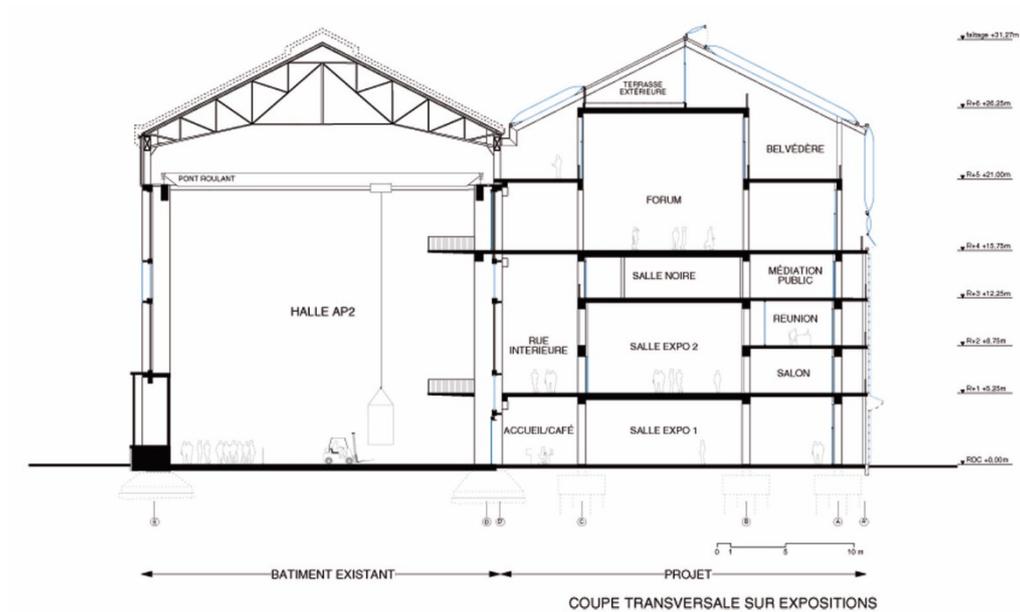


Figure 21. Section

Overview of Personal Approach

The afforded mentioned examples although very different in execution, share some common ground. A thorough understanding of the existing conditions is followed by a value assessment. This in my opinion should be the basis, and starting point for any heritage design that wishes to respect the existing structure but also its intangible qualities. Tools such as the Value Matrix developed by Nicholas Clarke followed by the colour mapping analysis method explained by Suzanne Fisher, provide the basis for such an analysis.

Following Scarpa's intentions, I believe that creative demolition is also necessary in cases where various transformations have occurred in a building. Distinguish between the layers of time is key in order to tell its story. To my understanding this process is metaphorically described by Fisher's paint analysis, where through scratching or cutting the different layers of time can be discovered and distinguished. Additionally, circulation movement provides the means to enhance such a distinction as in the case of Castelvecchio. This allows buildings to be experienced as museums even though their new programming is different.

Following Wessel de Jonge's approach, I believe that being able to understand what the building has to offer and consequently how it can be interpreted is key for creative designs of adaptive reuse. Moreover, combining problems with one solution and one particular intervention reflects the flexibility of the new design that is present also in Lacaton's approach. Flexibility and reversibility should be key aspects when designing due to the broader uncertainty, characteristic of modern times. Our constantly changing needs from housing to offices etc. should not compromise our heritage even though it is economically beneficial. To conclude, flexibility, sustainability and reversibility can be expressed through prefabricated materials that reflect, contemporary technical advances which will add value to the new layer in the history of time.

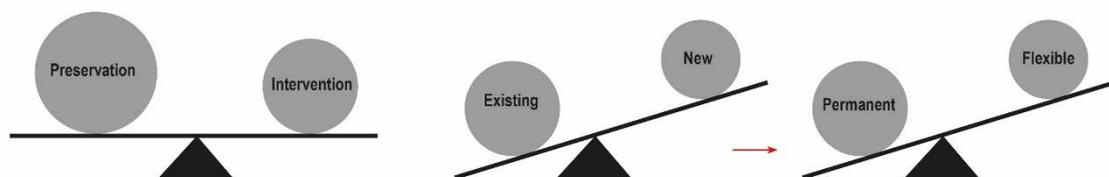


Figure 22. Scheme by the author illustrating vision

	AGE VALUE	HISTORIC VALUE	AESTHETIC VALUE	COMMEMORATIVE VALUE	USE VALUE	NEWNESS VALUE	NOSTALGIC VALUE
SURROUNDINGS		 Regional context is the surrounding urban environment.			 It is the urban context of the site with its area of 4 hectares and about 200 buildings.	 Regional context is the surrounding area.	
SITE	 Evolution of prison institutions.	 The site is part of the surrounding urban environment.			 Current site: Prison Complex.	 A new proposal for the regeneration of the prison complex can affect significantly the surrounding urban environment and it frames the public space.	 Before the construction of the prison complex the site was a green landscape with some small buildings and some historical structures.
SKIN	 There are certain areas where the old building has been replaced due to decay and changes in the windows. Possibility for new windows.	 The Dome is part of the original construction by the architect.	 Architectural drawing of the building facade.		 Modern daylight connection to the site, the aspect of view.		
STRUCTURE	 Can be done in concrete. Fast construction.	 The structure of the part of the prison complex reflects the regeneration of the 19th century prison complex.	 Structure and layout of the prison complex.		 Due to the old construction methods and techniques the whole building will be a thermal bridge due to the absence of insulation.		
SPACE PLAN	 Can be done in concrete. Fast construction.	 The space plan of the prison complex reflects the regeneration of the 19th century prison complex.	 Structure and layout of the prison complex.		 The space plan of the dome is based on the construction of the 19th century prison complex.	 The space plan of the dome is based on the construction of the 19th century prison complex.	
SERVICES	 Can be done in concrete. Fast construction.	 The service area of the prison complex reflects the regeneration of the 19th century prison complex.	 Structure and layout of the prison complex.		 The service area of the dome is based on the construction of the 19th century prison complex.		

Figure 23. Value Matrix by the Author



Figure 24. Colour Mapping by the author

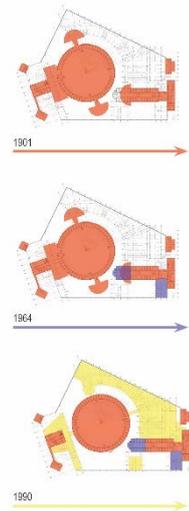


Figure 25. Chrono-mapping by the author

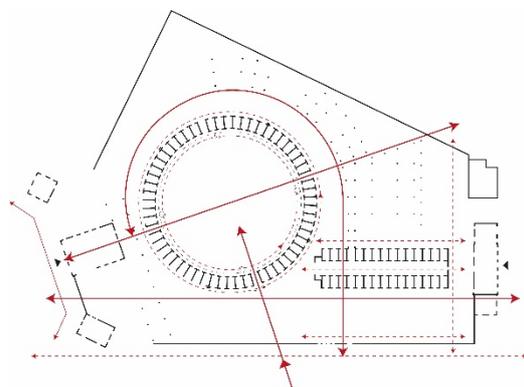


Figure 26. Section-Cuts through the layers of time by the author

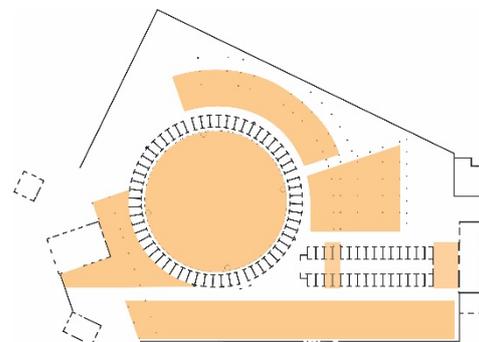


Figure 27. Identifying areas of possible intervention by the author

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Cover photo: My Modern Met. (2017). *30 Years of Graffiti Chipped Off a Wall Reveals Colorful Layers of Decades-Old Art*. [online] Available at: <https://mymodernmet.com/graffiti-wall-of-fame/> [Accessed 18 Dec. 2017].

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