Reality and beyond

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Abstract

In a world of replicas, there is a preoccupation with comparison to the original. Digital tools allow us to change the natural order of materials, textures, and colours, to the extent that the replica becomes unrecognisable from the original. This process can easily become a matrix of illusions, where the real and the imagined become entangled and produce something so far from the original object that it is considered hyperreal. Through the act of transforming diverse spatial representations, this thesis explores the possibilities that lie in the transformations of the original and its replicas and utilise it as driver for design work.

This approach stems from the theoretical work of French theorist Jean Baudrillard, whose theories concerning the value of the replica, suggests that we live in a time of hyperreality. According to Baudrillard, hyperreality is achieved when the copy is more real than the original (Baudrillard, 1994). Baudrillard's theory predominately concerns mass media and the image, both of which are applicable to architecture, however the aim of this thesis is to explore the possibilities of Baudrillard's theory applied to the mass that lies beyond the image.

The thesis departs from images of a historical building in Melbourne, Australia, that are compounded into a three-dimensional model, based on the software's interpretation of reality. The most characteristic details of the model are then further explored through a series of modifications (including distortion, draping, extrusion, mesh alteration and extraction). The material is then morphed to the degree where it develops its own architectural aesthetics and qualities and can be used as a pallet of abstracted building components for the reconfiguration of the building's hyperreal counterpart. This process is then reversed, allowing the inherent qualities of the hyperreal to be explored.

The outcome is a design methodology that challenges the way architects utilise the image as a design tool. It allows the digital interpretation of reality to become an integral part of the design process, recognising glitches as a tool to expand the limits of referencing. The anticipation is that this method could serve as a tool for reconstruction processes in the future.

Research questions

- > What architectural qualities can be discovered through the manipulation of digital space and images?
- > How can photogrammetry be utilised as a tool in conceptual design work?
- > How can the glitches associated with data processing be used as tools to foster a design process?

Keywords: Hyperreality, replica, image

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Delimitations and purpose

Delimitation

The framework for this thesis includes the theoretical work of Jean Baudrillard. He is one of many postmodernist theorists that approach the topic of reality. Due to a limited timeframe, this thesis does not explore the work of other theorists.

Purpose

The purpose of this thesis is to challenge the way information is habitually processed in architectural projects and to highlight the possibilities of utilising the image as a design tool.

- > Explore the gap between the real and the digital.
- > Explore potential meaning that arises from the manipulation of space and images.
- > Explore potential future use of photogrammetry in restoration and replication contexts.

Aim

The aim of the project is to explore new possibilities of replicas and the act of representing in Architecture.



I. Phase one: Building is photographed.

- 2. Phase two: Images are compounded into 3D model.
- 3. Phase three: Elements of model are modified.
- 4. Modified elements are reconfigured into a new building.
- 5. Elements from model created in previous step are combined with elements from step two.
- 6. Elements from step four and five are integrated with model from step 2.

7. Design proposal is compared to original.

Method and Structure

In order for the reader to familiarise themselves with the subject, a wide cultural context is initially presented. The subject is then discussed within the boundaries of the theoretical framework, alongside relevant contemporary art and architecture references. Some of the projects are presented as references for the digital tools that have been used in the thesis. The aim of presenting these projects is to highlight the possibilities and contemporary work using photogrammetry. Following the presentation of the references, the author's own design strategies and interpretations of the theoretical framework is presented through a design project.

The process of the project is divided into seven phases where each phase has been informed by one of Baudrillard's principles. The process allows the image to evolve from a representation of reality to what can be described as hyperreality. Once the process has reached hyperreality in phase four of the project, the process is then reversed. The design proposal (phase four) is transitioned back to its purest form - a representation of reality (phase seven). Through carrying out this process, a comparison between the original building (phase I) and the final design proposal (phase 7) can be made.

Photogrammetry

This thesis uses photogrammetry as a tool to facilitate the study of the image. The method was originally used for land surveying purposes, however, with the increased resolution of cameras the method is becoming a popular tool for documenting architecture. The software extracts three-dimensional geometrical information from a surface, which is then compounded with other data into a digital model. The technology is based on the software identifying the identical pixels across the captured images whereupon the geolocation (three dimensional coordinates) is determined by the software (Rák & Szilágyi, 2020).



I. Guy Deboard - Society of the spectacle (Eyerman, 1952)

The image and society

As a result of the increased productivity during the industrial revolution, our society has become increasingly more centred around consumption. What we own has surpassed the importance of being, and what we own defines who we are. To support the consumerist society, communication (in the form of advertisement) has increased as well. We are constantly surrounded by information encouraging us to purchase some new product, service, object, or service. This increased distribution of advertisement and images has, according to Leach anesthetised architects to the point where the visual representation of architecture has been separated from its physical content(Leach, 1999). Architecture is now a product that needs to be sold through high resolution renders representing a possible reality.

One architect who has engaged in the discussion about the architectural image is Peter Eisenman. He claims that architecture represents a structure

I: BACKGROUND

of reality that reflects the cultural accumulation in the public consciousness. The question that arises here is how our perception of reality is affected by hyper-realistic images. If the built environment is a reflection of our cultural accumulation, will architecture become reduced to merely an image?

The impact of visual media on architecture and physical space was first described by Guy Deboard in his book Society and the Spectacle (Debord, 2002). The critique aimed at the architectural profession was that modern architecture has been reduced to visual interaction. This has then resulted in image seduction, where the spatial relationship to the human body has been lost into a projection of the imaginary. In the seductive imagery, buildings are portraited as flawless, completed objects with no, or little room for being.

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Glossary

Theoretical framework

This thesis explores the notion of architectural space by referring to the theorist Jean Baudrillard. His theories about the perception of space through imagery and its effect on society are discussed in relation to Architecture. Baudrillard recognised a connection between consumption and how images portray and relate to reality. He argues that there are four orders of the image (see below).

The four orders of the image:

- I. It is the reflection of a profound reality.
- 2. It masks and denatures a profund reality.
- 3. It masks the absence of a profound reality.
- 4. It has no relation to any reality whatsoever: it is its own pure
- simulacrum. (Baudrillard, 1994)

Defining the four orders

The first order of the image can be seen as a truthful reflection of reality. This could be a painting or a photograph. The second order provides an untruthful or deranged image of the original, however, the viewer may still be able to identify some aspects that are a true reflection of the original. The third stage of the image is where the sign pretends to be a faithful copy but is in reality masking the absence of a reality. In the fourth and final order, no originals exist, and all signs are references of other references.

Simulation	A kind of copy which is not merely indistinguishable from what it copies but in which the very distinction between copy and original disappears.	Hyper reality	Hyper reality can be understood as a representation of reality so accurate that it becomes more real than reality. Hyper reality is a pre-cursor of virtual reality. (Smith, 2010).	
Simulacrum	The simulacrum, as the type of representation produced by simulation, is a copy without an original. In a world in which there are only simulations, or in which the form of the simulacrum predominates, the world itself is a copy of a copy and the very notions of authenticity and truth lose their reference point (Smith, 2010).	Glitch	A small problem or fault that prevents something from being successful or working as well as it should: (Cambridge, n.d.)	
Original	Existing since the beginning, or being the earliest form of something: (Cambridge, n.d.)			





Parade at Disneyland mid 1950s (Gorillas Don't Blog, n.d.) 2.

In his book Simulation and Simulacra, Baudrillard uses Disneyland as an example to clarify his theory on simulation and simulacra. He describes the imaginary world with its pirates and its depictions of the future and the past as a play of illusions and phantasms. He then describes the order in which visitors enter the park. If arriving by car, visitors are met by an extensive car park, before lining up inside the facility, and once the visit is over they will find themselves abandoned at the exit. Among other things it is this stark contrast between the warmth of the imaginary world and the solitude of the parking lot that makes the theme park all the more convincing. Baudrillard claims that the scenography behind this imaginary world should be enough to achieve the intention of the theme park, but that the true attraction of the crowd is the social microcosms. He describes Disneyland as a miniaturised, embalmed snapshot of America. He claims that the objective profile of America is drawn everywhere in the theme park, and that the miniature representations only reinforces its values. The point that Baudrillard is making is that Disneyland exists in order to make reality seem more real. He claims that the heightened simulation in Disneyland makes us believe that the rest of the country is real, when really Los Angeles and the rest of the country are no longer real but belong to the hyperreal order.

The telemetric society The image and modern civilisation

In his lecture "Newish media", John May presents a historic overview of how human thought has developed in congruence with the available mediums of communication. The intention of this introduction is to highlight how different tools of communication result in different ways to think about the world. He argues that our thoughts are made possible or impossible depending on the speed and structure of our chosen medium of communication.

Further he argues that architects need to critically assess their manners of production since the 3D images that they produce contain a collection of simulations that are invisible to the naked eye. May argues that architects produce images and not drawings. By using commands such as "make 2D" in the software Rhinoceros the computer produces a simulation of a drawing, projected onto a surface. The product of the process is an image, rather than a drawing, which ties in with May's closing point that Architects, like everyone else, live telemetrically. That Architecture is inseparable from the culture from which it is immersed, and that since images are the primary way in which people give their life meaning, the content of each image has become decreasingly meaningful (May, 2017).

The value of the virtual The aftermath of the fire at Notre dame



Assassins Creed (Ubisoft, 2019)

The fire at Notre Dame Cathedral that in 2019 caused the destruction of a century old timber roof has given way to discussions regarding the value of the virtual. According to Ben Gilbert, a possible approach when assessing documentation of the Notre Dame Cathedral is to look to the gaming world (Gilbert. 2019). Game designer Caroline Miousse spent two years developing an exact replica of the Notre Dame Cathedral for the video game Assassins Creed. The game allows users to take place in the digital reproduction of historical settings and events. The characters are able to move freely and interact with the virtual world by walking, running, climbing and destroying. Not only does this virtual world allow users to interact with architecture in a new way, but maybe the virtual world will now be affecting the physical world and change how we interact with space (Gilbert, 2019).

Symbols and architecture Learning from Las Vegas

Perhaps one of the most influential architectural writings of the 20th century is the publication Learning from Las Vegas by Scott Brown, Venturi and Izenour. The book is the result of a study trip taken with a studio of architecture students to the neon light capital of America in the late 1960s. The book provides an overview of the connection between consumerism, images and their relationship to the built form. The study of Las Vegas provides examples of how architecture has been influenced by the image in favour of consumerism and is an important link between the work of Baudrillard and architecture.

In the autumn of 1968 Steven Izenour, Robert Venturi and Denise Scott Brown took a group of students to Los Angeles and Las Vegas as a part of an elective subject taught at the Yale school of Architecture. Together the group spent ten days studying and documenting the complex built environment in Las Vegas followed by ten weeks on campus analysing and refining their collected material. The research was later represented in the book Learning from Las Vegas (1977 p.xi). The group studied the relationship of consumerism and built form by analysing the use of signage in relation to built form.

The extensive and colourful signage found in Las Vegas is the result of the vehicle centred urban planning. The signs along the main strip are designed to catch the attention of cars on the highway, pedestrians walking on the footpath and from up close (Venturi et al., 1977). Since the city consists predominantly of hotels and casinos, these signs need to be visible during the night time as well as during daylight hours. Jean Baudrillard describes the scene in the following way:



"When one sees Las Vegas at dusk rise whole from the desert in the radiance of advertising, and return to the desert when dawn breaks, one sees that advertising is not what brightens or decorates the walls; it is what effaces the walls, effaces the streets, the facades and all the architecture, effaces any support and any depth, and that this liquidation, this reabsorption of everything into the surface...that plunges us into this stupefied, hyperreal euphoria that we would not exchange for anything else, and that is the empty and inescapable form of seduction." (Baudrillard, 2018).

In Las Vegas the symbolism of the sign dominates over architecture. It is the sign with its graphic meanings that make symbolic connections through space, directing visitors from near and far away. In this context, architecture is insufficient, the rule of Route 66 is small building big sign.

Architecture along the Las Vegas strip was described through two categories: the duck and the the decorated shed. This can be explained as the building acting as a sign, disguised as the product it sells, and the decorated shed being a building with a large sign attached to it (Venturi et al., 1977).



5. Photograph from exhibition Copia Romana at Bergs Gallery (Rainey, 2019)

Copia Romana (2019) - John Rainey (IRL)

Rainey's exhibition Flayground is a series of variations of the sculptures of Doryphoros by the Ancient greek sculptor Polykleitos. The original bronze statue is long lost, however there are existing Roman marble copies that have informed Rainey's work. The sculptures are bound in a system of pretending to be something that they are not. They are copies without an original (Berg Gallery, 2019).



6. The Imprint (Van Duivenbode, n.d.)

The Imprint MVRDV - Seoul

The Imprint is a visual echo of surrounding form. The brief for the designers was to design three structures without windows that relate to their surroundings. This was accomplished by draping three simple structures with a facade that projects the surrounding buildings. MVDR state that they have used this method to create coherence in the existing environment and among the new buildings (MVRDV, 2018).

Photogrammetry in Architecture



7. Robotically fabricated mould (Zboinska, 8. In Memory of Nike (Steby Stenfalk, 2017)

2020)

Cohesive flesh - Artistic computational design featuring imprecision Malgorzata A. Zboinska

With the evolvement of digital tools and software, imperfections and human errors have become less tolerated. Through her research Malgorzata Zboinska explores the artistic possibilities of the imperfect. By deliberately computerising imperfections in her work, she seeks to enable design explorations. In her project "Artistic computational design featuring imprecision" she generates a series on moulds with varying precision to generate discrepancies in the results. The starting point for the exploration was to design a digital object which served as the blueprints for the investigations. In the next step of the process silicon moulds outlining the exterior of the model were produced (figure 7). The moulds were then documented through photogrammetry and according to Zboinska, this was the first instance where intentional imprecision was applied. The intention was to study how these design imprecisions would impact the remaining steps of the process. Ultimately what this study aims to show is that there is artistic possibilities in the imperfect (Zboinska, 2017).

Collective Collection: Mona Lisa Mikaela Steby Stenfalk

Designer and architect Mikaela Steby Stenfalk uses social media to mediate the collective representation of the Louvre. After collecting various images from social media platforms she compounds the images into a three dimensional model. The varying quality of the model highlights the interest of the museum's visitors. The space surrounding the Mona Lisa is of high resolution and accuracy while other parts of the space completely lack data. Through her research, Steby Stenfalk questions the impact of the image on our collective memories (Steby Stenfalk, 2018).

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Photograph, Western facade

II: SITE





Heritage listed bricks

The building chosen for this project is located in the residential suburb Clifton Hill in Melbourne, Australia. The building was originally named United Kingdom Hotel but it changed ownership in 1988 and is now run by the American



199 Queens Parade, Fitzroy North VIC 3068 Site plan scale 1:600

franchise business McDonald's. The building has gained much publicity over the years because of its rich brick detailing (Places, 2015). The building is positioned adjacent a busy freeway and a tram track running to the city. The existing building was constructed in 1937 and designed by James H Wardrop. Because of its architectural and historical significance, the building has been heritage listed since 1988. (Places, 2015). The building was chosen for the project because of its strong characteristic and material details.



- BI- First order of the image according to Baudrillard
- B2- Second order of the image according to Baudrillard
- B3- Third order of the image according to Baudrillard
- B4- Fourth order of the image according to Baudrillard

III: DESIGN STUDIES

PHASE 1

On a clear sky morning in January the building was captured in 380 photographs. For the process to be successful the photographs needed to achieve 80 percent overlapping. The complexity of the exercise was to maintain a clear curvilinear track between the interception of vehicles and pedestrians. Aspiring to produce a model without any distractions yet documenting it fast enough to avoid any potential shifts in the weather meant that the photographs have a varying amount of detail and proximity. One clear consistence throughout the photos however is the height at which the images have been taken. Since the documentation was carried out using a mobile phone the height from which the photos are taken never exceed the first floor of the building. Images were taken from various angles to cover as much of the building's facades as possible. This was done both in order to avoid misinterpretations by the software as well as to ensure a high level of detailing of the building's material.



TOOL



(Baudrillard, 1994)



"It [the image] is the reflection of a profound reality"



Photographs from site













/.	8.
I. Northerly facade	6. Southern facade
2. North-western facade - entrance	7. Balcony
3. Western facade - entrance	8. Entrance
4. Tower detail	9. Seat
5. Brick detail - curved wall	













PHASE 2

After processing the images and producing point clouds in Metashape, a rough model presented itself. The number of images proved to complicate the process by combining the model in unexpected ways. For this reason, multiple small models were produced and later compounded. The exercise meant that the model is no longer a faithful representation of reality thus aligning it with Baudrillard's theory of the image.

Areas of the model where insufficient data has prohibited the production of a surface has either been left in its original state, or it has been patched using the mesh tools available in Rhino. These patches are based on estimations made by the software causing discrepancies in texture and form. Instead of dismissing the areas that were insufficient they have been preserved in the model, marking an important part of the process.





(Baudrillard, 1994)

2.

"It [the image] masks and denatures a profound reality"







Elevation western facade



Plan view



Process models Western elevation



Isonometric views of the 3D model

The software interpreted the geolocation of the images differently each time the process was run in Metashape, resulting in a series of misinterpretations of reality. After one week of trial-anderror processes the model finally came together in a configuration resembling the original building.





Geolocation tags in Metashape

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a. Mesh detail northern facade



Outline of meshes

The drawings on this spread highlight the misinterpretations of reality that are made by the software. The denseness of the mesh varies across the model. In some places it is rich and captures detailed materialistic textures and outlines, and in other places the information is insufficient and the software has made estimations that do not reflect reality (image a). The section below highlight the composition of the mesh.













PHASE 3

In the third step of the process, four details from the model were selected for further experimentation. The details were selected based on their characteristic qualities. Considering the building design originates from an Art Deco variety (Places, 2015), it seemed fitting to explore the digital qualities of the building's rounded forms and materiality, both of which are characteristic for the Art Deco style. The process gave rise to questions regarding legitimacy, originality and how far removed from the original the representation can be before it becomes its own entity with no obvious traces of its originator.

The explorations of step 3 included modifications of the mesh and the mass, as well as image tracing as a form generator. The modifications generated a multitude of representations of the 3D model, all offering a new and exciting perspective on their originator.





"It [the image] masks the absence of a profound reality" (Baudrillard, 1994)







Modifications

By applying an image sampler script to an image of the 3D model, the software can generate form based on the image. This function opens up possibilities of referencing buildings on new materials.

For this exercise an image of the compounded 3D model was sampled, causing deliberate enhancement of the misinterpretation made by the software in the previous phase. This causes an interesting clash between the preciseness of the sampler and the impreciseness of the image.

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     G
     -
     G
     -
     G
     -

     11
     12
     B3
     M
     G
     -

     12
     12
     K
     G
     -
     -
```







I. Softening	6. Image sampling
2. Relaxing	7. Curve extraction
3. Frame thickness	8. Draping
4. Vonroi	9. Deduction/Isolation

- 5. Colour addition



9.











The mesh

36

Usage and possibilities

Through modifying the mesh, we can change the structure of the element. One example is to reduce the number of points in the model to simplify the mesh

Misinterpretation as a tool

Faulty mesh can appear as a simplified structure, where points far away are connected due to a lack of information. By changing the positioning of the points one can change the entire appearance of the element.

Usage and possibilities

The form of the element can easily be transferred to other elements when working with masses. Mass can be added, deducted, and joined, creating new and unexpected forms.

Misinterpretation as a tool

The first step of working with the mass is converting the meshes to nurbs. This conversion of information causes changes to the elements and provides a new and changed representation of the structure.

Usage and possibilities

Misinterpretations as a tool



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Detail 1: Seat

The first detail is a bench integrated in the western facade. Small square bricks wrap around the structure, covering all sides.



View from south showing extracted details from 3D-model.







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Detail 2: Curved wall

The second detail is a curved wall found on either side of the entrance. The wall contains multiple sized bricks in varying patterns.

2. Curved wall





View from south showing extracted details from 3D-model.











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Detail 03 - Tower

The third detail is the tower above the entrance on the western facade. This detail consists of multiple sized bricks, shapes and angles.





View from south showing extracted details from 3D-model. 3. Material detail - Tower













































Detail 4: The portico

The fourth and final detail is of the entrance roof on the western facade.

4. The portico

























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PHASE 4

It is here, in the fourth step of the process, that a design proposal is formed. The components developed in the last phase are combined in new formations to explore their inherent qualities. In the first instance, individual components' spatial qualities are studied as isolated objects to later be combined with other components. Here, objects are assigned into categories such as walls, roofs, floors and other known building components, thus transforming abstracted forms into relatable objects. The second part of the process included developing a hyper realistic representation of the site and its surrounding area. In the hyper realistic model buildings are portraited as clear-cut geometries positioned on flat land. And although the trees are shedding their leaves according to a perfectly simulated northern wind, the denseness of the tree's crown will forever remain the same.



"It [the image] has no relation to any reality whatsoever: it is its own pure simulacrum." (Baudrillard, 1994)





Reality and Beyond

4.1 Before being combined with other isolated components, the elements from phase 3 were scaled up or down, multiplied and cropped to suit their new purpose. The driving question for these experimental compositions were; what it? The modifications made to the components in the earlier phases of the project provided a liberation from the predefined ideas of how the elements should be used. This meant that what had originally served as a wall, now had the opportunity to become a roof.











Ed.













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4.2 The hyper-realistic counterpart

According to Baudrillard, hyper-reality is reached when "It [the image] has no relation to any reality whatever: it is its own pure simulacrum''(Baudrillard, 1994). Baudrillard regards this as the fourth and final order of the image. In this order, reality is so far removed from what is represented in the image that it becomes its own, meaningless, entity. Baudrillard's phases of the image has informed this thesis' design process and thus helped shape the design proposal for a hyper-realistic counterpart of the existing building. The components are in this phase tied together in a composition that somewhat resembles the scale of its original. The components, however, have been represented in so many alternations that they have long lost their original value.





View from freeway South of site



Western elevation



Southern elevation





View from Queens parade





G → G → G → G →
 E1 → E2 → E1 → E4 G →
 G → G → G →

View from Eastern facade

55



Elevation Southern facade

PHASE 5

It is in this phase of the project that the process is reversed. The upcoming chapters will now study the inherent qualities of the components that have derived from the hyper-realistic model that was presented in phase 4. The reason for this is to study the possibilities of integrating the newfound qualities of the hyper realistic into the real. Through carrying out the first three phases in reverse this thesis will challenge the idea that there is no value in the hyperreal.

Step 5 of the process refers back to phase 3 of the image according to Baudrillard ("It [the image] masks the absence of a profound reality"), and examines the gap between what appears to be real and what appears to be exaggerated and false. In this step the process elements from the hyperreal model (step 4) is combined with the compounded 3D model from step 2. The juxtaposition between the elements makes us question the authenticity of the hyperreal elements, concealing the fact that the glitched three-dimensional model from stage 2 is in fact the deceptive image.



"It [the image] masks the absence of a profound reality" (Baudrillard, 1994)





5.









1. Material specification list

- 1. Steel I beam
- 2. 3D printed windows referencing the original building
- 3. Steel mesh





- 2. Material specification list
- Asphalt impregnated roofing felt
 Wrought iron structure
- 3. Recycled bricks

6 · 6 · 6 · 11 · 12 · 19 · 14 6



Phase 2 model



Phase 2 model

3. Material specification list

- 1. 3D printed element
- 2. Timber structure
- 3. Laser engraved cavities in concrete slab
- 4. Metal canopy



Phase 4 model

4. Material specification list

- Lightweight concrete facade element
 Stainless steel balustrade
- 3. Recycled brick
- 4. Laser engraved concrete



PHASE 6

After completing the previous step of combining elements from the hyper-realistic model and the photogrammetry model it was time to apply the newfound knowledge to the integration of the hyperreal and the real. In this phase elements from phase 4 were applied to serve four different purposes in the model. In the first instance elements were applied to places where reparation was needed, secondly elements were used as a design option to an existing part of the building. Lastly elements of the hyper-realistic model were used as an addition to the building. This category includes sunshades, façade details and other elements that may not have been needed at the time of construction but could complement the contemporary building's functionality.



(Baudrillard, 1994)



"It [the image] masks and denatures a profound reality"





To improve the credibility of how the hyperreal elements can be applied to built form they have been assigned with materials. The same element can be assigned multiple materials and similarly the same material can be assigned multiple elements, meaning that the material is not exclusively tied to an element. The explanation behind this reasoning is the need to explore the possibilities of the hyper realistic elements.

Western Elevation



Northern Elevation

10. Precast concrete facade element

- 5. Steel mesh
- 66





Southern Elevation

G → G → G → B1 B2 B3 B4 G G ← G ←

PHASE 7

In this last step of the process the model resumes it initial form $-\ensuremath{$ the photograph. By doing this the process has reverted back to its purest form (referred to by Baudrillard as "a reflection of a profound reality'' (Baudrillard, 1994)) and the process is concluded. By completing the process in reverse we are now able to study the end result in comparison to the model we started off with.



(Baudrillard, 1994)



"It [the image] is the reflection of a profound reality



Diagram of elements applied from phase 6

Photomontage, Western facade

6 · 6 · 6 · 1 · 6 · 6 · 6 · 1 · 6 · 6 · 6 · 6 ·









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V: SUMMARY AND CONCLUSION

Reflection

The main intention in this thesis has been to explore what possibilities lie within the represented model. The process, although complicated, provides a simple answer: many. by converting the 3D model into abstract building components, new and unexpected qualities were generated. They were no longer bound to the predefined ideas of their original purpose, and free to generate new meaning.

The use of photogrammetry presented an array of possibilities and complexities. Perhaps the main benefit of the compounded 3D model was the perceived accuracy (scale and texture) that served as a realistic representation during the design process. When studying the model closely, it became clearer that all is not as it seems. The exterior of the model is perceived as solid mass, however, when looking closer, it becomes apparent that the model has an abundance of inaccurate meshes and holes. These inaccuracies provided interesting features to the project.

The idea from which this thesis took its starting point, was that images that belong to the order of hyperreality have no value. Baudrillard implies that the images have lost their original value due to the amount of times they have been represented, however he does not specify if they can generate new meaning. Through the manipulations carried out in this thesis, it highlights that these images can create new meaning. If one is to believe John May's concept that Architecture needs to adapt to the contemporary telemetric society, perhaps the method undetaken in this thesis is one way to do so.

With further research, this method could contribute to future restoration and replication projects. The method provides new insight into the ongoing debate on new buildings and their references to bygone architecture qualities. New digital tools could be utilised to allow us to expand our referencing methodology in ways that bring new meaning to our contemporary society.



MATERIAL TRANSFORMATION

Bibliography

- Baudrillard, J. (1994). Simulacra and Simulations (A. Arbor (ed.); 1st ed.). The University of Michigan Press.
- Baudrillard, J. (2018). America. Verso, 2010.
- Boutkan, D. and Steby Stenfalk, M. (2020). Object and image. https://object-image.com
- Cambridge, D. (n.d.). Meaning of glitch in English. Cambridge Dictionary. Retrieved May 8, 2021, from https://dictionary.cambridge.org/dictionary/english/glitch
- Debord, G. (2002). Society and the spectacle (K. Trans Knabb (ed.)). Treason Press.
- Gallery, B. (2019). FLAYGROUND. https://www.berggallery.se/contemporaryexhibitions-artists-artworks/artists-1/john-rainey/
- Gilbert, B. (2019). The effort to rebuild Notre-Dame Cathedral could get help from an unlikely source: A video game. Buisness Insider Australia. https://www. businessinsider.com.au/notre-dame-cathedral-assassins-creed-2019-4?r=US&IR=T
- Leach, N. (1999). The Anaesthetics of Architecture. The MIT Press.
- May, J. (2017). Newish Media: A Conversation with Lucia Allais and John May. In Harvard GSD. https://www.youtube.com/watch?v=gqCUh16R4yw&t=4146s
- Mvrdv. (2018). The imprint. https://www.mvrdv.nl/projects/248/the-imprint
- Nouvel, J., & Toorn, R. Van. (1994). Tomorrow Can take Care of Itself. 1–11.
- Places, V. (2015). Clifton Hill. https://www.victorianplaces.com.au/clifton-hill
- Rák, O., & Szilágyi, D. (2020). Photogrammetry possibilities and rules focusing on architectural usage. Pollack Periodica, 15(1), 187-196. https://doi. org/10.1556/606.2020.15.1.18
- Rogers, A. (2019). The Notre Dame Fire and the Future of History. Wired. https://www. wired.com/story/the-notre-dame-fire-and-the-future-of-history/
- Smith, R. . (2010). The Baudrillard dictionary. Edinburgh University Press.
- Steby Stenfalk, M. (2018). Collective Collection: Mona Lisa. https://mikaelastebystenfalk. com/Collective-Collection-Mona-Lisa
- Venturi, R., Scott Brown, D., & Izenour, S. (1977). Learning from Las Vegas. The MIT Press.
- Zboinska, M. A. (2019). Artistic computational design featuring imprecision. In Architecture in the Age of the 4th Industrial Revolution - Proceedings of the 37th eCAADe and 23rd SIGraDi Conference, 719-728. http://papers.cumincad.org/ data/works/att/ecaadesigradi2019_298.pdf

Images

Eyerman, J. R. E. (1952, December 15). The premiere screening of film Bwana Devil [Photograph]. Aphelis.Net. https://aphelis.net/ cover-debord-society-spectacle/

Gorillas Don't Blog. (n.d.). [Parade at disneyland]. Https://Www.Atchuup. Com/. https://www.atchuup.com/vintage-disneyland-photos/

Pellecom, Rijskamp, Steby Stenfalk, R. V. P. I. R. M. S. S. (2018, January 1). Collective collection [Photograph]. Mikaelastebystenfalk.Com. https:// mikaelastebystenfalk.com/Collective-Collection-Mona-LisaRainey, J. R. (2019, October 1).

Copia Romana [Photograph]. Berg Gallery. https://www.berggallery.se/ contemporary-exhibitions-artists-artworks/works/john-rainey/johnrainey-copia-romana-pulled-down-2019

Ubisoft. (2019, April 18). Notre Dame Cathedral [Illustration]. ArtNet. Com. https://news.artnet.com/market/how-technologies-old-and-newwill-be-needed-to-rebuild-notre-dame-1520689

Van Duivenbode, O. V. D. (n.d.). The Imprint [Photograph]. MVRDV -The Imprint. https://www.mvrdv.nl/projects/248/the-imprint

Venturi, R. V. (1977, January 1). Learning from Las Vegas [Illustration]. Physiognomy. https://www.researchgate.net/figure/Venturis-Physiognomy-of-a-typical-casino-sign-Source-Robert-Venturi-Learning-from-Las_ fig2_301699314

Zboinska, M. (2017) Robotic Mould [Photograph]