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# **theoretical research book**

Spaces of conflict and opposition through water and architecture  
the Israeli-Palestinian case

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# Spaces of conflict and opposition through water and architecture

## THE ISRAELI-PALESTINIAN CASE

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### ABSTRACT

The relationship between the Israelis and the Palestinians is delicate. The Israeli-Palestinian conflict plays at the level of politics, but also the inhabitants are confronted with and limited by the consequences of territoriality and national boundaries. The allocation of water is an issue translated to water scarcity and inequality between people. Water management is the hidden layer of territorial control in hands of Israel: a powerful tool in the Israeli-Palestinian conflict and an example for Israeli politics.

The water management creates inequality between the Israelis and Palestinians, causing mistrust and misunderstanding in society. What is the link between spaces of conflict and opposition, architecture and water management, and why is this so important? Water plays a huge role in daily life and is present in most architecture, thus it is important to investigate the power, meaning and influence of the spatial representations of the water system. This paper explains the connection between spaces of conflict and opposition, architecture and water management, and will investigate the role of e.g. an architect to play in spaces of conflict and opposition with spatial representations of water systems and their management.

## 1. Introduction

Israel and the Palestinian Territories have a long history of being in an originally native-settler conflict.<sup>1</sup> In the early decades of the 20<sup>th</sup> Century, Jews were coming to the 'Land of Israel'. The migration caused extreme nationalism from the Arabs holding on to their land and from the Zionist movement of returning to the 'Promised Land'.<sup>2</sup> The migration went together with warfare between the Arabs and Zionists, creating a society in which both groups mistrust and misunderstand each other, of which Israel had the ability to secure and protect itself from the Palestinians by walls.<sup>3</sup>

In the Israeli-Palestinian conflict, both parties have their ideas on ownership of historical sites and land, and about what is more important with regards to cultural, economical and political fields. As a result, the inhabitants and visitors of both entities are confronted with limitations on systems and elements at several levels that do not necessarily coincide with the borders of Israel and the Palestinian Territories, e.g. Euclidean spatial movement of people, land access, water flows, water supply. Through the creation of barriers and bypass roads, the management of water, the governing of areas, the applied politics and policies by the Israeli government, both the Israelis as Palestinians

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<sup>1</sup> Mi'Ari, Mahmoud, 'Attitudes of Palestinians Toward Normalization with Israel', *Journal of Peace Research*, 36 (1999), 339-348 (p.339).

<sup>2</sup> Portugali, Juval, 'Jewish settlement in the occupied territories: Israel's settlement structure and the Palestinians', *Political Geography Quarterly*, 10 (1991), 26-53 (p. 29).

<sup>3</sup> Curti, Giorgio, H., 'From a wall of bodies to a body of walls: Politics of affect | Politics of memory | Politics of war', *Emotion, Space and Society*, 1 (2008), 106-118 (p.113).

notice inclusiveness, exclusiveness and seclusiveness explicitly.<sup>4</sup> Israeli citizens are moderately free, but have restrictions on their presence in the Palestinian Territories in area 'A' and even most of the adjacent countries. Palestinians however, are not restricted from being within any of the Israeli control areas at the West Bank, but are restricted to go to Israeli territory and Israeli settlements. Also, Palestinians are limited in the availability of land, water and rights. Thus, the conflict not only plays at the level of demarcating national boundaries and the creation of homogeneous states, it also reflects at the dimensions of territorial behavior and interaction between the Israelis and the Palestinians, in which groups are favored over another by legislation and in which distribution of resources happens unequally.<sup>5</sup>

The separation and exclusion of people through national boundaries and the definition of territory is applied to the ground surface of an area ignoring many (natural) systems underneath and above the surface i.e. underground and in the air. Air in its existence flows with the wind while ignoring borders, the sun shines with the same potential at Palestine as at Israel and vibrations underground, due to plate tectonics, resonate without taking boundaries into account. Layers of earth stretch out through the landscape without regards to the definition of territories; layers of water flow underneath the territories from the top of aquifers downwards, not being limited by any territorial measurement. Nevertheless, Israelis and Palestinians at the ground surface are restricted to the use of water of it through Israeli 'national' water management.<sup>6</sup> Besides, the territorial conflict also plays at the level of politics and policies of water management, in which Israelis and Palestinians disagree on the claim of the water rights from territorial and hydrological and engineering points of view.<sup>7</sup> The problems of water supply and water allocation have become a segregation tool onto Israeli and Palestinian people based on their origin, citizenship and religion, as a result that hydrologists – who have been working with Palestinian communities on water shortages – have introduced the word “*Hydro-Apartheid*”.<sup>8</sup> Water as the source for conflict in the Middle East is not new. Israel was in the “*War over Water*” with its Arab neighbors from 1964 till 1967 in the countdown to the Six-Day War, and water is likely to cause new conflicts.<sup>9</sup>

The problems of the Israeli-Palestinian territorial conflict, the society and its water management translate to the production, conception and use of space of Israeli and Palestinian citizens. The homogeneity of states on one hand goes along with the heterogeneity of people, opinions and desires at the other hand. Water management as a homogeneous system in a heterogeneous state system has its implications on one and the other and has been and is a source for conflict and opposition in the Israeli-Palestinian conflict.

The conflict has long been recognized and studied on different aspects by geographers, sociologists, and economists, but also by engineers and architects. Social relations, local and national implications of Israeli settlements, occupation and Israeli-Arab environments have been studied (Portugali, 1991; Portugali, 1992; Weizman, 2004; Jabareen, 2014). Spatial representations of spaces of conflict and opposition and perceiving border zones – whether with the specific focus on the Israeli-Palestinian case or not - have been addressed in relation to the social, political and spatial implications of conflict (Falah & Newman, 1995; Weizman, 2006; Curti, 2008; Schoonderbeek, 2013; Gazit & Latham, 2014; Mela, 2014; Schoonderbeek & Shoshan, 2016). Water scarcity has been a long struggle in Israel and Palestine and is thus addressed many times in history. The discussion and research into water conflicts, discharge, demands, rights and possible solutions (Cooley, 1984; Yaron, 1994; Berck & Lipow, 1994) shifted to the discussion of water allocation, costs of desalination and water as instrument of power after the 1995 Israeli-Palestinian Oslo Accords towards peace and the invention and application of desalination plants (Haddad, 1998; Zahra, 2001; Alatout, 2006; Lautze & Kirshen, 2009; Feitelson &

<sup>4</sup> Jabareen, Yosef, 'The right to the city' revisited: Assessing urban rights - The case of Arab Cities in Israel', *Habitat International*, 41 (2014), 135-141.

<sup>5</sup> Newman, David, 'The geopolitics of peacemaking in Israel-Palestine', *Political Geography*, 21 (2002), 629-646 (p.633).

<sup>6</sup> NB: There has to be mentioned that the Israeli national water management not only contains the national territory of Israel as recognized by most international states, organizations and institutes. The control area of Israeli national water management also contains the Occupied Territories.

<sup>7</sup> Yaron, Dan, 'An approach to the problem of water allocation to Israel and the Palestinian Entity', *Resource and Energy Economics*, 16 (1994), 271-286 (p.279).

<sup>8</sup> Schrum, Randy, *The Hydro-Apartheid of Palestinian communities in Israel* <<http://anydisaster.com/hydro-apartheid-palestinian-communities-israel/> [last retrieved October 21<sup>st</sup>, 2017].

<sup>9</sup> Cooley, John K., 'The War over Water', *Foreign Policy*, 54 (1984), 3-26 (p. 3).

Rosenthal, 2012). From the start of the Israeli-Palestinian peace process, the focus of geographers, social scientists and planners moved to geopolitics of peace, spaces of peace and sharing, and normalization (Newman, 1996; Mi'Ari, 1999; Khamaisi, 2002; Newman, 2002). Geographers, political scientists and planning, engineering and architecture specialists have been focusing on the ability of spatial manifestations at border locations and in divided cities to find the relation between the possible actions and their consequences for society, with the goal to create places for different groups of people to come together (Yiftachel & Yacobi, 2002; Larkin, 2010; Mehdiabadi, 2015; Selim & Abraham, 2016). For understanding space and actions within space, the dialectic theories onto the meaning and ability of space and spatial practices, through the concept of three types of production of space, the perceived, the conceived and the lived space, respectively the product of human design, the imagined space and the way people inhabit life, - and also in relation to movement and time have been researched by famous sociologists in the end of the 20<sup>th</sup> century and beginning of 21<sup>st</sup> century (Lefebvre, 1991; Harvey, 2004). The value and politicality of maps or drawings as representation of reality or subject of social and political discussion has recently been studied in cartography (Bier, 2017).

This article however creates the link in the academic field between the spatial representations of invisible layers as reactions to conflict in spaces of conflict and opposition, and water management as problem that from the spatial view not has been addressed yet. The focus of this paper is whether there is a role for architecture in a society with a context of territorial conflict and opposition, with the specific focus on the architectural embodiment of the water management that goes beyond borders. This paper studies the ability of what architecture in border zones and border-crossing architecture can mean within the Israeli-Palestinian territorial conflict in terms of overcoming or developing a conflict.

In the Israeli-Palestinian conflict where the inclusiveness of Israeli and exclusiveness of Palestinians in society translates to a system of privileges for Israeli and limitations for Palestinians, territorial water management is a significant layer of Israeli governance and one of the sources of local conflicts and mutual mistrust and misunderstanding.<sup>10</sup> Water management is an invisible layer that flows through underground infrastructure into domestic and public buildings. Groundwater is Palestine's main source of water, but due to Israeli water management only 20% of the aquifer system's discharge is available for Palestinians – the other amount flows to the Israeli. After an Israeli-Palestinian history of local and private water extraction, Israeli – or Zionist – hydraulic missions and water inventions, fresh water resources were utilized and a new strategy had to be invented. Israelis started to manage water nationally through the Water Law of 1959 that annulled private ownership of water resources. After Israeli occupation of Gaza and the West Bank in 1967 the water management also applied to the Palestinians. Following the Transfer of Authority in the West Bank accord between Israel and the Palestine Liberation Organization (PLO) in 1995, during the Middle East peace process of 1993, the newly established Palestinian Water Authority (PWA) received the legal responsibility of ensuring the provision of water to the Palestinians – nevertheless under Israeli control.<sup>11</sup> In the Oslo 2 Interim Agreement of 1995 Israel and the PLO agreed upon the allocation of water rights in which the amount of water to be transferred from Israel to the PWA till after the year 2000 has been written down.

Due to the Israeli control on water in both the area of Israel and Palestine, the water is allocated whereby the Palestinian population is able to consume only 55% of the WHO minimum standard.<sup>12</sup> Mistrust and misunderstanding are keywords within the conflict with the water management as the invisible but considerably affecting source. The importance of water as source for conflicts is endorsed by John K. Cooley in his paper "The War over Water" on the water problems in Israel and its Arab neighbors: *"Long after oil runs out, water is likely to cause wars, cement peace, and make and break empires and alliances in the region"*.<sup>13</sup>

<sup>10</sup> Newman, David, 'Shared spaces - separate spaces: the Israel-Palestine peace process', *GeoJournal*, 39 (1996), 363-375 (p. 368).

<sup>11</sup> Haddad, Marwan, 'Planning water supply under complex and changing political conditions: Palestine as a case study', *Water Policy*, 1 (1998), 177-192 (p.178).

<sup>12</sup> Zahra, Bader A. A., 'Water crisis in Palestine', *Desalination*, 136 (2001), 93-99 (p.93).

<sup>13</sup> Cooley, John K., (p. 10).

In a conflict situation as in Israel and the Palestinian Territories, where water is scarce and water management leads to unequal treatment, and thus mistrust between Israelis and Palestinians, I believe it is meaningful to start the discussion of what could be done with regards to the Israeli-Palestinian water management problems in the expression of spatial representations. Space in its existence is the medium that people encounter continuously – directly and indirectly, inside and outside. Therefore, space eminently is the medium to express and transfer ideas through e.g. architects and designers. This paper questions the meaning of the expression of ideas through drawings or through spatial representations in the physical space.

To understand the ability of architecture i.e. the ability of e.g. the architect, designer, engineer, contractor, in a complex political and social context as in Israeli-Palestinian space we will have to find an answer to what the role (power and meaning) architecture (and by that e.g. the medium, and also e.g. the architect) could have within and/or onto the spaces of conflict and opposition in Israel and the Palestinian Territories with the specific focus on Israeli water management.

Historically, several territorial conflict situations have existed in which we can find architecture and expressions of e.g. architects in relation to the conflict. This paper will analyze these architectural manifestations to understand its ability or abilities within and onto conflict situations and give an answer to what in history has been done in the field of architecture in spaces of conflict and opposition, and what this has meant to the conflict.

The follow up of the extensive historical analysis of architecture in conflict situations is the relation of architecture and water management. Water as a system is the embodiment of its politics and policies, and is part of the architectural context. Water is important in people's daily lives, and its system is therefore present in most architectural projects, hence important for the designer of the spatial context that people use. To recognize the water as a system within architecture and also as a medium to express ideas, we will have to understand the system and how to use it in architecture. To play a role in the water management debate as e.g. an architect, we have to know the relation between water and its spatial representation, by investigating what the water system consists of, and how this translates to a spatial representation.

The conclusion of the paper is a discussion of possible ways in which e.g. an architect can play a role in spaces of conflict and opposition through architecture as the embodiment of a water system and its territorial management. The discussion of possible ways can function as a start of discussion or debate to think of possible ways for e.g. an architect to practice its power, meaning and influence in spaces of conflict and opposition.

The importance of this paper is the need for e.g. architects to take into consideration water management and its water systems as a source for conflict and meaningful design tool with its consequences in the water scarce area of Israel and Palestine. The article will gain new insights into architecture, the Israeli-Palestinian conflict and water management through linking the topics together, as a start to the discussion of how to handle a conflict through water management as a spatial representation. I hope this article will lead to new research and investigations in related and close-by subjects.

## **2. Analysis of architecture in spaces of conflict and opposition**

### **Introduction**

What is architecture able to do within spaces of conflict and opposition? The Israeli-Palestinian conflict exists for decades, but one or more final solutions to overcome the conflict have not yet been found. What could e.g. architects, engineers, planners contribute in favor of the peace process, and how can it cause a conflict to develop? Through an extensive historical analysis of six architecture precedents within spaces of conflict and opposition, an answer is formulated to what e.g. architects have done in spaces of conflict and opposition and what the meaning of the spatial manifestation has been to the conflict. The conclusion will consist of a summary of variables and key aspects of possibilities and consequences of architecture in spaces of conflict and opposition.

The six architecture precedents in the analysis are carefully selected from architectural manifestations within conflict situations that have existed, from architectural manifestations during conflicts looking forward to the end of the conflict, and from architectural manifestations after conflicts, based on how they relate to the research of the Israeli-Palestinian case. The architectural manifestations focus on their existence at one territory with a connection to the 'other' territory or at the border zone of territories. The selection of architecture precedents consists of the Berlin Wall Competition entry of Morphosis architects, Wohnhaus am Checkpoint Charlie and Haus am Checkpoint Charlie in former West Berlin, the Fernsehturm in former East Berlin, the Memorial center in Bogotá and the Souks shopping mall in Beirut.

The selected precedents in Berlin relate to the Israeli-Palestinian conflict through the importance of territory, in which powers with opposite beliefs create homogeneous states from that point of view by the selection of people and inclusion and exclusion through physical barriers on the ground surface. West and East Berlin serve as examples of a territorial conflict in which walls checkpoints and other barriers are placed at territorial boundaries, in which crossing borders is permitted limitedly and in which several streams of movement and transportation could take place freely, e.g. the Berlin Airlift goods transportation by airplanes from West Germany to West Berlin – crossing East Germany high above the surface through the air. In Berlin the conflict consisted of the territorial spread of two powers and their beliefs opposite of each other. The focus within the architectural manifestations lies within the demonstration of capabilities of the powers and the relation to the existence of the wall during the conflict.

In Bogotá, Colombia however, the architecture precedent relates to the Israeli-Palestinian conflict by its territorial character, and does not focus on a wall or a divide within in the conflict. It focuses on all victims already made through the conflict and is slightly looking forward – creating the future – to the ending of the conflict.

The Beirut precedent is a spatial manifestation built after the conflict, trying to heal the wounds of the conflict that went in advance. Segregation still exists in Beirut, but movement is theoretically free. However, at the ground surface, social acceptance and tolerance of other-thinking people due to the segregation have not been healed. Beirut serves as example for the Lebanese Civil War, a conflict of power with the focus to create a homogeneous state based on a certain origin and religion. The war caused a division in the City of Beirut into different territorial sectors, based on origin and religion. The Israeli-Palestinian conflict is a territorial conflict focusing on homogeneous states based on origin and religion, and therefore the Beirut conflict serves as a closely related example, in which the Beirut Souks shopping mall focuses onto weaving the people with different beliefs together.

The collection of architectural manifestations or case studies will need to be understood from the point of view of its time, its context at the time, its feasibility and possibility to be built, the medium of communication, its meaning and whether this had any larger implications to the society or to the future. The analysis will make clear whether the architect or the architectural manifestation has made any contribution to the overcoming or developing of the conflict. What visible and invisible strategies have been used to express the ideas of the architect? What does the meaning of a drawn line mean in a complex situation of conflict? What do the case studies tell us about the power and strength of architecture in complex political spaces? And what about its weaknesses and failures?

As for the analysis, a short description of the architectural manifestation will state key facts about the architect(s), time, meaning(s), expression(s) and consequence(s) of the manifestation, from which its place in the context of place and time becomes clear.

To take out what is important with regards to the power, meaning and influence of the architectural manifestation, a dissertation on the manifestation's qualities will follow up each description.

## Analyses of preceding architectural manifestations

Berlin Wall Competition, 1986, Morphosis architects.

Analysis:

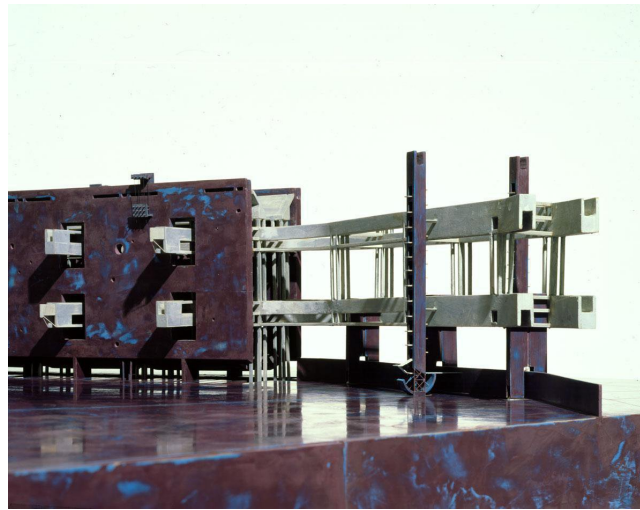


figure 1. Morphosis model of Berlin Wall competition entry<sup>14</sup>

Only three years before the fall of the Berlin Wall in 1989, a competition to envision the Berlin Wall was written out. Morphosis' share to the competition is their view on the Berlin Wall in a utopian (or dystopian) version. Against the set of rules of the Wall, Morphosis designed a structure where human interaction between East and West Berliners could take place, where people could walk from the West side of the structure to the East side and the other way around, a place where the City of Berlin could be seen as one whole from the top of the structure.

The idea of Morphosis' design is that visitors from West and East would violate the territorial boundaries and its rules and by that occupying the Wall while allowing continuous human interaction. The design attempts to mix the flow of Berliners from East and West, while making them aware of violating boundaries and seeing the divided city as one city.

The competition entry of Morphosis architects was utopian (or dystopian) from one or the other position. It would violate the agreements on territory and go into the ideas of the stark division of the City of Berlin. The materials in which the design is embodied are drawings, scale models, photographs on Internet. Also, the design continues surviving in memories of people that have been in touch with the design embodiment.<sup>15</sup>

### Dissertation:

Morphosis' design for the Berlin Wall Competition inspires me through the theoretical design specifications that have been applied with regards to the perception of borders. At the place of the separating boundary, the design takes the visitors to a higher level where they can see the city as they usually never experience it – as one city instead of a city divided in two. I believe this theoretical point of view takes the project to a higher level by the use of visual relation strategies. To this, we can apply Lefebvre's concept of three types of produced spaces, the perceived, conceived and lived spaces.<sup>16</sup> In Lefebvre's concept of produced spaces, the perceived, the conceived and the lived begin to shift differently from each other. The imaginations in the conceived space go beyond the boundaries of the perceived space, but will never be lived because of the territorial conflict. The design of Morphosis brings the lived space in context of time as in Harvey's general matrix of spatialities to the dialectics of *relational space*<sup>17</sup>, in which the visitors will produce visions, desires, frustrations and memories when visiting the design.

<sup>14</sup> Morphosis, *Berlin Wall Competition* <<https://www.morphosis.com/architecture/66/>> [last retrieved October 18th, 2017].

<sup>15</sup> Ibid.

<sup>16</sup> Lefebvre, Henri, *The Production of Space*, translated by D. Nicholson-Smith, (Oxford: Blackwell, 1991), p. 33.

<sup>17</sup> Harvey, David, 'Space as a key word', *Spaces of neoliberalization: towards a theory of uneven geographical development*, (Stuttgart: Franz Steiner Verlag, 2004) pp. 93-115 (p. 105).

From my point of view, this concept of using architecture as the material embodiment to produce shifts in what people see, think and are allowed to do is very interesting in spaces of conflict and opposition in which people are confronted with limitations. The architecture plays with the rules of the space and with the space in the imaginations of the visitors. It influences the visitors psychologically through their presence at a physical object in space.

What I find meaningful is the place of the building being at the border. The border as drawn in maps in this sense becomes embodied by the architectural ideas of Morphosis and could suggest a consolidation of the border. The meaning of maps in this sense is taken so literal that the lines of the maps become a physical reality. Maps as interpretation and representation of the physical space are subjected to the maker of the maps, as the production of maps is based on what information is needed and valued as useful.<sup>18</sup> The consolidation of the border thus could imply that Morphosis agreed to the existence of the border or to the lines as drawn on the used map.

### **Wohnhaus am Checkpoint Charlie, 1990, OMA – Office for Metropolitan Architecture.**

#### **Analysis:**

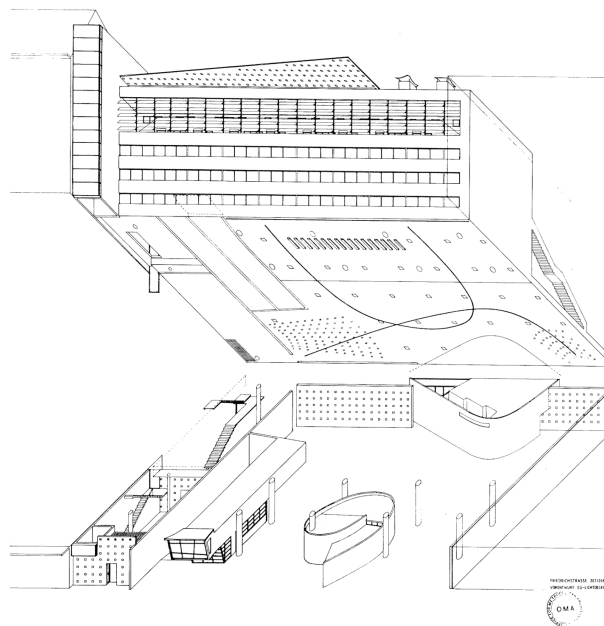


figure 2. OMA three-dimensional drawing of Wohnhaus am Checkpoint Charlie<sup>19</sup>

As winning project from the competition of the commission of the International Building Exhibition Berlin (or Internationale Bauausstellung Berlin, IBA Berlin) of 1987 Checkpoint Charlie Apartments was built in accordance with the design of OMA in West Berlin close to Checkpoint Charlie and the border with East Berlin. The building contains apartments and a checkpoint facility for the customs workers and Allied forces.<sup>20</sup> As visible in OMA's drawing, the apartments are designed on the podium of the border control – a plinth of space with pavilions for the border control workers. Hence, the multistory social housing was detached from the street level.<sup>21</sup>

Right before completion (1989) the Berlin Wall fell and the existing borders dissolved. As a reaction to the fall of the Wall, the border control space was not necessary anymore and was repurposed and reconstructed into a shopping plinth.<sup>22</sup>

<sup>18</sup> Bier, Jess, 'Occupied Data: Mapping the Boundaries of Israeli Settlements from the Ground', *The Berlage session*, 1 (2017)

<[http://www.theberlage.nl/events/details/2017\\_10\\_13\\_occupied\\_data\\_mapping\\_the\\_boundaries\\_of\\_israeli\\_settlements\\_from\\_the\\_ground](http://www.theberlage.nl/events/details/2017_10_13_occupied_data_mapping_the_boundaries_of_israeli_settlements_from_the_ground)> [last retrieved October 16<sup>th</sup> 2017].

<sup>19</sup> OMA, *Checkpoint Charlie apartments* <[www.oma.eu/projects/checkpoint-charlie-apartments](http://www.oma.eu/projects/checkpoint-charlie-apartments)> [last retrieved October 18<sup>th</sup>, 2017].

<sup>20</sup> F-IBA, *Wohnhaus am Checkpoint Charlie* <[f-iba.de/wohnhaus-am-checkpoint-charlie](http://f-iba.de/wohnhaus-am-checkpoint-charlie)> [last retrieved October 18<sup>th</sup>, 2017].

<sup>21</sup> OMA, *Checkpoint Charlie apartments*.

<sup>22</sup> *Wohnhaus am Checkpoint Charlie* <[http://www.wikiwand.com/de/Wohnhaus\\_am\\_Checkpoint\\_Charlie](http://www.wikiwand.com/de/Wohnhaus_am_Checkpoint_Charlie)> [last retrieved June 4<sup>th</sup>, 2017]



### Dissertation:

Wohnhaus am Checkpoint Charlie by OMA is an interesting project as it was partially built for something that would never use the building, i.e. when the building was delivered, another function would house in the building. Essential to consider is the fact that it is built at the IBA Berlin of 1987. The Time magazine considers this as “*the most ambitious showcase of world architecture in this generation*”.<sup>23</sup> The building project as one of the designs of the IBA Berlin 1987 generates directly publicity and with that opinions with regards to the design and its meaning.

OMA's drawing clearly shows the distinction between the housing on top of the plinth as one mass, and opening up the spaces underneath through the use of two different perspectives for the ground floor plan and the housing mass above it. The space for the military border control is an open space with pavilions, and as such demonstrated through the drawing in figure 2. The drawing focuses on the space for the border control. It calls into question whether OMA uses this drawing technique to highlight the border control area because of the importance of the function or because of its floor plan layout. Nevertheless, the type of drawing and choice of what to demonstrate through a drawing is an essential tool for communication of ideas and can determine the focus of what viewers should see.

The idea of elevating the dwellings from the street level with a border control underneath raises questions on the architect's ideas on the authority of the border control on one hand and the importance of ‘normal’ people on the other hand. I believe that the positioning of functions and also the way of presenting the design influences the view onto the power of the border control and the power of the people. The issue with this building, the winning design from the competition for the IBA 87, is whether the architect had the power to choose where the functions would have to come, or whether this was in hands of the organization of the competition, i.e. the program of requirements that was asked for the design. Either way, I believe there is choice to make as e.g. an architect to refuse projects or to accept them and express its own ideas, even though this is within the limitations that might exist.

Ultimately, with the location of the building taken into account, I would consider the transformation of the border control spaces to spaces for shopping a possibly significant aspect of power through architecture. The building is built at the west side of the border between East and West Berlin, being the first building of West Berlin when standing in East Berlin between 1945 and 1990. Although the Berlin Wall would not exist anymore when the Wohnhaus am Checkpoint Charlie was built, the Western commercialism in the plinth suggests certain colonial ideas – suppressing the people from ‘the other side’ with the Western ideas of economy and society. Even when the reunification started, West Berlin clearly marked what it would like to look like as one city. Again this raises the question whether it was the architect's call to transform the plinth into a shopping area. Also, to design spaces flexibly and eligible for a shopping area could have been up to the architect, but could also have laid within the program of requirements of the client.

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<sup>23</sup> Schmalig, Sebastian, ‘Masked Nostalgia, Chic Regression. The “Critical” Reconstruction of Berlin’, *The Harvard Design Magazine*, 23 (2006) <<http://www.harvarddesignmagazine.org/issues/23/masked-nostalgia-chic-regression-the-critical-reconstruction-of-berlin>> [last retrieved October 18<sup>th</sup>, 2017].

## Haus am Checkpoint Charlie, IBA Social Housing, 1980, Eisenman architects.

### Analysis:



figure 3. picture of Haus am Checkpoint Charlie<sup>24</sup>

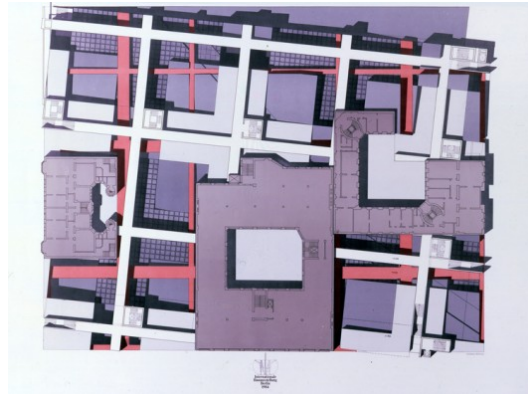


figure 4. Eisenman's concept drawing of overlaying grids<sup>25</sup>

Haus am Checkpoint Charlie, nowadays housing the Mauermuseum, arose as a residential and office building. The design by Peter Eisenman won the competition of the IBA Berlin of 1987, with most important goal to reclaim the inner city as a residential space. The design makes the connection between the past and the present through the use of different geographic grids.<sup>26</sup> The project is placed in the past by the use of Berlin's 19<sup>th</sup> century street grid and is pulled to the present by the use of the Mercator grid, in which the building would connect West Berlin to the rest of the world.<sup>27</sup> The building suspends in space and time through its floor plans and its façade representations.<sup>28</sup> Through the overlay of grids, the Garden of the Wall was determined in the plan, an exercise of Eisenman's ideas of the 'Artificially Excavated City', a monument that included public viewpoints for visitors to look beyond the boundaries – to the other side, the east side of the Berlin Wall.<sup>29</sup>

### Dissertation:

From my opinion, the design of Peter Eisenman is exceptional and has many interesting layers and concepts. The building creates a link between the past and the present, and perhaps even a link to future by using different tangible concepts on the floor plan and façade design. From the dialectical theories on space and representation of David Harvey in 'Space as a key word' I consider the translation of the floor plan as an absolute representation of space to the absolute material space really strong.<sup>30</sup> By the use of two typological drawings, i.e. a grid from the past and a grid from the present, I believe that the relational strength of the building from the past to the present (and beyond) represented in the material space or perceived space influences visitors theoretically and takes them into a time machine in which history and the current 'zeitgeist' are represented in one building. The public viewpoints as Eisenman designed would take the visitors even further than the present. From the towers, the people would be able to have a view on what was on the other side of the wall at the other territory, the territory of East Berlin. I think this visual connection plays onto the imaginations of the visitors in which the physical location of people, as perceived space in Lefebvre's three concepts of

<sup>24</sup> Zägel, Jörg, *Berlin, Kreuzberg, Friedrichstrasse 43-44, Haus am Checkpoint Charlie* <[https://commons.wikimedia.org/wiki/File:Berlin,\\_Kreuzberg,\\_Friedrichstrasse\\_43-44,\\_Haus\\_am\\_Checkpoint\\_Charlie.jpg](https://commons.wikimedia.org/wiki/File:Berlin,_Kreuzberg,_Friedrichstrasse_43-44,_Haus_am_Checkpoint_Charlie.jpg)> [last retrieved October 18<sup>th</sup>, 2017].

<sup>25</sup> ArchDaily, *Eisenman's Evolution: Architecture, Syntax, and New Subjectivity* <<https://www.archdaily.com/429925/eisenman-s-evolution-architecture-syntax-and-new-subjectivity>> [last retrieved October 18<sup>th</sup>, 2017].

<sup>26</sup> IBA, *Residential and office building at Checkpoint Charlie* <[open-iba.de/en/geschichte/1979-1987-iba-berlin/wohn-und-geschafthaus-am-checkpoint-charlie](http://open-iba.de/en/geschichte/1979-1987-iba-berlin/wohn-und-geschafthaus-am-checkpoint-charlie)> [last retrieved October 18<sup>th</sup>, 2017].

<sup>27</sup> Architecture in Berlin, *Peter Eisenmann, Rem Koolhaas/OMA – Haus am Checkpoint Charlie* <[architectureinberlin.wordpress.com/peter-eisenmann-rem-koolhaasoma-haus-am-checkpoint-charlie](http://architectureinberlin.wordpress.com/peter-eisenmann-rem-koolhaasoma-haus-am-checkpoint-charlie)> [last retrieved October 18<sup>th</sup>, 2017].

<sup>28</sup> *Haus am Checkpoint Charlie* <[http://www.wikiwand.com/de/Haus\\_am\\_Checkpoint\\_Charlie](http://www.wikiwand.com/de/Haus_am_Checkpoint_Charlie)> [last retrieved June 4<sup>th</sup>, 2017].

<sup>29</sup> Coletti, Christopher, *The Palimpsest City: Eisenman, Derrida, and Berlin* <<https://static1.squarespace.com/static/53fb9e95e4b0a52701b61d8c/t/58b0c74f414fb5caa4d4a575/1487980371201/Eisenman+Essay.pdf>> [last retrieved October 20<sup>th</sup>, 2017].

<sup>30</sup> Harvey, David, (p. 105).

production of space, serves as a stage to be in a completely different conceived space or imagination of space.<sup>31</sup>

The towers with viewpoints however, have never been built. The drawings that Eisenman created at the beginning have been executed differently. I would argue that although the theoretical ideas of the drawing could have worked, but the people have not been able to experience the design specifications from the building itself, hence, the experience of the visual connection to the territory at the other side of the wall has never been as strong as it could be from the physical object in Berlin.

As for the function and program of the building, the architect made a design based on a program of requirements by the committee of the IBA 87.<sup>32</sup> In terms of decision-making, the architect was not free to choose a program, however, it was free to decide whether to make a design or not.<sup>33</sup> In addition: Eisenman de facto handed in a larger comprising area than the committee asked for. Even though Eisenman did not meet the exact requirements, his design won, which endorses the idea of being able to stretch boundaries and implement ideas when prerequisites are already determined. Nonetheless, only the part the IBA 87 committee determined as building area was eventually built – Eisenman was not able to make final decisions on the execution of his ideas as he had handed in, thus did not have the power within this building trajectory.

In terms of expression, I think that the architect was free to shape and visualize the building as desired – a committee of the IBA 87 would later on decide which design would win. In this system, the architect is able to design without restrictions with regards to shape and visualization; a committee would eventually have the power to choose which architect succeeded best in expressing the committee's ideas.

#### **Fernsehturm, 1969, Henselmann, Streitparth, Dieter, Franke & Ahrendt Analysis:**



figure 5. view on the Berliner Fernsehturm from the river Spree<sup>34</sup>

The Berlin Fernsehturm, designed by architects Hermann Henselmann, Jörg Streitparth, Fritz Dieter, Günter Franke and Werner Ahrendt and constructed by the Deutsche Post, state-owned postal service of the former German Democratic Republic (GDR) can now be seen as the symbol (and always visually visible building) of Berlin.<sup>35</sup> The 368,03 tall building was constructed between 1965 and 1969 and emits radio waves around itself of 20,000 square kilometers.<sup>36</sup>

In the 1960's, the TV tower (in a slow-paced, ordinary and low built city as Berlin), would demonstrate the technological superiority of the GDR and the power of the communist society. The tower is the highest building of Berlin, in which the sphere stands for the remembrance of Soviet

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<sup>31</sup> Lefebvre, Henri, p. 33.

<sup>32</sup> Coletti, Christopher, *The Palimpsest City: Eisenman, Derrida, and Berlin*.

<sup>33</sup> Architecture in Berlin, Peter Eisenmann, Rem Koolhaas/OMA – Haus am Checkpoint Charlie.

<sup>34</sup> Berlijnblog, *Fernsehturm* <<http://berlijn-blog.nl/bezienswaardigheden/ferksehturm/>> [last retrieved June 4<sup>th</sup>, 2017].

<sup>35</sup> *The One and Only TV Tower – Constructing the Symbol of Berlin* <<http://www.iheartberlin.de/2016/02/09/tvtower/>> [last retrieved October 18<sup>th</sup>, 2017].

<sup>36</sup> Ohmann, Oliver, *Die spannendsten Fakten zum Berliner Fernsehturm* <<http://www.bz-berlin.de/berlin/mitte/die-spannendsten-fakten-zum-berliner-fensehturm/>> [last retrieved October 18<sup>th</sup>, 2017].

satellites and the color red in the windows for the color of socialism. Elevators can take 15 persons each ride with 6 meters per second, taking the people to the vista level in 40 seconds.<sup>37</sup>

#### **Dissertation:**

The Fernsehturm is interesting in ways of territoriality and boundaries. Even though the project is built at only one side of a border, the function of the building is at 368,03 meters height. The view that the visitors have from this point goes beyond the boundaries of East and West Berlin of that time. Visitors of the Fernsehturm were to be able to see the territory on the other side of the wall, a place that they never would be able to visit. From my point of view, this visual connection between one point and another is in the context of a territorial conflict an interesting and influential connection when we take the dialectic theories of Henri Lefebvre and David Harvey into consideration. It creates relational spaces for the visitors, which they would not have at any other point in the city. The perceived space at the 'other territory' is something to be imagined, but could never be lived until the fall of the Wall. To this extent, it calls to doubt the existence of the separation line as drawn in the maps. Next to that, I think that the time component of movement in this building matters a lot. The visitors come from a divided city; in only 40 seconds, the people are raised from the divided surface to a homogeneous place at 368,03 meters of height. In comparison: how much time would it take to break down the entire Berlin wall?

The symbolism in the tallness of the building is also interesting. The GDR showed their power and technological superiority through the construction of the TV tower. The red sphere, the representation of socialism could be seen from any point in West Berlin, and could influence the people's thinking through the always present visual connection between them and the tower. Also, the tower has the quality to radiate visually invisible waves. This border-crossing connection and transportation of information is a very strong and influential concept. Radio's and televisions could always be in relation to the tower, whether on one side or the other side of the wall.

As the TV tower is used to showcase the power and technological superiority of the GDR, certain symbolic prerequisites were required for the building by the GDR already; the architects only shaped and executed these desires into the building as it is built in the end. However, the architect has the choice to cooperate or not. Even though the architect would not be the decision-maker at certain prerequisites, it could test the boundaries of freedom of expression and could apply its own ideas through the building. If the architect would not cooperate, it would also not have the ability to test the boundaries and apply its own ideas, and the building would probably be built by another architect – the architect that accepts and agrees or disagrees with the ideas.

As meaning to the conflict, the population of the GDR could feel very proud and be optimistic about their future because of the technological phenomenon their country was able to make. For the West Berliners however, the TV tower as power symbol could give a feeling of suppression and threat by the GDR – the former enemy and evil. It can either make the Western population shift its opinions positively towards the GDR, or it can enhance conflict and make the Western population think with abomination about the GDR. In addition, bias from media also could enhance either direction of those feelings.

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<sup>37</sup> Berliner Fernsehturm, *Geschichte* <<https://tv-turm.de/de/turm-geschichte/>> [last retrieved October 18<sup>th</sup>, 2017].

## Memory, Peace & Reconciliation Center, 2013, Juan Pablo Ortiz Arquitectos Analysis:



figure 6. entrance of Memory, Peace & Reconciliation Center by Juan Pablo Ortiz Arquitectos<sup>38</sup>

The Memory, Peace & Reconciliation Center in Bogotá, is designed by Juan Pablo Ortiz Arquitectos and built in 2013, as a reaction and remembrance to the territorial conflict over land ownership and the victims that have fallen due to this internal Colombian conflict, which was still going on at the time of building.<sup>39</sup> The architect designed an inclusive and participatory space, containing public historical memories eternalized in the concrete 1-meter-thick walls.<sup>40</sup> The remembrance center should work as a seed for “*the consolidation of a non-violent society*”.<sup>41</sup>

### Dissertation:

This architectural manifestation of the Memory, Peace and Reconciliation Center is interesting because it is a memorial not afterwards a conflict, but during a conflict. The remembrance of victims, a number that still could grow, is used as a tool for reconciliation and the spread of peace among the people. The territorial conflict is about land ownership of mostly agricultural coffee bean land, and the location of the building next to a cemetery in the city of Bogotá is not disputable in that sense. For that reason, also the architect was free in its expression of ideas in the architectural manifestation. The only limitation would be a budget, in order that choices would have to be made for the size, materiality and possible standardization of products.

The architect's choice to make the building mostly underground and invisible on the ground surface is a quite humble attitude as I consider. The building tries not to draw attention by its architecture with most of its program. Only one volume extrudes vertically from the ground surface upwards, with gaps to let in light into that volume.

Most interesting about Ortiz's design is the involvement of people in the building process. The one volume that extrudes vertically upwards is a box with 1-meter-thick concrete walls with memories of people eternalized in the concrete – placed when casting the concrete walls. I believe this connection of an architectural manifestation to a society in a space of conflict and opposition is really important to create “*the consolidation of a non-violent society*”, as the architect has meant to design the Memory, Peace & Reconciliation Center in Bogotá.<sup>42</sup>

What I find intriguing is the idea of spreading peace among the people starting with the participants during the building process. This spreading of peace implies that peace will not happen all of a sudden, but an essential spatial component is needed: time. I believe that architecture can have power, meaning and influence, but as an object in space, time is important to produce space and being within people's production of space. I find the participation of people during the building process strong, since the building is an immediate product of the produced space of the people.

<sup>38</sup> ArchDaily, *Memory, Peace, and Reconciliation Center* / Juan Pablo Ortiz Arquitectos <[archdaily.com/590840/memory-peace-and-reconciliation-center-juan-pablo-ortiz-arquitectos](http://archdaily.com/590840/memory-peace-and-reconciliation-center-juan-pablo-ortiz-arquitectos)> [last retrieved October 18<sup>th</sup>, 2017].

<sup>39</sup> Ibid.

<sup>40</sup> Perry, Jimena, *History Museums: The Center for Memory, Peace, and Reconciliation, Bogotá, Colombia* <[notevenpast.org/the-center-for-memory-peace-and-reconciliation-bogota-colombia](http://notevenpast.org/the-center-for-memory-peace-and-reconciliation-bogota-colombia)> [last retrieved October 18<sup>th</sup>, 2017].

<sup>41</sup> Naranjo, Carlos, 'Memory, Peace and Reconciliation Centre in Bogotá by Juan Pablo Ortiz Arquitectos', *The Architectural Review*, <<https://www.architectural-review.com/buildings/memory-peace-and-reconciliation-centre-in-bogot-by-juan-pablo-ortiz-arquitectos/8683627.article>> [last retrieved October 18<sup>th</sup>, 2017].

<sup>42</sup> Naranjo, Carlos, *The Architectural Review*.

**Beirut Souks (Souk al-Jamil & Souk Ayyas) leisure complex, 2009, José Rafael Moneo Vallés**  
**Analysis:**



figure 7. picture of Beirut Souks shopping mall<sup>43</sup>

Before the Civil War in Lebanon the Beirut Souk al-Jamil, Souk Tawileh & Souk al-Franj were preferred shopping areas, until their destruction during the war. From 2003 Beirut began to see new, large shopping mall developments, of which the Beirut Souks was one of them. Beirut Souks is Beirut's largest shopping area nowadays and the entire complex is designed by five commissions of national and international architects. The commercial and modern shopping mall was designed to be a complex of *"inclusive neutral spaces that 'bring together people from all walks of life'"*, a lively place for all people.<sup>44</sup> Critical analyses however, say that political parties hijacked Downtown Beirut and use it as a stage to perform politics, instead of the idea of downtown being reclaimed by the people.<sup>45</sup>

**Dissertation:**

The Beirut Souks shopping mall in the center of Beirut is (re-)built after the end of the Lebanese Civil War, and makes an attempt to create a place for all people of Beirut – without any priority or preference based on origin or religion, nor personal preferences. I think the aspirations of creating a space and environment that enhances the gathering of people with different backgrounds is admirable. However, despite the goals of the shopping mall to bring people together, until now Beirut has failed to provide this accessible and dynamic meeting place.<sup>46</sup> A universal and modern language is used in the design of the shopping mall, in which people cannot identify itself.<sup>47</sup> Also, the shopping mall is considered by citizens as one of the many new shopping malls, and expensive as well. Next to that, the people see the developments directed by the political parties as an appropriation of Downtown Beirut in which no room is left over for the inhabitants to produce and reclaim the space. The shopping mall became in that sense a subject for political discussions instead of the dynamic meeting place in which people would get together.

Nevertheless we have to remember that the new shopping mall – as replacement for the market, which was destructed during the war – is at the time of writing only open for eight years. Hence, we should relate to Lefebvre's triad model of the production of space.<sup>48</sup> The shopping might be a product in space, but it has to become within the production of space of the people. People still remember the Souks as before the war, and it has to grow in their production that nowadays a new Souks will replace that. Time as a spatial component is thus very important, and there is still a chance that the new Beirut Souks will be the inclusive and neutral space that brings people together.

In this case the architect did not choose to make a shopping mall, but tried to achieve the goals of bringing people of all walks of life together. Although the architect tried to design a shopping mall 'for all people', it did not work yet in the way as it was designed, and I believe we should consider

<sup>43</sup> *Beirut Souks Downtown* <[https://commons.wikimedia.org/wiki/File:Beirut\\_Souks\\_Downtown.jpg](https://commons.wikimedia.org/wiki/File:Beirut_Souks_Downtown.jpg)> [last retrieved October 18<sup>th</sup>, 2017]

<sup>44</sup> Larkin, Craig, 'Remaking Beirut: Contesting Memory, Space, and the Urban Imaginary of Lebanese Youth', *City & Community*, 9 (2010), 414-442 (p. 428).

<sup>45</sup> Ibid. (p. 432).

<sup>46</sup> Larkin, Craig (p. 432).

<sup>47</sup> Ibid. (p. 430).

<sup>48</sup> Lefebvre, Henri, p. 33.



the function of the building for that too. Did the Beirut inhabitants really need another shopping mall? With many shopping malls, the question whether the same 'neutral and universal' architecture would already have succeeded with another function remains unanswered unless tested. The same applies to the question whether the same shopping mall would already have succeeded in bringing people together with less universal and more identifiable architecture for all people.

## **Conclusion**

The selected architecture precedents from spaces of conflict and opposition, with a different background, give an idea of what architecture might be able to do, mean and influence within spaces of conflict and opposition. Through a distillation of key aspects of the architecture precedents – e.g. design intentions, drawings, organization, expression – we can find several key elements.

Significant is to start with the first phase of the architecture precedents. A design task may derive from a client that desires a specific function and even may have some key specifications for what it should look like. These predetermined requirements are in the hands of e.g. the architect to interpret, rewrite and translate into a design including its expression of ideas. Eventually however, the client makes the final call to continue with the architect and its interpretations. Likewise, the call to design a building for a client is for the architect to make.

Then, I would argue there is difference in meaning and influence between drawings and visualizations and physical embodiments of those drawings. I believe that drawings could have an important meaning within spaces of conflict and opposition, as it is a tool of communication and expression of ideas. Nevertheless, certain theoretical specifications and ideas would only really have an influence on people when they can experience it physically. I believe that a physical manifestation in space is able to mean and influence more and stronger than a drawing – which rather stays on a theoretical level of expressing ideas.

The location of the architectural manifestation means a lot to the manifestation itself, and to a spaces in territorial conflict. Building or drawing lines on one territory or the other, drawing a border-crossing design or a designing at the boundary of territories are perceived differently by people from both territories. Building on one side may suggest preference for that territory, or it may seem to be colonial approach to occupy and infiltrate. Drawing a border-crossing manifestation may suggest annexation from one territory of the other, but it may also suggest a peaceful and equally divided in-between space or no-man's land. Drawing at the border zone may define the border more strongly and thus agree with separating people. Also this may suggest a communal and peaceful space for people of both sides.

Next to that, symbolisms from e.g. the orientation, shape, materiality, add to the possible disputation or consolidation of a drawing or design. Is the design pointing towards a meaningful place? From what locations is the design visible? Do the shapes, materials, textures and colors relate to anything meaningful in history or a certain set of ideas? Depending on what the choices have been, all of these specifications can evoke different opinions, associations and interpretations in different directions, from overcoming a conflict to developing a conflict, fast or slow. Also the organization of the building and its functions theoretically tells a lot about the ideas that an architect could have on authority and priority.

The politicality of the drawings and of the eventual physical object in space is essential to keep in mind when designing within spaces of conflict and opposition. Drawings and buildings can become subject of discussions. Even though principally the discussions were not about the drawing or building, the drawing and building can become the embodiment of politics and thus the example and place of politicality.

Most significant I find the findings of the design tool of the use of invisible connections of one territory to another territory in time. The physical manifestation in space, as a product in space and production of space, itself produces space in and around it – physically, in people's imaginations and in people's experiences. Time as the spatial component for the development of power, meaning and influence in architecture is crucial within the production of space. Visual connections and less apparent and invisible connections between territories can take people from one place to another in their minds as they look beyond borders. The connection from one point on the surface of a territory, another territory can be reached through any e.g. sight, movement, radiation. In my opinion these invisible, border-crossing relations or connections between territories are interesting in the Israeli-

Palestinian case, in which a territorial management is applied to a naturally non-territorial and underground-hidden system – water.

### 3. Territorial water management in architecture

#### Introduction

The layer of Israeli politics that affects Israeli and Palestinian people a lot is the territorial water management that confronts people nationally and locally in their actions despite functioning as an invisible but border-crossing layer. Israel and the Palestinian Territories are part of the Middle East in a hot and Mediterranean-arid climate. Nevertheless, the annual rainfall in Ramallah, West Bank (619mm), is higher than the annual rainfall in London, England (596mm).<sup>49</sup> Even though water scarcity is a problem at the West Bank and the Gaza Strip, the north of Palestine and Israel is green and has many agricultural activities. Though, Israeli settlers mostly execute the agricultural activities in Palestine.

Israel has recognized the water scarcity as a given until the second half of the 20<sup>th</sup> Century. Through the 1959 Water Law, Israeli started to control the water by national territorial water management within the borders of Israel. From 1967, the territorial water management extended to a bi-national system, when also the Palestinian Territories became under Israeli control.<sup>50</sup>

Since this paper focuses on the spatial representation of the water system in spaces of conflict and opposition, we must know what the relation between territorial water management and its spatial representation looks like. This chapter studies different water systems to find how it is expressed in an architectural embodiment.

#### Scales, structures and levels

To find the relation between territorial water management and its spatial representation, it is meaningful to understand the water system at present and in its historical context. As for the visualization, understanding and support of the textual explanation of the Israeli and Palestinian water system – to give a clear overview of it – I propose schemes of the water systems, divided per time and scale. The schemes of the water system are divided in three levels, the national, regional and local, and filter the systems at every level. At each level the schemes demonstrate the system of today and the system as used in the past as before the Israeli Water Law of 1959. In the three levels, the national level contains the entire territory of Israel and Palestine, the regional level focuses on the water system as applied in a district-wide area and distance (including border-crossing systems), whereas the local level is really about a building or group of buildings that function as one. First the policies of the Israeli-Palestinian water management will be introduced, as they serve as base for the consequences in the national, regional and local water systems.

#### Policies

As underlay of the systems of water as a manifestation in space, we should define the water system in terms of policies as the overlay onto society. The policies and rules of the water system are represented through a textual description.

The (Israeli) policy with regards to the right of extraction of groundwater, and with that sometimes the right of ownership of land, is a right that is applied to Israelis and Palestinians, based on the activity of the tilling of land and consumption of water, a law that originates from Turkey and followed by Britain, Jordan and Israel.<sup>51</sup> One that has rights to a certain amount of consumption of water will be expropriated for the part that is not consumed, because it would mean that the amount could be used by anyone else that would consume it. Failure to use water could not only result in loss of water rights, but also in loss of land ownership when the water rights are associated with the land.

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<sup>49</sup> Not enough water in the West Bank? <<https://visualizingpalestine.org/visuals/west-bank-water>> [last retrieved October 20<sup>th</sup>, 2017].

<sup>50</sup> Feitelson, Eran & Rosenthal, Gad, 'Desalination, space and power: The ramifications of Israel's changing water geography', *Geoforum*, 43 (2012) 272-284 (pp.273-274).

<sup>51</sup> Berck, Peter & Lipow, Jonathan, 'Real and ideal water rights: The prospects for water-rights reform in Israel. Gaza and the West Bank', *Resource and Energy Economics*, 16 (1994), 287-301 (p. 293).



This policy has been a significant layer of the use of land agriculturally, and with that also the creation of the associated built environment.

The 1959 Water Law is a significant change in the extraction and use of water in Israel and from 1967 after the Israeli occupation of the West Bank and the Gaza Strip also in Palestine. Through the policy, private extractions of water are prohibited in accordance with the Israeli law and enforced by the Israeli military body. The Minister of Agriculture of the Israeli government appointed a Water Commissioner, which became the supervisor of the national water management and has power over the available water resources, the discharge and the supply and allocation of water.<sup>52</sup> The costs of the water rates were determined nationally, at one equal price.<sup>53</sup>

Since the Oslo peace talks in the last decade of the 20<sup>th</sup> century, the newly established PWA received the legal responsibility of ensuring the provision of water to the Palestinians – under control of the Israeli IWA following the Transfer of Authority in the West Bank accord between Israel and the PLO in 1995 during the Middle East peace process.<sup>54</sup> In the same decade, in the Oslo 2 Interim Agreement of 1995, Israel and the PLO agreed upon the allocation of water rights and the amount of water to be transferred from the IWA to the PWA till after the year 2000.

On the level of buildings, the Israeli policies on the connection of the water network to buildings, hence the supply of water to the people, are based on legality or lawfulness of the building itself. The Israeli Water Authorities supply water only within the boundaries of Israel as determined by the Israeli government. Unregistered buildings are not recognized officially and will have no connection to the water network.<sup>55</sup> The unregistered buildings, or illegal buildings, are mostly to be found within Palestinian communities at disputed territories. Palestinians do not want to register at Israeli authorities for building at a territory that according to them is not Israeli but Palestinian.<sup>56</sup> With that, the Palestinians end up disconnected from the water network. The Israeli settlements however, are not within Israel's boundaries, nor under the authority of the IWA. In area C, the West Bank area in which settlements can be found – the area 'C' in the West Bank under full Israeli military control – is called Judea and Samaria by Israeli government. This region is under supervision of the Civil Administration, a civil-military body that implements Israel's civil policy in the military controlled Judea and Samaria.<sup>57</sup> The water provision to Israeli settlers is under responsibility of the Water Unit at the Civil Administration.<sup>58</sup> In the policies there is no distinction made between the Israeli settlers and the Israeli inhabitants on Israeli territory, as the Water Unit implements Israel's civil policy as Israel implements it to its population within the boundaries of Israel.

### National water system

The national water system as used in the past, in Historic Palestine and before, as demonstrated through figure 8 has no nationwide system. Springs are used locally whenever available, wells are drilled and some localities are provided with water through local waterways.<sup>59</sup>

Today, the national water system is completely structured and in hands of the Israeli Water Authority (IWA) and the Palestinian Water Authority (PWA). The National Water Carrier (NWC) of Israel is one of the greatest water projects of Israel built in 1964, pumping the water from the Sea of Galilee (or Lake of Tiberias) through underground tubes, ground level canals and viaducts to the south of Israel, the Negev Desert, for mostly agricultural purposes. The water from the Sea of Galilee is pumped through pumping stations.

As the water scarcity is being considered as a threat, Israeli government has invested a lot into the prevention of water shortages. This has resulted in agriculture modernization, wastewater

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<sup>52</sup> Feitelson & Rosenthal (p. 273).

<sup>53</sup> Ibid. (p. 274).

<sup>54</sup> Haddad, Marwan, 'Planning water supply under complex and changing political conditions: Palestine as a case study', *Water Policy*, 1 (1998), 177-192 (p.178).

<sup>55</sup> Schwake, Gabriel, *Interview De Jong-Schwake* (Delft University of Technology, Faculty of Architecture, 5 October 2017).

<sup>56</sup> *Equal rights for Palestinians*, <<http://www.seamac.org/equalrights.htm>> [last retrieved October 21<sup>st</sup>, 2017].

<sup>57</sup> COGAT, *The Civil Administration in Judea and Samaria* <[http://www.cogat.mod.gov.il/en/Judea\\_and\\_Samaria/Pages/default.aspx](http://www.cogat.mod.gov.il/en/Judea_and_Samaria/Pages/default.aspx)> [last retrieved October 21<sup>st</sup>, 2017].

<sup>58</sup> COGAT, *Water* <[http://www.cogat.mod.gov.il/en/Judea\\_and\\_Samaria/Pages/JSWaterSection.aspx](http://www.cogat.mod.gov.il/en/Judea_and_Samaria/Pages/JSWaterSection.aspx)> [last retrieved October 21<sup>st</sup>, 2017].

<sup>59</sup> Feitelson & Rosenthal (p.273).

treatment plants to make water re-usable and desalination plants to take water from the salty seas.<sup>60</sup> In 1959 private ownership of water resources was annulled, and since 1967 also the Palestinian Territories are restricted to this rule. As result, the NWC dispatches in secondary water carrier systems and tertiary water systems that translate to mostly underground pipelines, connecting to buildings and communities.<sup>61</sup> Israel's water technology, efficiency, management and innovation have been praised internationally and its water technology exports value has climbed till over two billion dollar.<sup>62</sup>



figure 8. national water system in the past

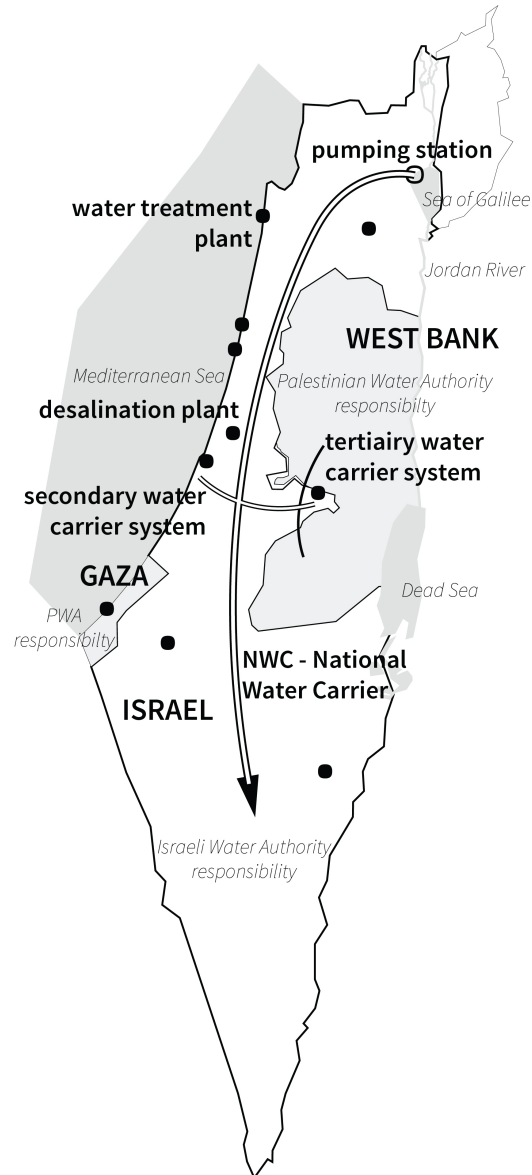


figure 9. national water system in the present

<sup>60</sup> Yaron, Dan, (p. 275).

<sup>61</sup> Feitelson & Rosenthal (p. 273).

<sup>62</sup> Silver, Charlotte, *How Israel uses Water to control Palestinian Life* (2015) <<https://www.thenation.com/article/how-israel-uses-water-to-control-palestinian-life/>> [last retrieved October 17<sup>th</sup>, 2017].

## Regional water system

As for the regional water systems, I will look closer at the systems of water within the area and distance at the size of Israeli and Palestinian districts.

Throughout Historic Palestine, orchards of mostly Arabs were irrigated with a system of irrigation connected to well houses. These well houses were buildings that would extract groundwater through a well to the ground surface. The same building was also used for recreational activities whenever desired. Other than well houses, also basic wells were used.

The people would have camels walking circles around to extract the water from the well. A system that arose from the location of water sources is the localization of settlements. Israeli settlers and Palestinian settlers chose the location of their community based on the proximity of water sources. Next to that, Israelis and Palestinians had different strategies in building their settlements, resulting in two types of systems in the proximity of the water source. Palestinians build as close to the water – taking floods into account – and built upwards and along the water, whereas Israelis build in the proximity of water, but on the top of the hills for its easier construction than on the hillside. The transportation of water regionally happened through the use of principally aqueducts.<sup>63</sup>

Nowadays, the IWA and PWA provide the people with water through a network of water pipelines and tunnels underground and canals in and on the ground surface. The PWA is responsible for the provision of water to the Palestinian population and dependent on the IWA's supply to the PWA. The infrastructure under responsibility of the PWA however, is outdated and not connected to all Palestinian communities: only 55% of the localities are connected to piped water supply systems.<sup>64</sup> Loss of water through leakages is no exception. Due to technical reasons, some Palestinian localities and water utilities import their water directly from Israel through the IWA, without the PWA between them.<sup>65</sup>

In Palestine, springs and wells are used under limitations of Israeli government to provide water to the Palestinian population, without draining the ground water completely. Drilling for new wells can only be done by allowance of military authorities.<sup>66</sup> Functioning wells and dry wells are destructed to control the water discharge of the aquifers. Principally in the Palestinian Territories, the water supply is unreliable and not all communities are connected to the water network. To supply the people with drinking water, tank trucks and trucks carrying jerry cans and bottles of water drive through the villages and communities. This 'fluid' system displaces itself continuously but with a defined route or circulation to provide the population. The implications of this delivery system contain the network of roads or (semi-)paved ways; also storage buildings, bottling factories and distribution centers are closely attached to the water delivery system.

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<sup>63</sup> Schwake, Gabriel, *Interview De Jong-Schwake*.

<sup>64</sup> Zahra, Bader, A. A. A., (p.97).

<sup>65</sup> Haddad, Marwan, (p. 181).

<sup>66</sup> Zahra, Bader, A. A. A. (p. 94).



figure 10. regional water system in the past

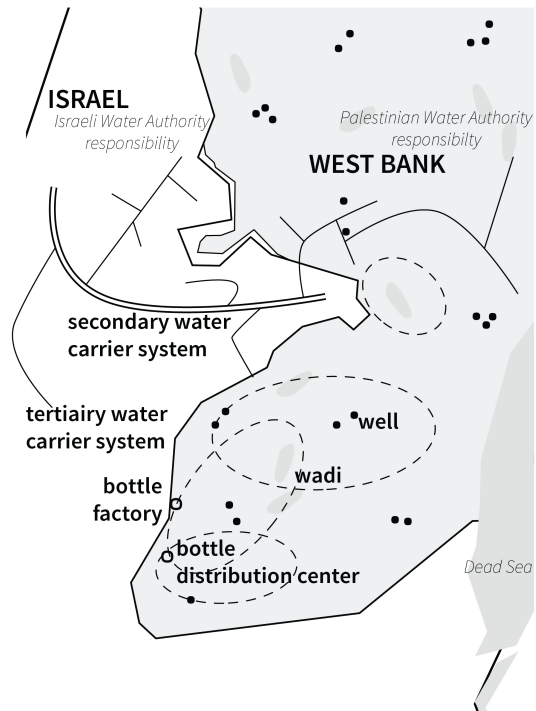


figure 11. regional water system in the present

### Local water system

The local water systems are the organizations of water brought down to the size of a building or group of buildings in coherence with each other.

The historical water systems mostly used in Historic Palestine are the flat rooftops for collecting water for whenever there is rainfall.<sup>67</sup> Underground cisterns store the water at a constant temperature and create a buffer for when the water is needed. As reaction to the appropriation of water rights, agricultural use of land has been significant in order to keep the right on a certain amount of water to consume. The society therefore has become at many places agricultural, translating to the use of land and needed buildings to practice agriculture. Also pool-like water collection structures were used by Palestinians to collect water for agricultural purposes, to irrigate the land.<sup>68</sup> The pool-like water collectors have been taken many times by Israelis to be used as a recreational swimming pool. In Arab communities, families shared one well per one or more houses to subtract water from the ground for domestic purposes.

In the present, the Palestinians mostly build water tanks on top of their houses to collect water and store it for direct use – with the perks of being already warm by the energy of the sun. In contrary, the Israeli settlers have pitched roofs by law and let water from rainfall flow down into the ground.<sup>69</sup> The cisterns from the past still exist and are extensively used, especially by Palestinians at places where the water network is non-reliable or not connected to the houses. The cisterns – able to store 60-100m<sup>3</sup> of water – are mostly used for domestic purposes.<sup>70</sup> Israeli people build pools for recreational purposes. A newer invention visible in the water system is the solar thermal collector, which (pre-)heats water if and when necessary. Although the system does not collect water nor provide drinking water, it helps the water to arrive at certain desired temperatures.

<sup>67</sup> Zahra, Bader, A. A. A., (p. 96).

<sup>68</sup> Schwake, Gabriel, *Interview De Jong-Schwake*.

<sup>69</sup> Zahra, Bader, A. A. A., (p.94).

<sup>70</sup> Ibid. (p.96).

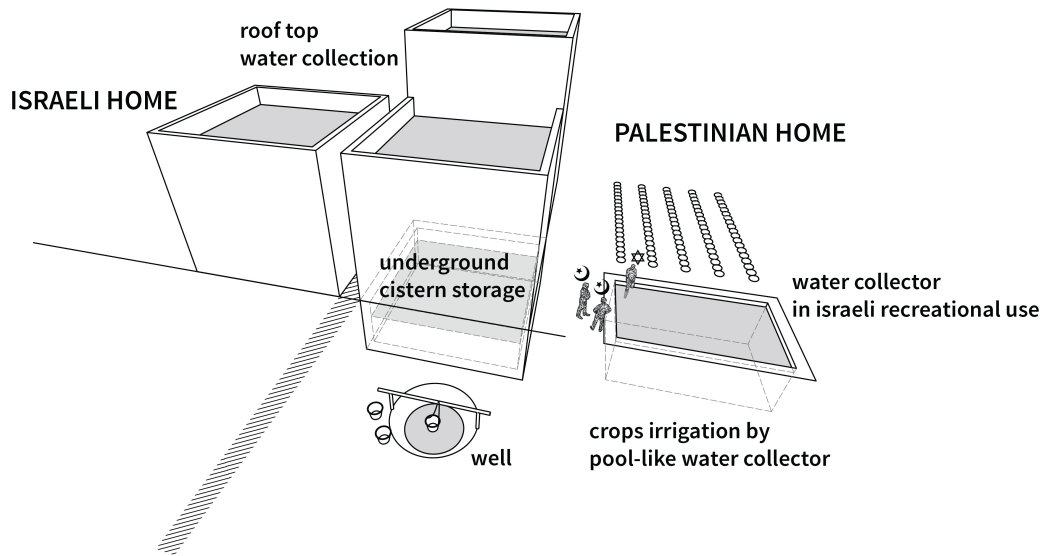


figure 12. local water system in the past

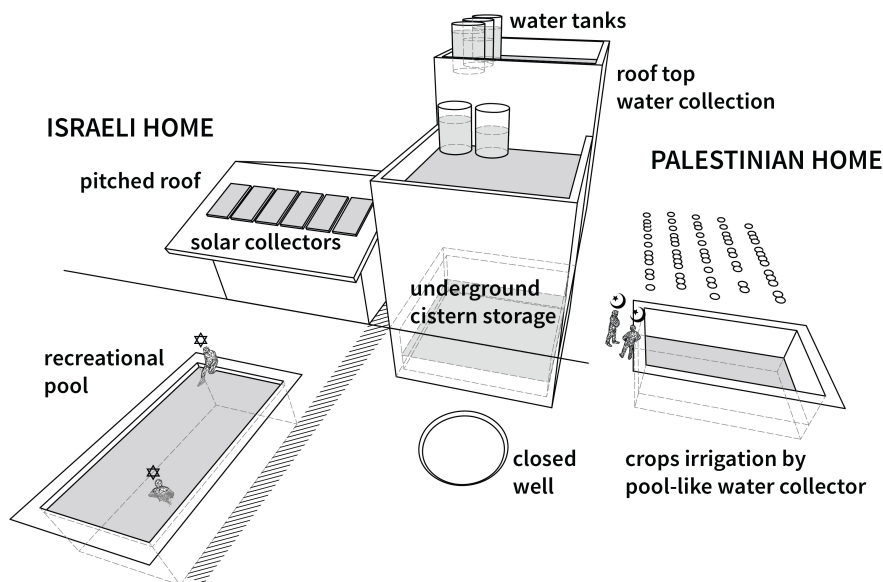


figure 13. local water system in the present

Abovementioned differentiations as spatial manifestations are principally the result of the water system. We must not forget that architecture also influences the water system. In the past, settlements were built close to water sources to be able to provide the people of water. Nowadays, settlements can be built anywhere, and the water system will be extended and connected to the settlement accordingly. There is a close connection between the physical presence at the ground surface, and what is underneath the ground surface that works in both ways. Water management influences the built environment, but also the built environment is more and more able to influence the water management and its systems.

## Conclusion

The water system in Israel and Palestine has been changed quite a lot since the 1959 Water Law that Israel imposed on itself and the Palestinian Territories as result of the awareness of shortages and future decreasing resources in its arid climate. The present water system consists of a national and border-crossing network to subtract and supply water, with a number of independent systems. There is a close connection between the water management and its systems and what the built environment

looks like because of that; likewise as the built environment is able to influence the water management and its systems.

Although water resources were owned and abstracted privately in the past, Israel annulled this system to create one national system of water management to control the abstraction of water, the quality of water and the availability of resources of water. For this national system, the translation to spatial manifestations finds itself in water pumping facilities, canals, tunnels, and aqueducts. Also the existence of desalination plants at the Mediterranean coast has appeared since the need for more water resources. Although private ownership is annulled and a national system is applied to Israel and the Palestinian Territories, not all people are connected to the water network and not all private water abstraction resources have disappeared due to costs, policies and territorial disputes.

Palestinians that do not want to acknowledge inhabiting Israeli territory do not register their buildings; hence due to Israeli laws the water network remains disconnected from them. Although Israel and Palestine have agreed upon water allocation and responsibility of the PWA for the provision of water to the Palestinians at the West Bank, the water system in under responsibility of the PWA is old and non-reliable as leakages occur. Also, the water network is not so extensive that it is connected to all communities. The PWA has not enough funding to roll out the network fully, nor to maintain or upgrade the water network, leaving the Palestinians to the collection of water by themselves.

The disconnection to the water network and the poor provision of water in general has caused less conventional systems to appear. Water bottling factories and distribution centers together with driving water trucks started to be common in the Palestinian Territories, to provide the people of water regionally.

The water shortages – especially in times of drought – translate physically to the location of villages and settlements in the past, the organization of buildings and communities and the shape of buildings. People would build their communities close to existing springs, rivers or wadis for the immediacy of water resources. Water would be collected by flat roofs and would be stored in underground cisterns. Also pool-like structures were built for the collection of water for agricultural purposes. Families and friends would build around a courtyard in which a well would be drilled for the abstraction of water. Nowadays, Palestinians have water tanks built on the top of their roofs to store water, including the possibility for immediate heating by the sun for warm-water purposes. Many wells have been closed, but most underground water storage cisterns still exist. As for the Israelis, roofs are pitched and ignore water from rainfall in that sense. Solar collectors are placed at the roofs to provide the houses of heated water by the sun. Also, at Israeli houses or communities we can find pools for recreational purposes.

Meaningful in the water management, water allocation and water rights in the Israeli-Palestinian conflict is the relation of water rights to the ownership of territory. Principally in the past, the consumption of water has been significant for the occupation and annexation of territory and the immense amount of agricultural activities and built environment as side effect.

The water management in Israel and the Palestinian Territories leaves its traces in the use of land, the location of villages, and in the existence and realization of the built environment. The management as invisible layer and segregation tool in the “*Hydro-Apartheid*” society is represented spatially in all of Israel and Palestine in a greater or lesser extent.

## 4. Power, meaning & influence

### Introduction

What are the possibilities of architecture in the territorial water management debate? Water systems and water management are invisible or barely visible, but they are important structures and tools that can be easily controlled with a great effect on society, both negatively as positively. Therefore, it is important for e.g. architects to know these systems and to know how to express their ideas through this system.

Through the historical analysis of architecture precedents, a distillation is made of whether and how architecture could have power, meaning and influence in and to spaces of conflict and

opposition. The result of the mapping of the water system in Israel and the Palestinian Territories is in this chapter connected to the analysis of architecture precedents in spaces of conflict and opposition.

In this chapter, the synthesis of the power, meaning & influence of architecture as spatial representation of the water system will be described per level of the water system after a short introduction of the method.

### **Synthesis**

Concluded from the historical analysis of architecture precedents in spaces of conflict and opposition, we will have to understand what could be within the power of e.g. an architect, and what not. Architects as rewriters, interpreters and translators of predetermined requirements have power within the rewriting, interpretation and translation. The power, meaning and influence that e.g. an architect could practice with the spatial embodiment of water management in Israel and the Palestinian Territories is dependent on many different factors and possible in lots of directions.

First of all, the creation of architectural manifestations depends on the initiation of a project. Does an investor start a development, is it a company, would it be the government, or would the architect itself want to invest, develop and design a project? The range of possibilities in that sense is so wide that more studies should be done to give answers. Meanwhile, I have narrowed down the scope and describe what certain choices within the water system conceptually could be and what the power, meaning and influence of these conceptual strategies could be.

Generally water in its existence has qualities to use for the creation of metaphors, connections, relations or divisions. Water, in its existential properties, is able to e.g. transport from one place to another, it can work as a boundary, it lets light pass, it reflects light, it can take temperatures from the surrounding, it hydrates people. Dependent on the exact expression of ideas through water, the architect would be able to have power, meaning and influence with spatial manifestations through water.

A designer of a national water network could have influence in the visibility and (symbolic) positioning of the water throughout the landscape, and as it would have the power to design the routes, there could be influence in the way of connecting to communities. Also at border positions, there could be practiced influence onto the connection to systems of other territories. As designer of desalination plants, water treatment plants and water pumping station, there is much to say in the expression of the facility and the position within space. The facilities could have suppressing and authority enforcing representations, as significant objects of water abstraction and water provision. Also, power, meaning and influence can be practiced through choices that are made of where to get the water from and where to provide that water. What does it mean if water from the Mediterranean Sea would end up in Palestine through the water network? Could it mean that the designer symbolically tries to relate Palestinians to the coast of the Mediterranean Sea – as how it was in Historic Palestine? And would this idea harm the Israelis and develop a conflict? These decisions are meaningful when we look back in history. The abstraction of water from the Sea of Galilee was reason for Palestinians to dislike Israel – after all, the water from the Sea of Galilee flowed through the Jordan River along the eastern side of the West Bank. The Israelis would make profit of this water resource while the Palestinians were not able to do that; an inequality that Palestinians found difficult to accept.<sup>71</sup>

Designers at the regional level of water systems would be able to express their ideas in the decision to restore or renovate abandoned Arab well houses or border-crossing aqueducts from ancient times. Planners of water transportation trucks would have possibilities in how this system expresses itself through the West Bank, but it could also give a chance for the creation of static water provision networks built by companies. What would this neo-liberalization mean for the Palestinian people, and how would the Israeli government or military react to such thing? The deliverance of water from tank trucks happens on the streets where people meet, gather and take water, but what would it mean to space if buildings were to be built for the distribution of water on the scale of communities? Symbolically, a designer would be able to demonstrate or hide illegal wells or non-reliable pipelines, which could raise e.g. awareness of leakages, attention of the international field onto Israeli-

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<sup>71</sup> Cooley, John K., (p.10).

Palestinian water problems in the hope for consequences by the international community, but also with the threat of being attacked by opponents.

Locally, the genius loci of the arid climate and the problems of water scarcity and shortages has already brought representations in the built environment, e.g. flat roofs, water tanks, underground cisterns. The different locations of water storage facilities could work together in a community through their connection visually, underground or through the transportation by people.

But what is the essence of power, meaning and influence through the spatial embodiment of water management? I consider the essence being the way of working with the existential properties of water and its qualities. The first step is to have willingness to express ideas through the water system, and perhaps test or stretch the boundaries of what is possible within the predetermined limitations. Moreover, the mapping of sites but also the mapping of the design is important as a tool to communicate and present the design to the final decision-makers. Drawings and maps should explain ideas and help for the expression of ideas to have any power, meaning and influence.

The exact location, orientation and use of symbolisms is interesting, but should always be reflected to in historical perspective to understand the implications of actions. What does one symbolic gesture mean? Would it have any other connotations when viewed from a different perspective? Also, if and when desired to have any power, meaning and influence, it is important to be in control of every activity within the design, i.e. be prepared for every association with and opinion towards a design. Analysis of historical features of the site and historical precedents of similar manifestations is therefore a key aspect. At every choice, this power, meaning and influence is to be gained through an analysis onto the choices. What would a color mean to all people, what would a material mean at one side of a border, and what would it mean at the other side of the border? Also, what could the politicality of the design be? What are the funds of building the project, where do they come from, and what does the location mean politically?

Besides, essential according to my opinion with regards to the Israeli-Palestinian case are the design strategies to practice power, meaning and influence through the border-crossing invisible or hidden connection and relation between territories, in relation to time. The production of space of the architectural manifestation should be taken into account. How is the manifestation produced in space, and will the people produce the manifestation as a space? For this, time is the spatial component to be aware of and to design with.

What would it mean if ground water under one territory that flows to the other is made visible? What if underground pipes of water would transport goods from one side to the other? What would the consequences be in the spaces of conflict and opposition? Would anyone feel treated unequally or would a government or military intervene? Would there be any positive consequences for the people at one of the territories, or would both territories have positive consequences of such activities?

I believe there is no clear answer on what e.g. architects would have in their power nor would be able to foresee the consequences as there are no predetermined and singular, non-disputable consequences as results of certain actions. What can be said is that certain starting points and specifications can result in power, meaning and influence within and onto spaces of conflict and opposition, and that historical facts and time towards the future should be taken into account for the production of space. Nevertheless, at most actions this can go either way towards overcoming or developing a conflict. Essential is to understand the actions and choices that are made and try to be in control of the decisions as thorough as possible. Besides it is important to be aware and prepared for both negative as positive consequences.

## **Conclusion**

I would argue it is impossible to define a clear list of the power, meaning and influence of spatial manifestations of water management as a set of tools with predetermined and singular, non-disputable results as actions can have different outcomes and different people can associate the same action with other ideas.

Relational strategies and theoretical symbolism and connections could be of power, meaning and influence when used in spatial manifestations of the water management, but the products of space have to grow in time. As there is no clear, singular answer to this, it comes down to making



attempts and analyzing afterwards to find the consequences on the power, meaning and influence of the choices of the designer.

Important is to understand and be aware of the choices and decisions within the design, and be aware of both negative and positive consequences. Essential to practice power, meaning and influence through the spatial embodiment of water management is to be in control of any decision that is made through thorough analyses of every choice.

## **5. Conclusions**

Israel and the Palestinian Territories are in an ongoing territorial conflict, and have not come to final peace agreement yet. In the border zones both the Israeli as Palestinian population is confronted with limitations in e.g. spatial movement, in land access, water flows, water supply. The desire for international boundaries and homogeneous states reflects to the life of Israelis and Palestinians and the interaction and behavior between and towards each other.

Within the territorial conflict, in which mistrust and misunderstanding are keywords at the level of politics, but also at the level of social relations between individuals, water management plays a huge role as an invisible but considerable source of mistrust, misunderstanding and problems of water availability to the Palestinians.

From the analysis of architecture precedents in spaces of conflict and opposition, we can say that architecture is able to influence spaces of conflict and opposition to certain extents. It raises questions to the extent of the power, meaning and influence of architecture, which is highly dependent on the choices and representation in the design, but also in the ways of communication of the design.

The water system in Israel and Palestine functions in one national and comprehensive system on one hand, but many different more regional and local autonomous systems exist within the context as remnants of the system in the past and consequences of management and policies in the present. The invisible water management and its policies translate in many ways to the use of land, the actions of people, the existence of companies and associated building, and the organization and expression of buildings and communities.

The synthesis of the analysis of architecture precedents and the mapping of the water system in which the power, meaning and influence of spatial manifestations of the water system is discussed demonstrates the complex character and manifold in options and consequences. A toolset of options with singular consequences is not self-evident. It is important to be aware of this manifold and to be reflecting through analyses and letting architecture grow in the production of space.

Through this paper a start is given to a new debate or discussion of tools within spaces of conflict and opposition, and the consequences of using these tools. This paper brings in directions and options for e.g. architects to think of to have power, meaning and influence through architecture as embodiment of water management in spaces of conflict and opposition in Israel and the Palestinian Territories.

I believe that in an area where water can be a source of war, the power, meaning and influence of the spatial embodiment is essential to be understood in the field of spatial planning, engineer and design, to create awareness of every act as tool for overcoming or developing conflicts.

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**NB: all unreferenced figures are author's production.**