ETERNA
GRADUATION PLAN
Wellspring for the future in the past

BY JIP COLENBRANDER
WRITTEN BY
Jip Colenbrander
Student number: 4216040

STUDIO
Shared Heritage Studio Bandung Heritage & Architecture

TUTORS
Nicholas Clarke
Job Roos
Mo Smit
Paddy Tomesen

PROJECT TITLE
Eterna, wellspring for the future in the past

PROJECT LOCATION
Bandung, Indonesia

DATE
June 2018
01. ARGUMENTATION OF CHOICE OF THE STUDIO
Firstly the Shared Heritage Studio Bandung gives me the opportunity to collaborate with several disciplines such as Heritage, Architectural Engineering and Urbanism. This offers me a broader view on approaching architecture. In addition, I am always very interested in the history of an area, because this is a good basis for a strong story that I want to tell with my design. This studio offers the perfect opportunity for this. Finally, the international context attracted me strongly. I am convinced that as an architect you learn a lot from applying your knowledge in a different context and culture. This is why I wanted to take up this challenge.

02. FASCINATION
We use water to take care of ourselves, to entertain ourselves and our body consist of about 60% water. Water is the element with which we cannot live without, but which is also continuously the subject of discussion when it comes to climate change, shortages and dangers in the world.

My grandfather is a hydrologist. He always tells with full dedication and pride what important position the Netherlands occupies worldwide when it comes to responding to these shortages and dangers of water and how the Netherlands contributes to the fact that the world’s population can live below sea level, in deltas or along rivers. His stories about how we, as a small country, have been working together with water for decades, in order to ensure that our built environment remains viable, intrigue me.

During my master, I always wanted to integrate my fascination with water into my designs. I am convinced that as architects we can contribute to a vision on how we can and have to live with water in the future. With my graduation project I would like to use this power of working together with water to add value to the shared heritage center of Bandung, west Java. A place that offers a big challenge for that. If it succeeds there, it will be a very good showcase for other places in the world.

‘Water is the most familiar substance in our lives. It is also unquestionably the most important substance in our lives. Water vapor is the insulation in our atmosphere that makes Earth a comfortable place for us to live. Water drives our weather and shapes our geography. Water is the lubricant that allows the continents themselves to move. Water is the secret ingredient of our fuel-hungry society’

Charles Fishman - THE BIG THIRST
03. PROBLEM DEFINITION
The sea level is rising, the extreme weather conditions are increasing, the average temperature on earth is rising and the population is growing which increases the demand for water. Due to these facts, water management is more important than ever.

Bandung is a good example of a city that has to deal with all these developments. Bandung, 6.9175 ° S, 107.6191 ° E, has a tropical monsoon climate with a rainy season running from November to April. The average temperature in the city is slightly lower than the average temperature on Java. This is because the city is 768 meters above sea level. In addition, there is approximately a difference in altitude of 100 meters between the northern and southern part of the city. This height difference has in the past provided an integrated water system in which agriculture and living could be combined. This provided a good working eco system. However, this difference in height, combined with the enormous urbanization of the city and the tropical rain showers, now causes major problems. Indonesia is undergoing a steady urbanization; in 2005 to 2030, urban population in Indonesia is predicted to increase by 74%. This massive increase in the built-up area ensures that there is less place for green and water in the city and no place to escape from the hustle and bustle of the city for people. There is no place to breathe. Focussing on the water consequences; the floods increase sharply and the demand for water grows enormously. However, the capacity of the water management system of the city cannot cope with this growth. Although the Government is working on improving access to water, progresses are still low. Water has low quality, inadequate quantity and is not always affordable. This resulted in the use of plastic gallons, over extracted groundwater systems, an overloaded sewage systems and less respect for nature. As a result the hygiene, health and liveability of the city has come under pressure and the Chicapundung River, which runs through the city like a vein, has become heavily polluted and the water quality continues to decline. The city has therefore literally turned its back on the river, although it was an important part of the old water management systems.

These problems ensure that the relationship between nature, and especially water, and people got lost. In order to address the relationship, it is fundamental to have a deep understanding and knowledge about the city, its historical and cultural practices and influences. What role does the water play in the history of people? What was the original connection between water and the city? What value do people give to water and how does the architect need to approach this value? What are the consequences of water in the city and how does people in Bandung deal with the consequences of water? How can we use historical water management to understand current issues and create new starting points for the future? What possibilities does water offer for the shared heritage city center?

These questions lead to the following overall research question.
Wellspring for the future in the past

Wellspring for the future in the past
04. RESEARCH QUESTION

‘How can the historical value and usage of water be used to improve the current water management and to add value to the shared heritage city center of Bandung?’
05. NARRATIVE OF WATER
To understand the complex relationship between water and the city it is important to map the different stories about water usage and the value of water during history. This perspective makes the link between water, heritage and sustainability. The connection between these aspects is underpinned by the following quote.

‘Heritage was the answer to sustainability, most adapted and sustainable answer to daily life of populations. Deeply routine in cultural life.’

Willems, W. and Van Schaik, H. - WATER AND HERITAGE

In my research I want to look for the role of water in this cultural life. Stories of people will give an overview of the value of water during history. This will result in the narrative of water, ‘wet narratives’, my research trip report, which offer the starting points for my design.

06. RESEARCH METHODS
The methodology of my research consists of two parts; literature study and site research. Literature study contributes to understand the context, define my problem statement and to substantiate the connection between the different themes; water, heritage, sustainability and people. The site research aims to understand the context and the relationship between water and the city. The site research includes observation, interviews, narrative mapping, mapping by photography, drawing, visiting case studies and choosing a specific site. Literature will then be used to analyze my findings, define a program and formulate the base of the next phase, my design. For my design the methodology ‘research by design’ will be used to create a design that fits well with my research. Beside, case studies will be used to define a specific program.

07. INTENDED RESULT
My research has led to the ambition to promote the peace, space and beauty that water can offer in the shared heritage centre of a growing city in order to reconnect people into nature, offer a place to breathe, contribute to the daily life and create a showcase for similar circumstances in the world.

This then leads to the question which program appeals to this design question? The design must offer both tranquility and space in the historic center of a fast-growing city. In addition, the design must make people aware of the value of water and thereby contribute to the quality of daily life. In order to achieve this, it must be a place where people, physically and mentally, experience the benefits of water. And also see how there should be dealt with water in the future, in which the pressure on water increases.

That in a future in which climate change only strengthens the global water problem, people should experience the importance of water is underpinned by the following quote from Jane Withers (2017). Withers is a leading design consultant, curator, and writer and published catalogs, programs and exhibitions that bring
‘We should treat heritage not as a problem but as something we can use. Heritage teaches us on how people dealt with water challenges in the past, it gives directions in finding solutions and indeed can often be used itself’

Diederik Six and Erik Luijendijk - ICOMOS
innovative design thinking to address social, cultural and commercial challenges. One of these challenges is the future of water.

‘And unlike the dry stats and deepening foreboding of news reports on drought and flooding, bathing creates a way for us to reconnect to water more intimately and profoundly through our senses. Surely it’s no coincidence that this should happen at a time when climate change is forcing awareness of our precarious relationship to water and the realities of a water-stressed future.’
- Jane Withers

This led me to the goal of designing a new interpretation of the public bathhouse. A place to breathe, experience, support public health and reconnect people into nature.

08. DESIGN QUESTION
The aim of the project can be translated into the following design question:

How can the peace, space and beauty that water offers in the shared heritage centre of a growing city reconnect people into nature, create a place to breathe, contribute to the daily life and create a showcase for similar circumstances in the world?

09. APPROACH
The interesting thing in this research is which role I have to take as an architect. The common history between the Netherlands and Indonesia creates a field of tension in which you have to take a position that, on the one hand, applies knowledge from the Netherlands and, on the other, gives space to local customs.

In Bandung there is a mentality of tolerance, ‘Adaption’. There is a big difference between the vision of the international context and the way people in Bandung look at the consequences of the water. People live there as if the behavior of the water is a given and leaves nature much more on its course. This mentality of tolerance offers a completely different perspective on the consequences of water.

This is a very interesting difference. The question is what can I learn from this mentality as an architect? And how I can apply this in a design solution in which I can solve a water problem by using the historical value of water.

10. RELEVANCE
In an age where climate change is the subject of the day and the water issues are increasing worldwide, it is important to consider how to work with water in the future. Especially in fast growing cities, like Bandung, where there is little space left for water, this is an important aspect. The intention of this project is to show people the value of water in order to make living with water possible in the future. The role of water is changing and people need to be aware of this.
‘Many civilizations have been crippled or destroyed by an inability to understand water or manage it. We have a huge advantage over the generations of people who have come before us, because we can understand water and we can use it smartly’

Charles Fishman - THE BIG THIRST
## 11. PLANNING

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- **Timeline**
  - Problem statement
  - Fascination
  - Chronomapping

- **Group research**
  - Individual work
  - P1

- **Timeline**
  - Deadline 24 May
  - Final

- **Research report**
  - Drawings
  - Model
  - Chronomapping
  - Matrix

- **City**
  - Site

- **Wellspring for the future in the past**
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### Timeline

- **Problem statement Fascination**
- **Draft**
- **Chronomapping**
- **GP**
- **P1**
- **P2**
- **P3**
- **P4**
- **P5**
- **P6**
- **Final**
- **Deadline 24 May**

### Graduation plan

- **Graduation plan**
- **15th**

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**Graduation plan**

15
12. LITERATURE


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Wellspring for the future in the past