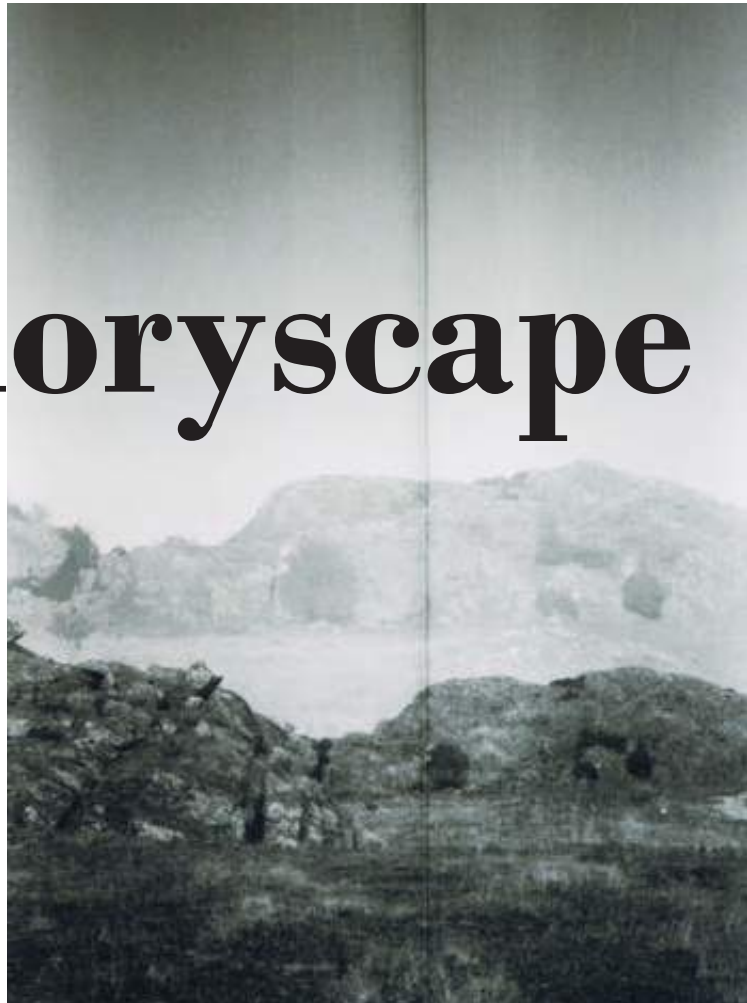# Memoryscape

A cemetery for and of memories

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"Ormbunke, ljung och blåklocka vissnar och återkommer. Mellan dem dansar minnets molekyler."

Anita Theorell & Per Wästberg

Memoryscape

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Hanna Johansson

Content

Prelude

Chapter 1

Abstract

What is memory? In the traditional sense memory is seen as an archive of experiences and knowledge that we carry inside us, commonly referred to as "individual memory". But the term can also possess a wider definition that goes beyond the personal realm. This aspect of memory is described as "collective memory" and refers to memories that are shared by a community, tangible through oral stories, rituals, objects or even landscapes. This thesis aims to investigate how architectural interventions in a landscape can support both collective and individual memory. The investigation is conducted through the design proposal of a cemetery, chapel and walking trail on the island of Rivö, located in the Southern Archipelago of Gothenburg. Rivö is already an island of memories. It holds four historical burial places, where the most recent one is a cholera cemetery from the 19th century, a result of the cholera epidemics that swept recklessly across the world at this time. Rivö has never been populated by humans, but has a long history of being used as pasture land for the cows, sheep and horses of the nearby Asperö community. A specific fauna and flora has therefore evolved there. Rivö has also been and is still being used as a place for recreation, which has resulted in walking trails that leads the visitor around and across the island between sand beaches, grass meadows and granite cliffs. After identifying the existing collective memories of Rivö the proposal aims to integrate and frame these memories by architectural interventions in form of a cemetery, chapel and walking trail. By studying the process of mourning this thesis also investigates how a spatial sequence through the landscape of Rivö can support the process of individual memory and ritual of remembrance. The process of mourning is described by the following three steps: Separation > Transition > Incorporation. By translating these steps into concrete actions through space, the proposal aims to guide the mourning visitor through both the landscape and the grief.

Photograph - Accidental double exposure of Rivö landscapes

Keywords: Collective memory, Individual memory, History, Spatial sequence, Death, Life

Student background

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Thesis background

Purpose
The aim of this master thesis is to explore how memories, both individual and collective, can be supported by architecture. This will be investigated through the design proposal of a cemetery, chapel and walking trail on the island of Rivö in the Southern Archipelago of Gothenburg, Sweden. Along with the secularization and modernization of the western societies the practice of mourning has moved from the collective toward the individual. Grief has become a burden to carry alone rather than something to handle as a group. This thesis aims to provide a framework for how a cemetery can be designed as a tool for the individual ritual of remembrance. It also aims to investigate how the collective memories of a place, in this case Rivö, can be amplified by architectural interventions.

Field of discourse
This master thesis is trans-disciplinary, building on knowledge from the disciplines of architecture, anthropology, history, psychology and neuroscience. With an architectural design proposal supported by theoretical concepts this thesis aims to contribute to the discussion of how architecture can talk about memory and how a cemetery can be designed with psychological theories of memory in consideration.

Memory

Discourse

Individual memory   Collective memory

Questions

A. How can architecture support the   B. How can architecture support the
individual ritual of remembrance?   collective memories of a place?

Method

1. Study theories of mourning and   1. Study the field of memory and
remembrance, along with architec-   architecture trough literature and
tural references   architectural references

2. Translate the ritual of remem-   2. Identify collective memories of the
brance to a spatial sequence   site

. 3. Implement spatial sequence on   . 3. Integrate and amplify collective
site through design proposal   memories through design proposal

Context

Program: Cemetery & Chapel
Site: Rivö, Southern Archipelago of Gothenburg

Proposal

A cemetery and chapel that amplify the
collective memories of Rivö and support
the individual ritual of remembrance

Thesis Questions
A. How can architecture support the individual ritual of remembrance?
B. How can architecture support the collective memories of a place?

Method
Both thesis questions will be investigated through a method consisting of the following three steps: Theory studies > Adaption of theory to context > Design proposal. Question A is first approached by studying theories of mourning and remembrance. The theoretical concepts are then translated into a spatial sequence, which is then implemented on the site as a design proposal. Question B is first approached by studying theories of memory being expressed through architecture. The collective memories of the site are then identified and mapped, and then integrated and amplified through the design proposal. The design proposal is developed through sketches, material and model studies. The design decisions are supported by conclusions drawn from theoretical studies and architectural references, several site visits and interviews with stakeholders from other disciplines.

Delimitations
This master thesis investigates how both collective and individual memory can be supported by architecture. The focus lies on the spatial design and the users experience of the space. Aspects like regulations, structural calculations and economical constraints will not be developed.

Thesis structure

Theory

Chapter 2

Memory	A trace from the past
Collective memory	A memory of a common experience or event shared by a group/community/society
Individual memory	A personal memory of an experience or event
Amplifying a memory	Making a memory more prominent visually
Ritual	Repeated symbolic actions
Ritual of remembrance	A ritual carried out to process memories
Mnemonic code	Visible or tangible memories
Memory palace /Method of Loci	Method to enhance individual memory capacity by organizing memories in a spatial system of the mind
Menihr	The first man made element in space, vertical stones guiding pathways in ancient nomadic societies

Theoretical foundation

The literature references which this thesis is based upon are trans-disciplinary sources spreading across the fields of architecture, history, anthropology, psychology and neuroscience. This thesis acknowledge a broad definition of the term "memory", including collective memory as equally important to individual memory. This thesis should be seen as an exploration into the interdisciplinary field of memory, where architecture is the main point of departure.

The meaning of memory

What is memory? What seems like a simple question holds a multifaceted answer. An answer that depends on who you ask. A neuroscientist would probably say that memory is to be found in the synapses between the neurons in the brain. A psychologist would perhaps mention Freud and his theories of conscious and subconscious memory. The anthropologist could tell you about how the collective memory is passed on through generations by oral stories, rituals and behavior. An archaeologist could talk about memories as material traces of times that has passed. Maybe the historian would consider memory as selective representation of history in various forms. The answer of the architect would imaginably involve a spatial aspect, including how memory can be found and expressed in the artifacts and landscapes that surrounds us. The field of memory is broad and interdisciplinary. It can be studied from several perspectives reaching a diversity of conclusions. Traditionally the subject of memory is studied in the fields of neuroscience and psychology, where the term of memory refers to the memories that we carry inside us, "individual memory". But in the last decades the term has expanded into a much broader definition that goes beyond the personal realm. This aspect of memory is primarily studied in anthropology, and is described as "collective memory", which refers to memories that are shared by a community, tangible through oral stories, rituals, objects, buildings or even landscapes. Also within disciplines such as archeology, history and architecture a greater interest in collective memory can be seen through the current construction boom of memorials, in addition to a growing interest for restoration and renovation.

Susanne Radstone and Bill Schwarz writes in their book "Memory: Histories, Theories, Debates" (2010) about the ongoing debate between those who claim individual memory to be the only true memory and that the expansion of the term beyond the realm of the personal is nothing but a vague metaphor, along with those who advocates a broader framework for the term. Personally Radstone and Schwarz believes that in order to move forward in the research of memory one must consider how the concept of memory is charged with different meaning in different disciplines. They mean that recently established captions such as "material", "collective" and "cultural memory" can be seen as attempts to conceptualize the term and as a consequence of the contemporary broader interest of the field (Radstone & Schwarz, 2010, pp. 4-6).

Also Sabina Tanovic is in her PhD Thesis "Memory in architecture" seeing a shift in interest from primarily individual to collective memory during the last century. She describes a current memory boom across the world which she believes is connected to the decolonization and transition from authoritarian leadership towards democratic governing across the globe. According to Tanovic this results in a variety of social and political groups that are now claiming their right to public recognition (Tanovic 2015, pp. 13-21). It is not unlikely that there are other reasons behind the memory boom of our time. The contemporary society puts us in a constant flux of information. According to Victor Buchli, the author of the chapter "Memory, melancholy and materiality" in the book "Memory: Histories, Theories, Debates" (2010) this unstable and constantly shifting reality makes us frantically wanting to archive everything. Buchli claims that our connection to the world both socially and culturally is increasingly melancholic (Buchli 2010, p. 205). Perhaps it is the increasing gap between us and our ancestors that is the reason for

this melancholia. In a time of globalization with great waves of people moving far from their origin, a sense of self and a sense of place is lost. We turn to history and memory in order to find ourselves identity. Here, both individual and collective memories are of importance. Terrified to forget we must remind ourselves that there is no memory without oblivion, no oblivion without memory. When everything cannot be remembered, the question of hierarchy within memory occurs. What is worthy of remembrance and what can be thrown into the deep hole of oblivion? However it is important to realize that memories are not static, they change, they fade, whether they be individual or collective memories. Gerhard Richter is in his chapter "Acts of Memory and Mourning" in the book "Memories: Histories, Theories, Debates" (2010) describing this duality in the relation between memory and time as following (Richter 2010, p. 151):

 "While memory requires time to become what it is (…) time also hinders memory, veiling its specificities, blurring its details, accentuating too selectively and, in so doing, uncannily rendering the familiar strange while, at the same time, causing the estranged gradually to appear more and more familiar."
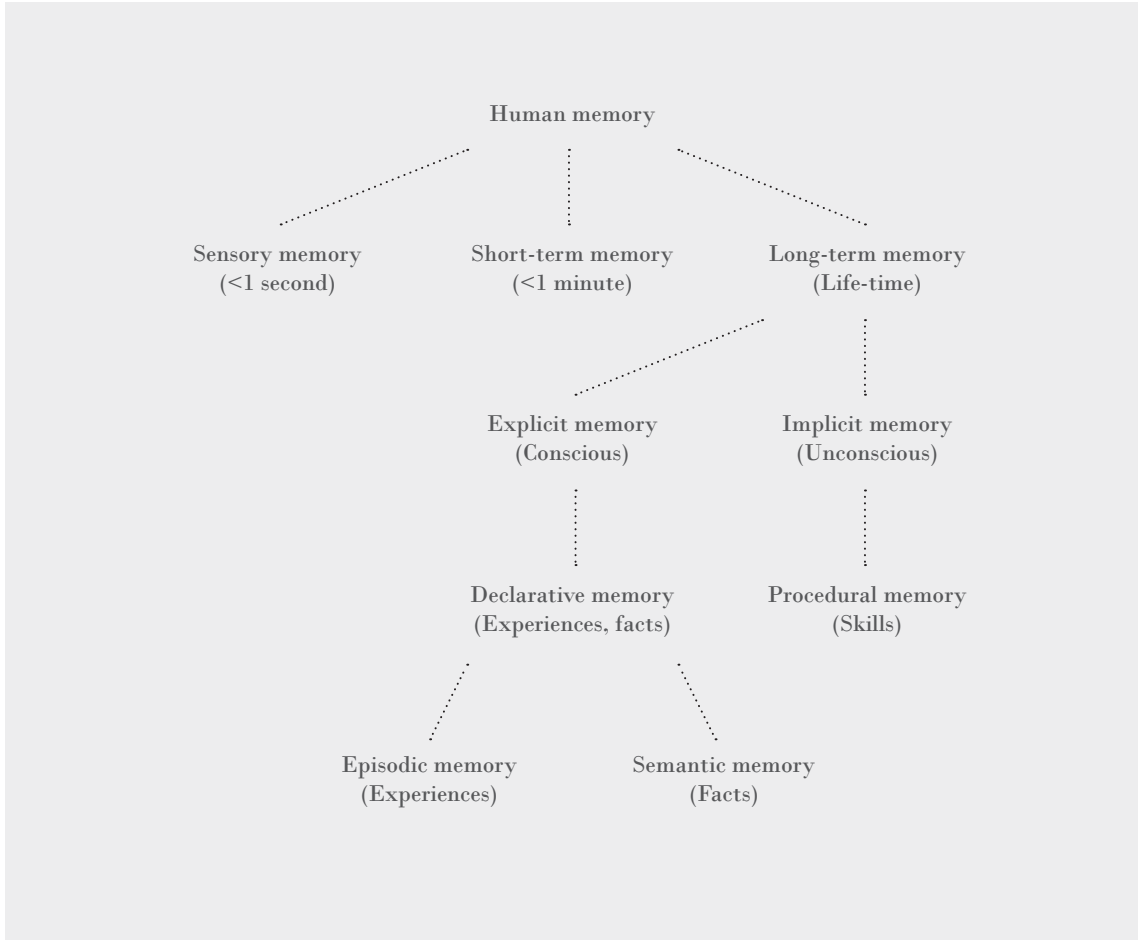
Human memory

Sensory memory
(<1 second)

Short-term memory
(<1 minute)

Long-term memory
(Life-time)

Explicit memory
(Conscious)

Implicit memory
(Unconscious)

Declarative memory
(Experiences, facts)

Procedural memory
(Skills)

Episodic memory
(Experiences)

Semantic memory
(Facts)

Individual memory

Individual memories are memories that we carry inside us, in our minds. Memories of experiences, events, facts and skills. Individual memory is studied in the fields of neuroscience and psychology.

Within neuroscience one can find the scientific explanation to how the human memory works. In the book "Models of Human Memory" (1976) Donald A. Norman explains the process of storing memories in the mind. First the newly presented information is transformed by the sensory system into physiological representation. This representation is very briefly (under one second) stored in the sensory memory. It is then identified and encoded into a new format and retained temporarily (under one minute) in the short-term memory. If the information is paid extra attention, or if it is rehearsed frequently it gets transferred to the more permanent long-term memory (Norman 1976, p. 2).

The research within psychology focus on long-term memory, exploring the span between explicit (conscious) and implicit (unconscious) memory. Already in 1899 Sigmund Freud questioned the accuracy of conscious memories in his paper "Screen Memories". Gail S. Reed and Howard B. Levine are in their book "On Freud's Screen Memories" (2014) explaining and discussing his theories. They mean that Freud's "screen memories" can be understood as defensively distorted memories of early events with the function of disguising traumatic experiences. Freud claims that memories as objective perceptions does not exist, instead the information of a memory is reshaped over and over again, in each moment. Freud concludes that it is impossible to talk about memories "from" our childhood, the correct vocabulary is rather memories "related to" our childhood (Reed & Levine 2014, p. 29).

The process of mourning

The concept of mourning as a process was established by Freud in his paper "Mourning and Melancholia" published in 1917. Here Freud provides a framework in order to understand the psychological aspects of mourning, and the idea of "working through" grief (Tanovic 2015, p. 39). According to Tanovic (2015, p. 41) mourning can be seen as the symbolic action of grief, where grief is the emotion and mourning is the process of dealing with that emotion. Tanovic explains that the process of mourning is usually structured and performed around spaces or material objects. Such rituals and rites can be dated back to the very first human civilizations. Tanovic (2015, p. 41) describes the purpose of these rites as following:

"The performance of the commemorative ritual was also intended to tame the feeling of loss and render it as a natural transition to the other world. In this way, the public ritual of taming death created a sense of control, allowing its participants to overcome loss."

Along with the secularization and modernization of the western societies the practice of mourning has moved from the collective toward the individual. Grief has become a burden to carry alone rather than something to handle as a group. However Tanovic (2015, p.42) means that "even though the traditional ritual has lost its place, the essentially human need to mourn still finds the way to channel itself through modes of grieving". Perhaps it is time to look into new kinds of rituals that can suit the individualistic mourner of today?

Figure 1. Painting - "L'Angélus" by Jean-Francois Millet, 1857-1859 (Public Domain)

The French ethnographer Arnold van Gennep is in his study "The Rites of Passage" (1909) analyzing commemorative rites and rituals as tools for mourning. Gennep (1909) identifies a sequence with three main steps as key elements in the ritual of remembrance:

Separation > Transition > Incorporation

Gennep (1909) suggests that these steps should be materialized in cemeteries and memorial places in order to provide the visitor a framework for burial and mourning rituals. The ritual suggested by Gennep can be described as the process of first crossing a physical border from one environment to another, then spending time in a neutral zone within an act of movement, to finally reach a space designated for mourning. According to Tanovic (2015, p. 76) these three steps can be spatially defined as entrance, connecting pathways and rooms for grieving.

Collective memory

Collective memories are memories that are shared by a community or society, tangible through oral stories, rituals, objects, buildings or even landscapes. Collective memory is primarily studied in anthropology but also within disciplines such as archeology, history and architecture.

In anthropology collective memory, sometimes also referred to as "cultural memory", is defined as memories that are shared by a larger community, nation- or even worldwide. These memories are based on shared experiences, and can be expressed through oral stories, rituals or behavior. Collective memory is passed on through generations, and is therefore also reshaped over and over again. The English historian Sally Alexander is in her chapter "Memory-Talk" in the book "Memory: Histories, Theories, Debates" (2012) reminding the reader that the history we know today, is formed by other humans interpretation of history before us. That is true also for collective memory which is constantly changing in meaning and value, similar to Freud's ideas of how the individual memory is reshaped each time it is revisited.

If turning to the disciplines of archeology, architecture and history collective memory can also be considered as material traces that exist in the physical world around us. The Swiss architect Peter Zumthor and the Norwegian historian Marie Lending are in the book "A feeling of history" (2018) conversing on the intertwined subjects of history, memory and architecture. Zumthor means that landscapes, buildings, rooms and everything that surrounds us can be considered history and

that we just need to learn how to see it (Zumthor & Lending 2018, p.15). Through his designs Zumthor wish to express that his buildings understand something about their surroundings. Their design comes from an urge to make memory speak (Zumthor & Lending 2018, p.20). Zumthor and Lending further discuss landscapes as historical documents with both visible and hidden layers of information. (Zumthor & Lending, 2018, p. 21). They mean that landscapes and places can offer a different mode of understanding history and memory than the theoretical history one finds in history books and other documents. According to Zumthor the collective memory experienced in a place is based on emotion, rather than intellect, similar to how the indiviudal memory lives from images rather than facts (Zumthor & Lending 2018). He refers to George Kubler, author of the book "The Shape of Time" and concludes that "time has a shape, and we just have to learn how to see it" (Zumthor & Lending 2018, p. 39)

Also Buchli claims that "memory requires a certain degree of iterability both material and discursive in order to sustain it" (Buchli 2010, p. 204). Developing his statement he refers to the French historian of identity and memory, Pierre Nora, who means that "modern memory work relies on the materiality of the trace, the immediacy of recording and the visibility of the image" (Buchli 2010, p. 204). Grasping and materializing what is starting to fade away is an active form of resisting the passage of history, according to Buchli (2010, p. 204). He sees it as "a refusal to mourn", to speak in Freudian terms. A refusal to accept the marching of time, a desperate attempt to cling on to something which is no longer here (Buchli 2010, p. 204). However there might be reasons for doing precisely that. By retaining and celebrating memories of passed times, we can earn a greater understanding of the time we live in today, and perhaps even anticipate what is to come in the

future. Preserving memories can contribute to the process of finding and establishing a sense of self and sense of place, both on an individual and collective level. That there are different opinions regarding the importance of retaining and celebrating the collective memories of our surroundings is inevitable. What is considered an important memory to someone is irrelevant to another. Once again it becomes a question of selection. Which memories are worthy of remembrance and which are not? What is sure is that the architect has a possibility and perhaps responsibility to consider the collective memories of a place when intervening with an architectural addition. After all architecture possess the power to make dead matter appear alive, at least according to Lending (Zumthor & Lending, p. 29):

"The belief that architectural form might externalize thought, that buildings can give shape to feelings and history, and not at least the idea that architecture can make dead matter appear alive, excite emotion, memory and associations in the beholder, and even make the absent present or the invisible visible."

Memory and space

There is a link between memory and space. Already the ancient Greek and Roman mnemonists knew that as they developed strategies to enhance their remembrance capacity explains Tanovic (2015, p.18). Their strategy has several names, but is mostly known as "Method of loci" or "Memory palace". It consists of deeply embedded architectural constructions of the mind, which are used in order to store and organize a large body of knowledge. These imaginary memoryscapes are structured by placing selected ideas represented through images in an architectural space that is already familiar (Tanovic 2015, p. 19). In a way that is also what is being done in the physical world, when monuments or memorials are built. They constitute an anchorage in space where visitors can attach their memories. The monument or memorial can therefore be considered a "space **for** memories". A space which is consciously designed for the act of remembrance. A "space **of** memories" is however something else. It has not been designed or created with the purpose of containing memories. It has for other reasons become a place of memories. A ruin or battlefield can be seen as an examples of a places that are strongly charged with memories. Spaces of memories.
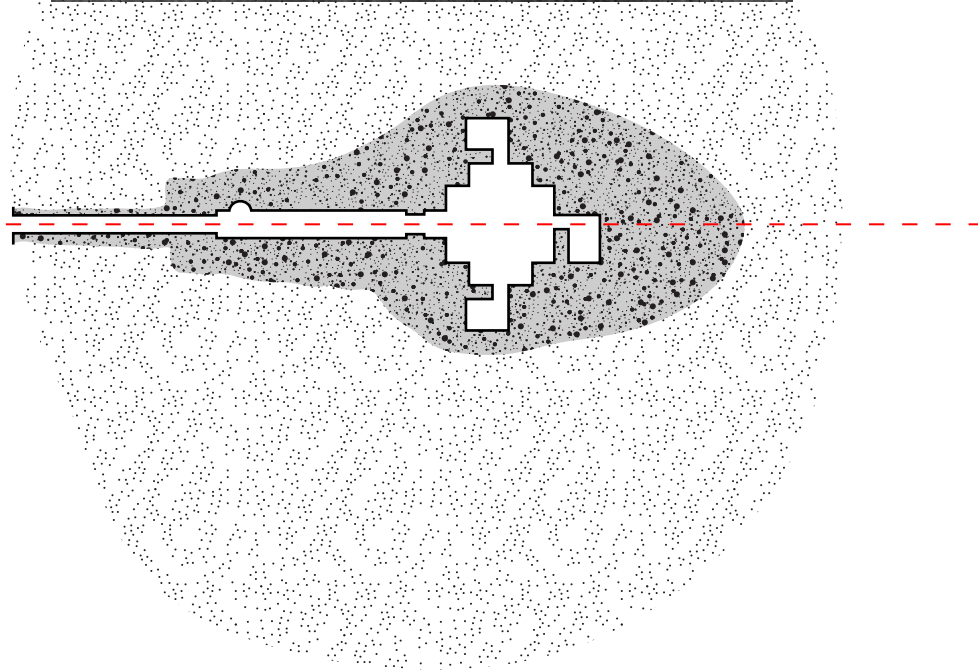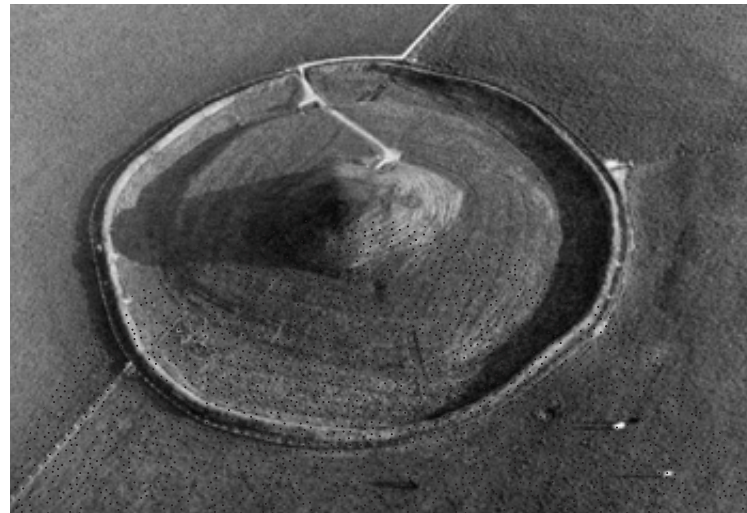
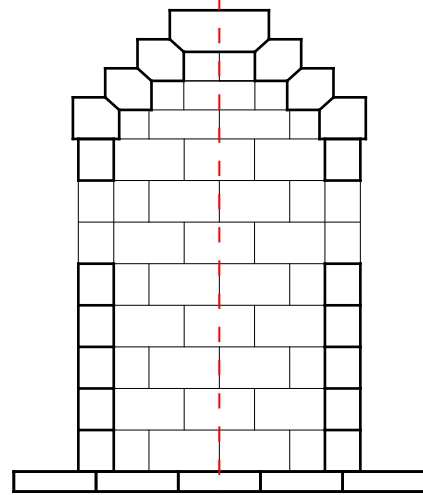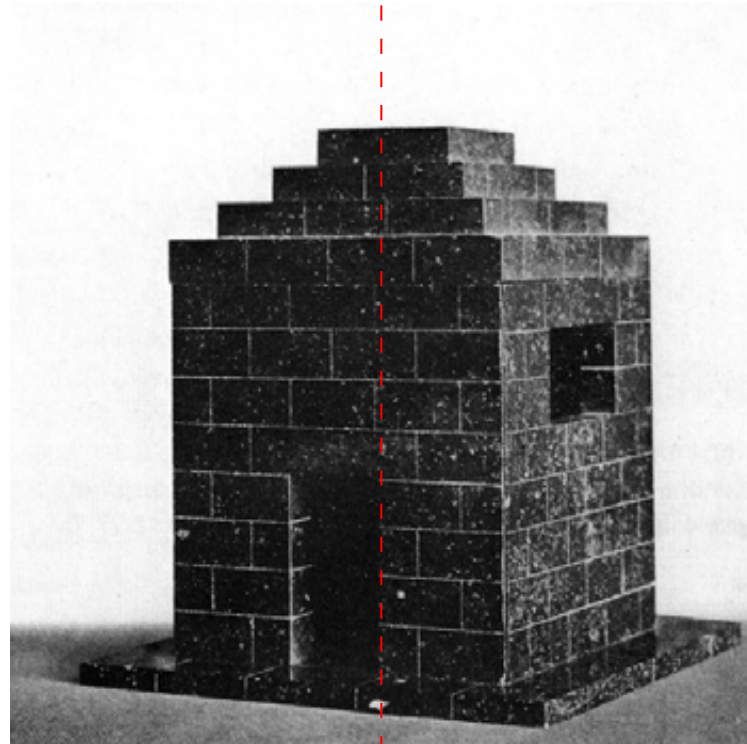Photograph - Ruin of Saint Karin's Church in Visby

Architecture of death

"Architecture in western Europe begins with a tomb" states Howard Colvin in his book "Architecture and the Afterlife" (1991, p.1). The tomb, the home for the dead, was constructed to be a much more permanent structure than the home for the living, develops Tanovic (2010, p.50). Funerary rituals and spaces were of great significance, to ensure that the soul of the deceased was not suffering and could transfer to the afterlife in peace (Tanovic 2010, p. 50). In many societies, for example the ancient Egyptian, the deceased was accompanied with personal belongings and useful tools in order to not step empty-handed into the next world. According to Tanovic (2010, p. 52) the ancient cultures across Europe produced similar solutions regarding the commemoration and housing for the dead, consisting of a formal arrangement of elements around a central space with a sense of sophistication and protection. The structures usually followed a strict symmetrical layout, covered with stones or earth. The tomb at Maeshowe in Scotland, a world heritage and described as a Neolithic masterpiece from around 3000 B.C. serves as a great example (see figure 2). Tanovic means that the memorials and tombs were perceived as stable and permanent structures while at the same time accessible, forming a transactional link between the dead and the living (Tanovic 2010, p.53). In conjunction with the Enlightenment during the 18th century the belief in an afterlife started diminishing, but the will to commemorate and honour the dead persisted and perhaps even grew stronger, according to Tanovic. Around this time the contemplation about death also transitioned from the traditional collective ritual into the individual space (Tanovic 2010,
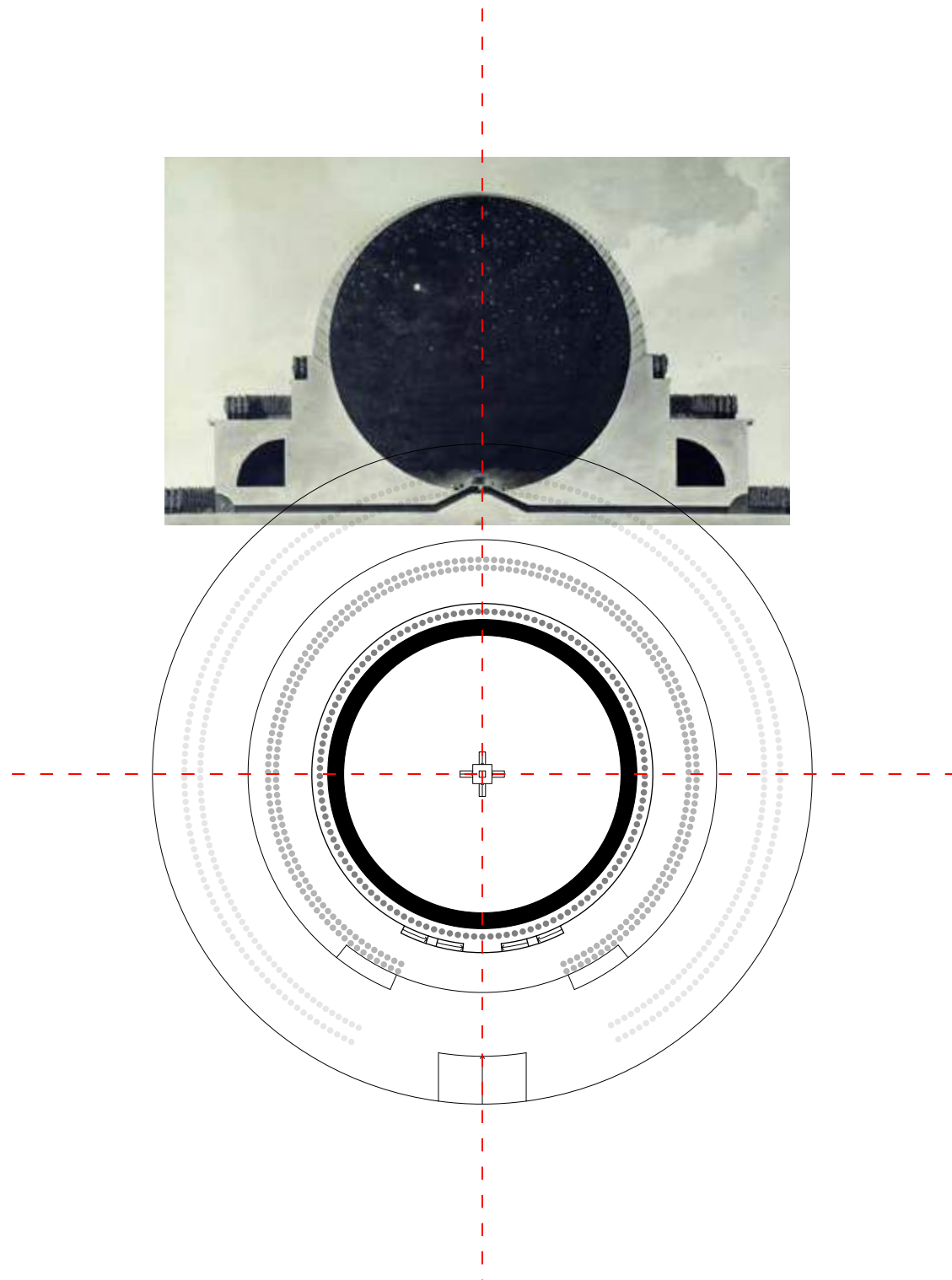
Top: Figure 2. Photograph - Maeshowe tomb chamber (Public Domain)
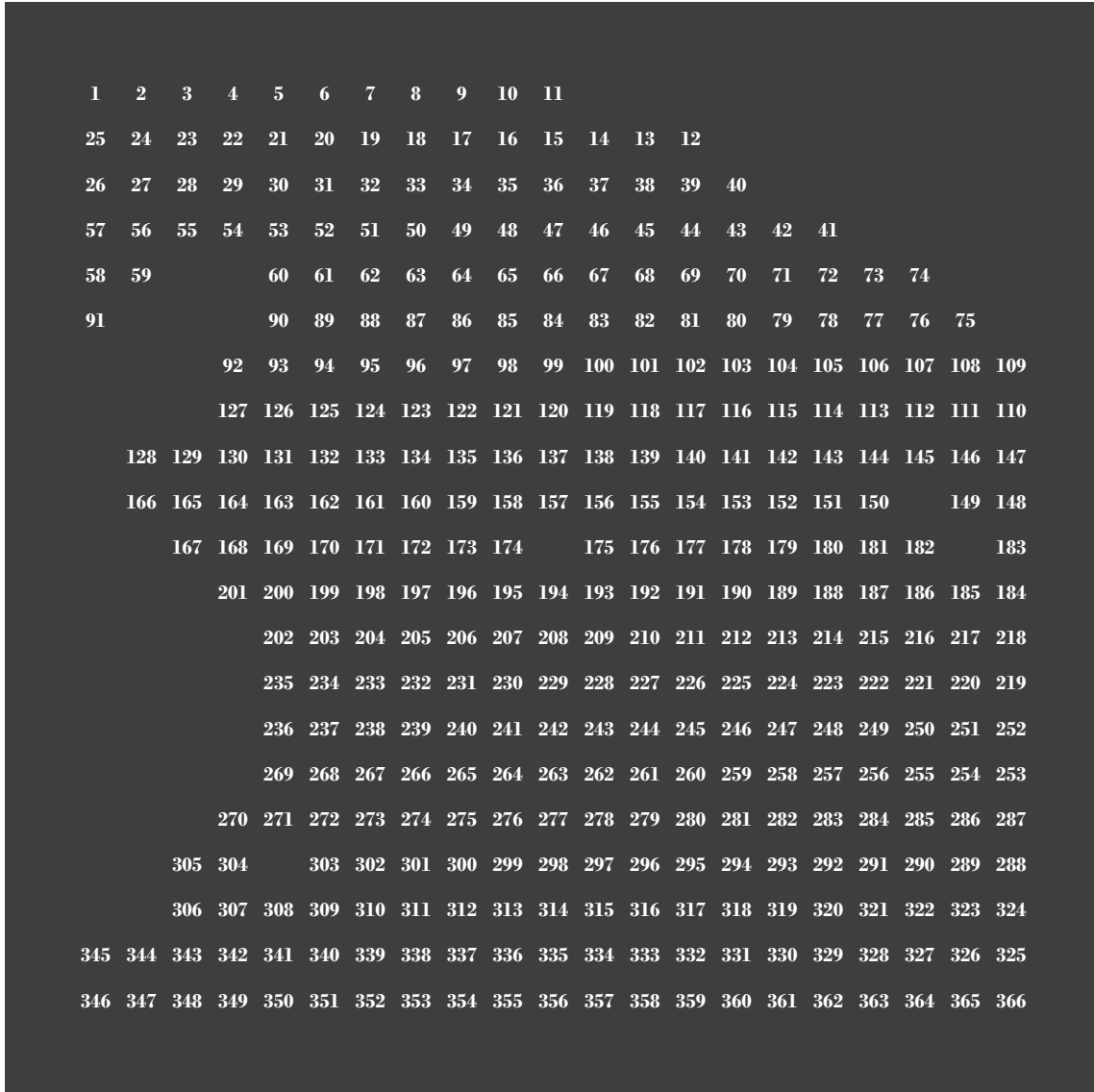Bottom: Plan 1:300 - Maeshowe tomb chamber

p. 54). Architects were in the 18th century preoccupied with the return to the origins and therefore turned to ancient Greek, Roman and Egyptian monuments as references for their design of funerary architecture. The mausoleum became the image of an ideal architectural structure because of its capacity to express majesty, sadness and serve as moral exemplar (Tanovic 2010, p.54). These ideas are embodied and demonstrated in the work of the French architect Etienne-Louis Boullé (1728-1799). With his 1784 proposal "Cenotaph to Sir Isaac Newton" (see figure 3), Boullé strove to express the principles of nature and science in order to convey the memory of Isaac Newton as a symbol for the Enlightenment. Tanovic means that the immense spherical surface and the sarcophagus of Newton as the only fixed point is a strategy by Boullé to express a kind of artificial infinity, as a representation of the infinity of the universe (Tanovic 2010, p.55). Together with Claude-Nicolas Ledoux and Jean-Jaques Leque, Boullé pioneered a "radical symbiosis of classical compositional language and the idea of the sublime" according to Tanovic (2010, p. 55), where the compositional language consisted primarily of pyramids, obelisks and spheres. Tanovic (2010, p.56) concludes that spaces of death are spaces of absence, which results in the architectural task of embodying emptiness. The strategy of Boullé was to use shadows. By placing solid volumes against light, the "volume" of shadow could represent absence. The fascination of death continued to trigger architects to explore the relation between the permanency of architecture and the immaterial aspect of absence and death. According to the Austrian architect Adolf Loos (1870-1933) it is "only a very small aspect of architecture that belongs to art: the tomb and the monument" (Tanovic 2010, p. 57). Loos saw the tomb as a pure space of memory, released from functional obligations, which he explored in the design of a mausoleum for the art historian Max Dvorak, imagined as a heavy cube of granite covered by a stepped pyramid (Tanovic 2010, p. 60).

Top: Figure 3. Section 1:2000 - Cenotaph to Sir Isaac Newton (Public Domain)
Bottom: Plan 1:2000 - Cenotaph to Sir Isaac Newton

The simplicity and enclosing appearance of the outside reflected Loos view on death as a heavy and introvert subject, while the interior decorated by Oskar Kokoschka's frescoes express Dvorak's intimate relation with art. According to Tanovic (2010, p. 60) Loos mausoleum marks a new kind of archetype in which "personal memory is blended with the collective". After telling the story of death represented through architecture in examples such as the Neolithic tomb of Maeshowe, Boullés Cenotaph for Newton and Loos Mausoleum for Dvorak, Tanovic concludes that there are reasons behind funerary art and memorials being the realm reserved for art within architecture, with it's spaces of absence, transition and elevation of the spirits as well as memory (Tanovic 2010, p. 61).

Top: Figure 4. Photograph - Model of Mausoleum for Dvorak (Public Domain)
Bottom: Section 1:100 - Mausoleum for Dvorak

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  1    2    3    4    5    6    7    8    9   10   11
 25   24   23   22   21   20   19   18   17   16   15   14   13   12
 26   27   28   29   30   31   32   33   34   35   36   37   38   39   40
 57   56   55   54   53   52   51   50   49   48   47   46   45   44   43   42   41
 58   59             60   61   62   63   64   65   66   67   68   69   70   71   72   73   74
 91                  90   89   88   87   86   85   84   83   82   81   80   79   78   77   76   75
           92   93   94   95   96   97   98   99  100  101  102  103  104  105  106  107  108  109
          127  126  125  124  123  122  121  120  119  118  117  116  115  114  113  112  111  110
     128  129  130  131  132  133  134  135  136  137  138  139  140  141  142  143  144  145  146  147
     166  165  164  163  162  161  160  159  158  157  156  155  154  153  152  151  150            149  148
          167  168  169  170  171  172  173  174            175  176  177  178  179  180  181  182            183
          201  200  199  198  197  196  195  194  193  192  191  190  189  188  187  186  185  184
          202  203  204  205  206  207  208  209  210  211  212  213  214  215  216  217  218
          235  234  233  232  231  230  229  228  227  226  225  224  223  222  221  220  219
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          270  271  272  273  274  275  276  277  278  279  280  281  282  283  284  285  286  287
     305  304            303  302  301  300  299  298  297  296  295  294  293  292  291  290  289  288
          306  307  308  309  310  311  312  313  314  315  316  317  318  319  320  321  322  323  324
345  344  343  342  341  340  339  338  337  336  335  334  333  332  331  330  329  328  327  326  325
346  347  348  349  350  351  352  353  354  355  356  357  358  359  360  361  362  363  364  365  366
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Above: Diagram plan - Cimitero di Santa Maria del Popolo

Cemeteries as memoryscapes

"Cemeteries are symbolic representations of the culture they originate from" claims Tanovic (2010, p. 62). By framing a specific place, the cemetery is not just a marker in time but also in space. It can play an essential role in terms of territorial claims or construction of identity (Tanovic 2010, p. 62). Historically the cemetery mirrored the social structure of a community, with grand mausoleums for the rich, tombs for royalty and priests under the church floor and simple graves for the poorer population. The graves of the poor were leashed during a limited time, and then reused, while the rich could afford to buy a plot of the cemetery to ensure that their memory would last for future generations, explains Anita Theorell and Per Wästberg in their book "Minnets stigar: En resa bland Svenska kyrkogårdar" ("The path of memory: A journey amongst Swedish cemeteries") (2001). In the Italian city of Naples, one example of the segregation after death can be found in the Cimitero di Santa Maria del Popolo, designed by the Italian architect Ferdinando Fuga, established in 1762. It was a cemetery for the very poorest layers of the society who could not afford a grave. The cemetery layout consists of a 366 huge pits organized in strict rows, where the 366 pits represents each day of the year. The dead of each day would be thrown into the appropriate pit, which would then be sealed until next year, the time needed for the bodies to decompose. The pit number 366 was used each leap year, and could also come in "handy" in case of infectious diseases or natural disasters (Tanovic 2010, p.63). In Sweden, similar to other parts of Europe, the history of cemeteries starts with the process of Christianisation, which occurred here approxi-
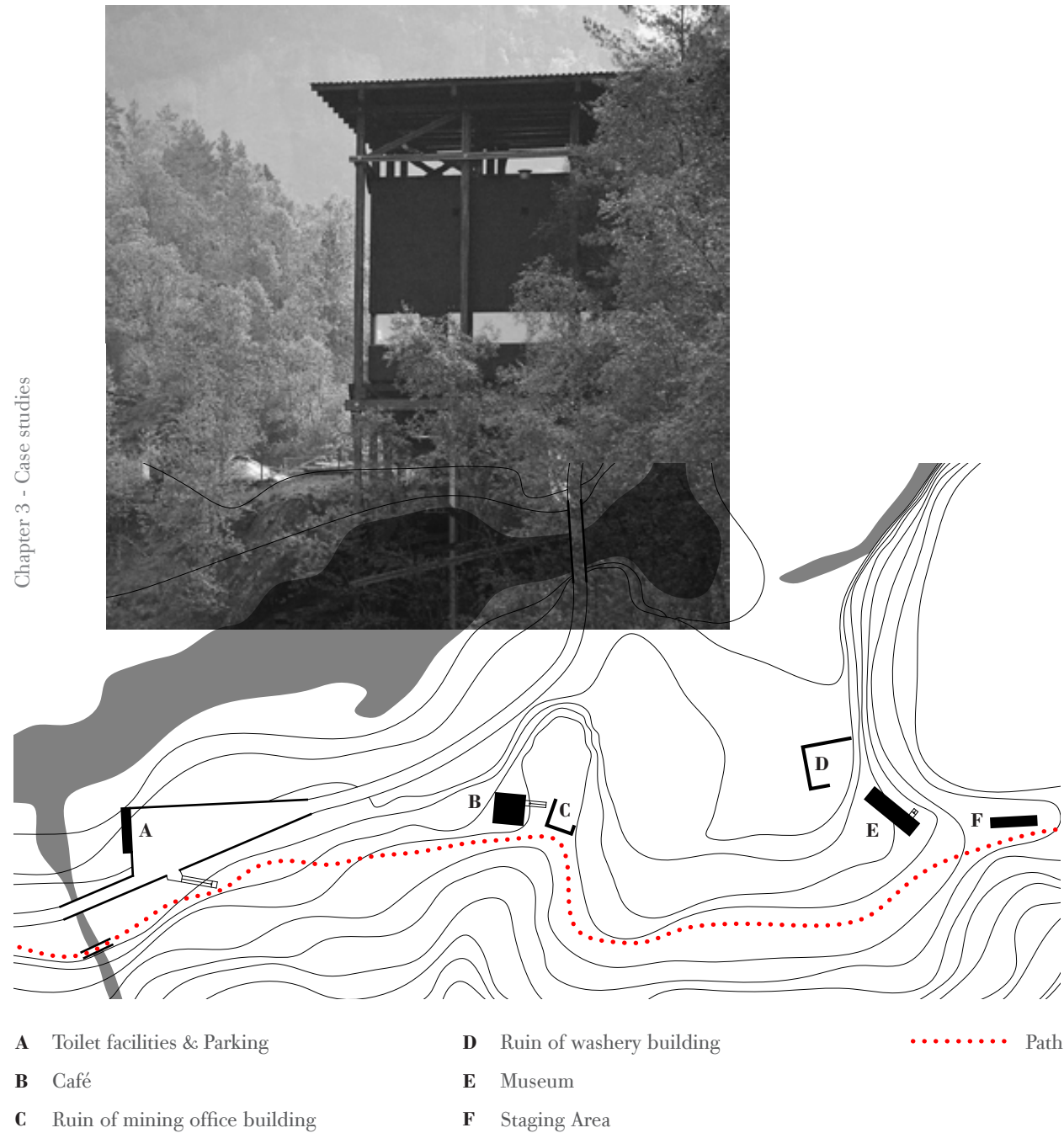
mately between year 800 and 1000. The church demanded burials on sanctified land, even if it had to be in common graves. Before Christianity men and women were buried together but were then separated both inside the church and after death. The women, children and the considered "weak" men were buried on the north side of the church, while men were buried on the south side. Unbaptized children, suicide victims and convicted criminals were buried outside the cemetery wall explains Theorell & Wästberg (2001, p.13). During the 13th century the idea of womens "weak nature" arose, she was considered dependent and subordinated the man, and should therefore rest next to him. When the literacy in Sweden started to increase during the 14th century, the anonymous gravestones were replaced by ones with names and dates (Theorell & Wästberg (2001, p.14). Up until the 19th century the cemetery remained next to the church in the center of the village or the city. However the growing awareness of hygiene and sanitation made citizens scared of the cemeteries, claiming that they generated epidemics, writes Peter Johnson in his paper "The modern cemetery: A design for life" (2008). This fear resulted in a grand shift of the cemetery history. New cemeteries were established in rural instead of urban contexts, designed according to the new ideas of the cemetery as space with a pleasant landscape, designed both for the dead and the living (Tanovic 2010, p. 63). The Père Lachaise cemetery in Paris, designed by the French architect Alexandre-Théodore Brongniart and established in 1804 was one of the first cemeteries to reflect this transition from urban and crowded cemeteries to rural, airy and natural ones. In conjunction with this shift the cemeteries also became more democratic and equal, since everyone was designated the same amount of space. Inspired by English garden landscapes, architects across Europe designed cemeteries as romantic natural settings where the visitor could find comfort while commemorating the dead writes Tanovic (2010, p. 65) and concludes:

"Such settings contains a mnemonic power, inscribed in their layout, vegetation, monument and seasonal changes, as a sort of codes that are intended to tell certain narratives to visitors. Landscapes as mnemonic concept offers many possibilities for commemorative rites and some argue that the success of fine commemorations is dependent on the variety of the mnemonic codes employed in a given setting."

The World Heritage Woodland Cemetery in Stockholm, designed by the Swedish architects Gunnar Asplund and Sigurd Lewerentz can be considered the first cemetery landscape to introduce conscious and verbalized strategies for exploring such mnemonic codes, means Tanovic (2010, p. 68). The architecturally defined episodes of the Entrance, the Hill of Remembrance, the Resurrection, the Woodland and the Main Chapel are all designed around the experience of the visitor and the concept of mourning (Tanovic 2010, p. 68). The Slovenian architect Edvard Ravnikar also focused on the psychological aspects in his 1953 design of The Hostage's Cemetery near Begunje in Slovenia. There, all gravestones are carved from local stone quarries, with a unified appearance. The uniform expression of the stones were intended as a representation of the multitude of victims of the German forces, while at the same time enable the marking of individual memories according to the wishes of the relatives (Tanovic 2010, p. 73).
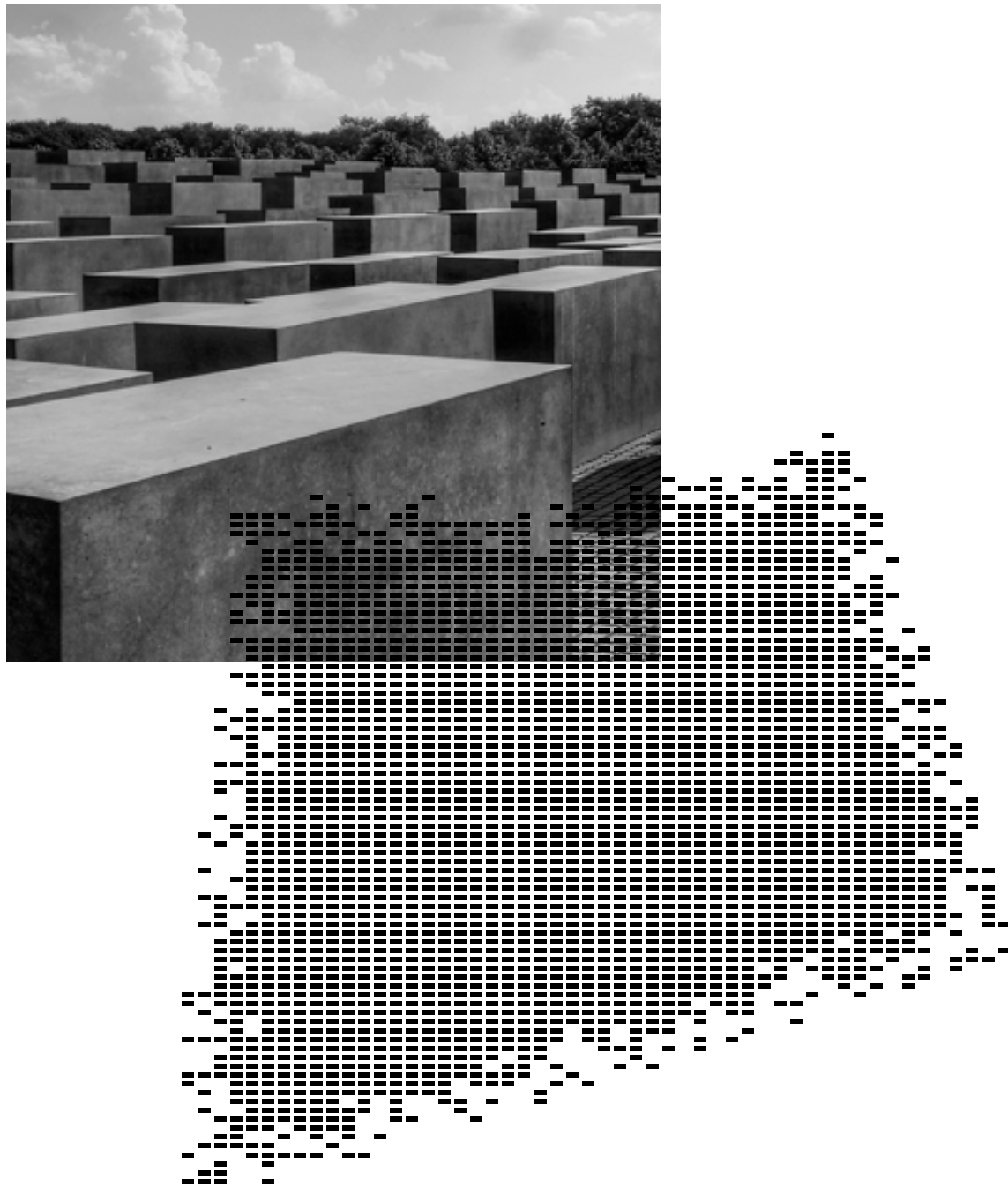
Case studies

Chapter 3

A Toilet facilities & Parking

B Café

C Ruin of mining office building

D Ruin of washery building

E Museum

F Staging Area

· · · · · · · · Path

Top: Figure 5. Photograph - Allmannajuvet Zink Museum,
photograph by Fredrik Fløgstad 2016 (Creative Commons)
Bottom: Plan 1:1500 - Allmannajuvet Zink Museum
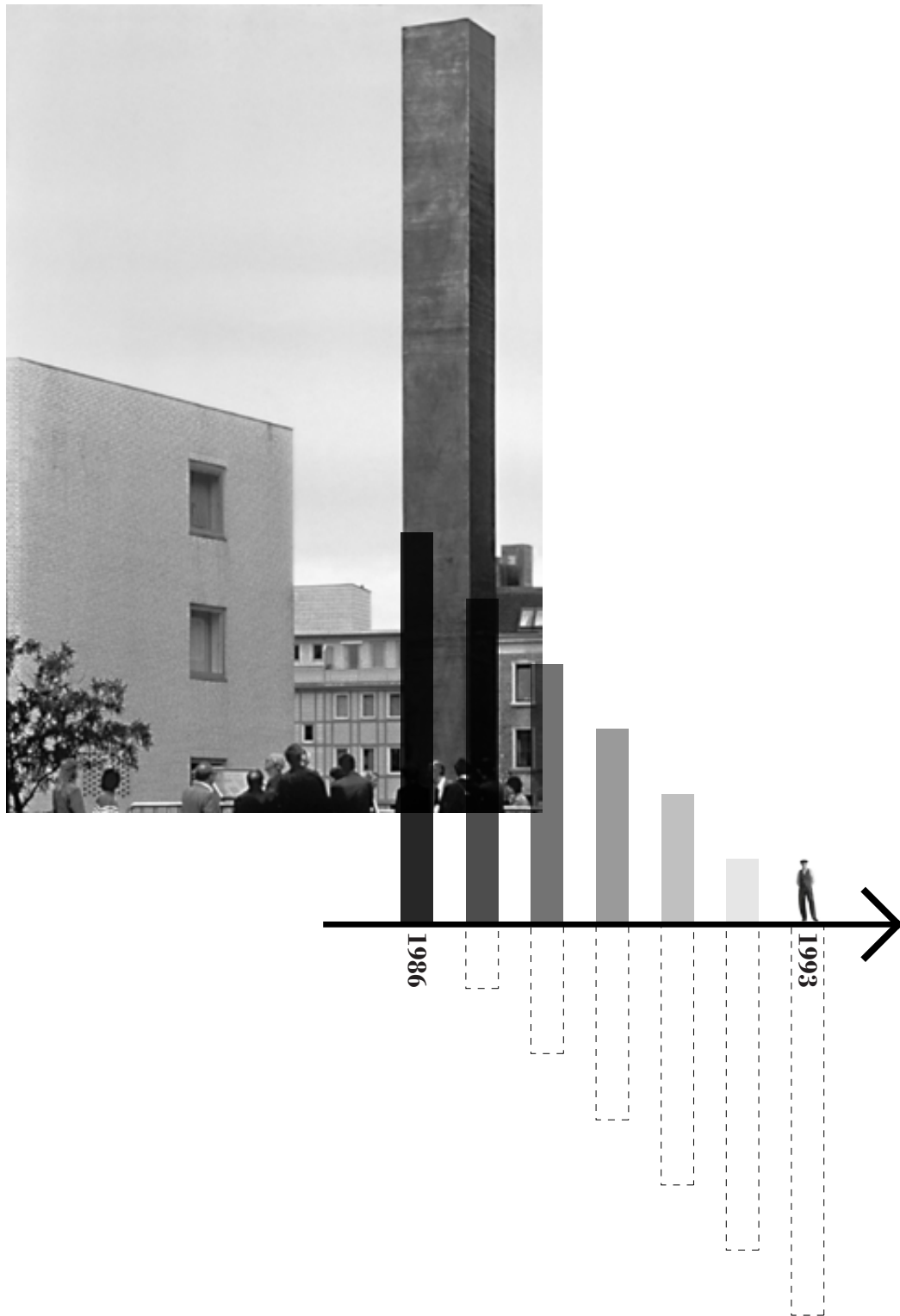
Allmannajuvet Zink Mine Museum

The Allmannajuvet Zink Mine Museum is part of the National Tourist Routes Program in Norway. It is located in the municipality of Sauda, opened in 2016 and designed by Peter Zumthor. The purpose of the museum is to bring the mining history of the Sauda region back to life, while at the same time being a welcoming tourist attraction. The complex is divided into four free standing volumes, containing the museum, a café, toilet facilities and a staging area (Archdaily 2016). The buildings are carefully placed on poles resting in the landscape along an existing path made by the workers while the mine was still in operation. Along this path the visitor is introduced to several memories from the mining time in form of leftover material, ruins and the by human modified landscape (Lending & Zumthor 2018). Zumthor's supplementary simplistic buildings are inspired by the mining operation and the toilsome work that took place there. All the buildings were prefabricated and then assembled on site. The exterior support system is built of impregnated laminated wood, lightly resting on the rocky landscape. The exterior walls are constructed by plywood sheets covered by PMMA, a German acrylic material. The interior walls have been painted in a matte black colour to resemble the inside of a mine (Archdaily 2016).

Memorial to the Murdered Jews of Europe

The Memorial to the Murdered Jews of Europe is a memorial dedicated to the Jewish victims of the Holocaust during the second world war. It is located in Berlin, opened in 2005, and is designed by the American architect Peter Eisenman (Craven 2018). The project consist of 2711 concrete slabs, or "stelae" as Eisenman refer to them, arranged in a grid pattern covering the sloping site and an underground museum/memorial. The stelae measure 2,4 x 1 meters and vary in height from 0,2 to 4,7 meters. The form of the stelae has been used as an architectural tool to honour the dead since ancient Greece. Even though Eisenman uses very minimalistic forms the project possess a monumentality by they way that the volumes are multiplied. The fact that there are no names or other inscriptions on the volumes turns it into a rather abstract memorial. Yet the large mass of anonymity also gives strength to the project. This anonymity has however led to a lot of people questioning the monument, meaning that it is not "clear" enough. It raises the question of how abstract a memorial can be before it loses the connection to the memory it is supposed to express? Eisenman himself states that he wanted to create a sense of loss and disorientation within the project as a hint to what the Jews were experiencing during the holocaust.

Top: Figure 6. Photograph - Memorial to Murdered Jews of Europe,
photograph by Wolfgang Staudt 2007 (Creative Commons)
Bottom: Plan 1:1500 - Memorial to Murdered Jews of Europe

1986

1993

Monument Against Fascism

The Monument Against Fascism was created by Esther Shalev-Gerz and Jochen Gerz. It is located in Hamburg and was inaugurated in 1986. The monument was the winning entry of an international competition that was announced in 1979 due to the rise of Neo-Fascism in Hamburg (Shalev-Gerz). The proposal is unique in the way that its shape was changing in time in relation to the participation of the visitors. The proposal consisted of a 12-meter-high column (1x1m) installed in a busy central public square. The column was clad in lead and accompanied by a text in seven languages stating: "We invite the citizens of Harburg, and visitors to the town, to add their names here to ours. In doing so we commit ourselves to remain vigilant. As more and more names cover this 12-metre-high lead column, it will gradually be lowered into the ground. One day it will have disappeared completely and the site of the Harburg monument against fascism will be empty. In the long run, it is only we ourselves who can stand up against injustice." The visitors would engrave their names with a metal pencil directly onto the monument's surface. As the monument got covered by signatures it was gradually lowered into the ground offering space for more signatures. After seven years, in 1993, the descending of the column was completed and all that remains visible today is the top of the column at the same level as the ground pavement. By creating a temporary and interactive monument the artists wished to communicate that in the long run it is only ourselves that can stand up against injustice, we cannot place blind trust on monuments. The Monument Against Fascism rather questions the conventional aspect of materiality in monuments as it explores the transition from a material to an immaterial monument. Today, the monument is acknowledged as a seminal example of working with the material of memory.

Top: Figure 7. Photograph - Esther Shalev-Gerz and Jochen Gerz, Monument Against Fascism, 1986, permanent installation in public space, Hamburg-Harburg, Germany © Studio Shalev-Gerz, 1. (Reprinted with permission)
Bottom: Diagram section - Monument Against Fascism

The Woodland Cemetery

The Woodland Cemetery in Stockholm opened in 1920. It is designed by the Swedish architects Gunnar Asplund and Sigurd Lewerentz and is the result of their winning proposal "Tallum" in a international competition that was announced in 1914. Since 1994 The Woodland Cemetery is listed as a World Heritage with the justification of being "an outstanding example of how architecture and landscaping from our century combine to make a cemetery" (The Woodland Cemetery 2019). According to Tanovic (2015) Asplund and Lewerentz were pioneers in their method of using psychological aspects of the mourning process as inspiration for their design. Asplund and Lewerentz show in their proposal a great understanding of the ritual experience of the mourning visitor. By carefully guiding the visitor through the billowy landscape with strong visual connections between chapels and memory groves the experience of moving through the cemetery becomes almost sacred. Directly when entering through the main entrance (see **A** in plan) the visual connection to the grand granite cross is established. Even though the path folds, the cross keep guiding the visitor up the hill towards the Forest Crematorium (see **B** in plan). That the visitor experience is the main focus of the design is also visible in the stairs leading up to Almhöjden, "The Elm hill", (see **C** in plan). Each step of the stair becomes lower in order to make the visitor feel calm instead of tired when reaching this place of meditation and remembrance on top of the hill. Turning towards southeast the visual connection to the Chapel of Resurrection (see **D** in plan) is inevitable. The 888 meters long Sju Brunnars Stig, "Seven Springs Way", leads the visitor through several kinds of landscape before arriving to the Chapel of Resurrection. First the open air surrounding the hill, followed by a light birch plantation, ending in a dense pine forest. This sequence was designed in order to get the visitor into the right mood before attending a ceremony. Also The Woodland Chapel (see **F** in plan) is reached by a spatial sequence. When following the path leading up to the chapel the visitor is crossing through a lychgate (see **E** in plan), that separates the Woodland Chapel from the rest of the cemetery. It prepares the visitor for entering the chapel and intensifies the feeling of solemnity.

Top: Photograph - The Woodland Cemetery
Bottom: Plan 1:10 000 - The Woodland Cemetery

C

D

Photographs - The Woodland Cemetery, sequence C-D

E

F

Context

Chapter 4

Site

Rivö

Spatial program

- Cemetery, min. 100 places
- Chapel, min. 30 seats
- Access point to island
- Walking trail

Users

Inhabitants of Asperö

Aims

- Amplify collective memories of Rivö
- Support the individual ritual of remembrance

Program

The undertaken research on memory and architecture is implemented in the design proposal of a cemetery and chapel for the community of Asperö, located on the nearby uninhabited island of Rivö in the Southern archipelago of Gothenburg. The discussion of extending an existing historical cholera cemetery from 1834 on Rivö has been on-going for almost 70 years, due to the existing overcrowded cemeteries of the archipelago. Asperö is the only year-round housing island of the archipelago that does not yet have its own cemetery. Historically and up until today the inhabitants of Asperö therefore bury their lost ones at the cemetery on Styrsö.

Saltholmen

Rivö

Galterö

Brännö

Asperö

Stora
Starrholmen

Bratt-
holmen

Stora
Känsö

Köpstadsö

Stora
Förö

Källö

Vargö

Stora
Mosskullen

Knarr-
holmen

Styrsö

Donsö

Sjumans-
holmen

Kar-
holmen

Vrångö

Kungsö

Tornö

Valö

Plan 1:60 000 - The Southern Archipelago

The Southern Archipelago

The Southern Archipelago of Gothenburg consists of 13 inhabited islands, dozens of uninhabited islands and thousands of islets. The archipelago is reached by public ferries from Saltholmen which also serve as internal public communication between the islands. The main island is Styrsö which is connected to Donsö via a bridge since 1974. The current population of the archipelago is reaching just over 4600 persons. Historically the majority of the population worked with fishing, small scale farming or pilotage but today most of the inhabitants commute to Gothenburg on a daily basis to work. Car traffic is forbidden on the narrow streets, but mopeds, bikes and electric golf cars are allowed and popular modes of transportation. The archipelago is a popular destination for the citizens of Gothenburg as well as tourists during summer.
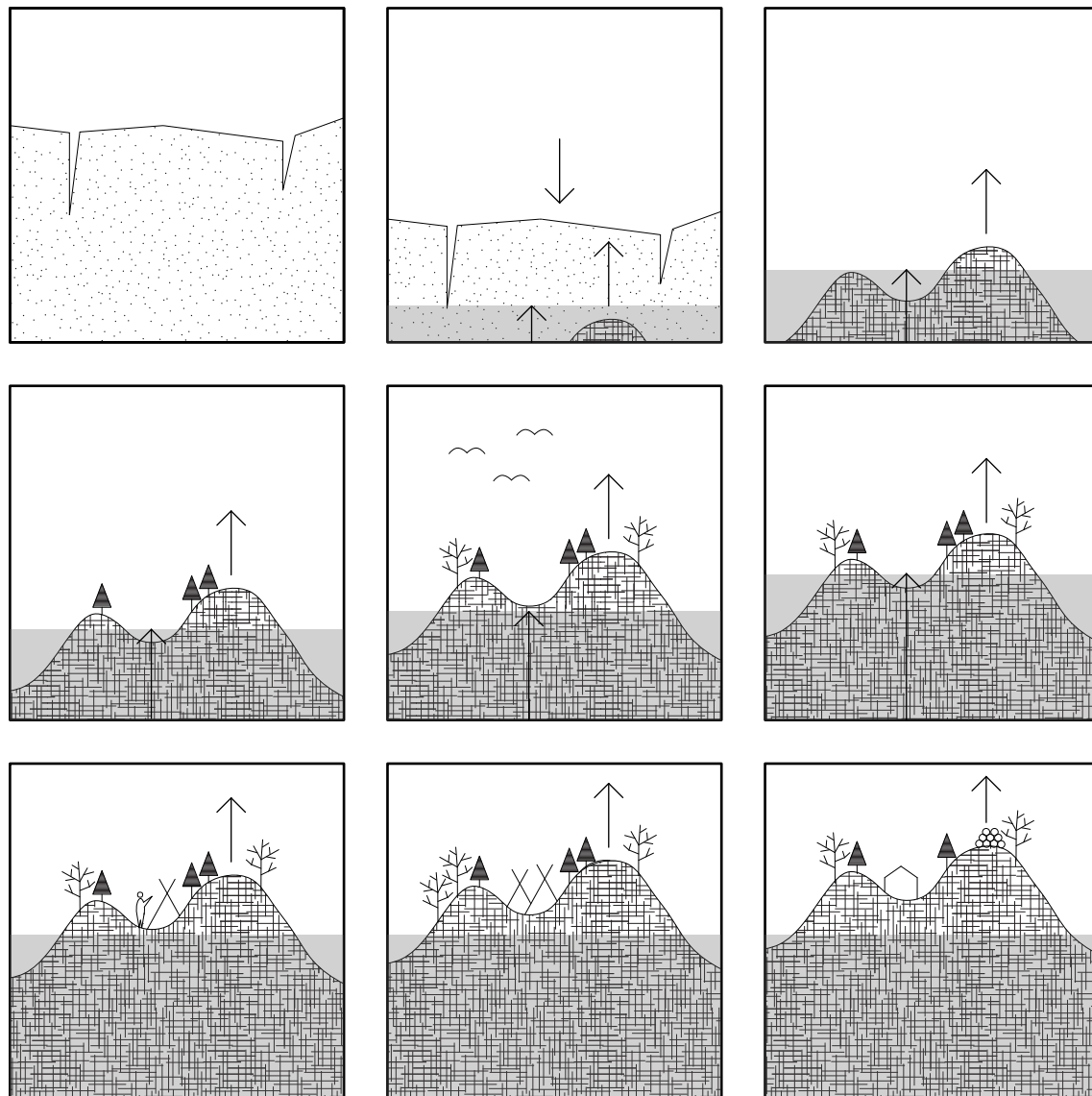
Raising out of the sea

Around 10 000 years ago, what today is the southern archipelago of Gothenburg, started to raise above sea level as the ice of the last glacial period slowly melted and resulted in a post-glacial rebound. An arctic tundra flora dominated the landscape but slowly pine trees, birches and other trees spread to the archipelago from the south as the islands kept raising out of the sea. The first human settlements in the archipelago is dated to around 4500 B.C. The archipelago provided rather good life conditions, with opportunities to fish, hunt seals and birds, fresh water resources and flint mines. The stone age settlements are often found in bays close to the water, protected from the western winds. The only remains found from the Bronze Age are the stone cairns located on peaks, the biggest one being "Stora Rös" ("The Big Cairn") located on the island of Styrsö, dated to around 1300 B.C. From the Iron Age no secure traces are found except a couple of oval stone settings that could be either graves or building foundations. The first time the archipelago is mentioned in literature is in the Icelandic Sagas from around year 900. In the saga one can read about the archipelago being an important trade center with big markets and festivities. Since the end of the stone age small scale agriculture has been performed in the archipelago but fishing remains the main occupation throughout the centuries until the mid 1600's when also pilotage becomes an important income. Up until 1930 the communities on the islands owned and farmed the land together. They used the outfields as pasture land (Dannbratt, Odenvik 1966).

Diagram - Prehistoric Evolution of the Archipelago

† The Danish graves 1717

† Rivö Cholera Cemetery 1834

Brännö Cemetery 1850

† **Styrsö Cemetery ~ 1600**

Stora Rös ~ 1300 B.C.

† "The Viking Cemetery" ~ 1500

† **Donsö Cemetery 1834**

† Vrångö Old Cemetery ~ 1600

† **Vrångö New Cemetery 1935**
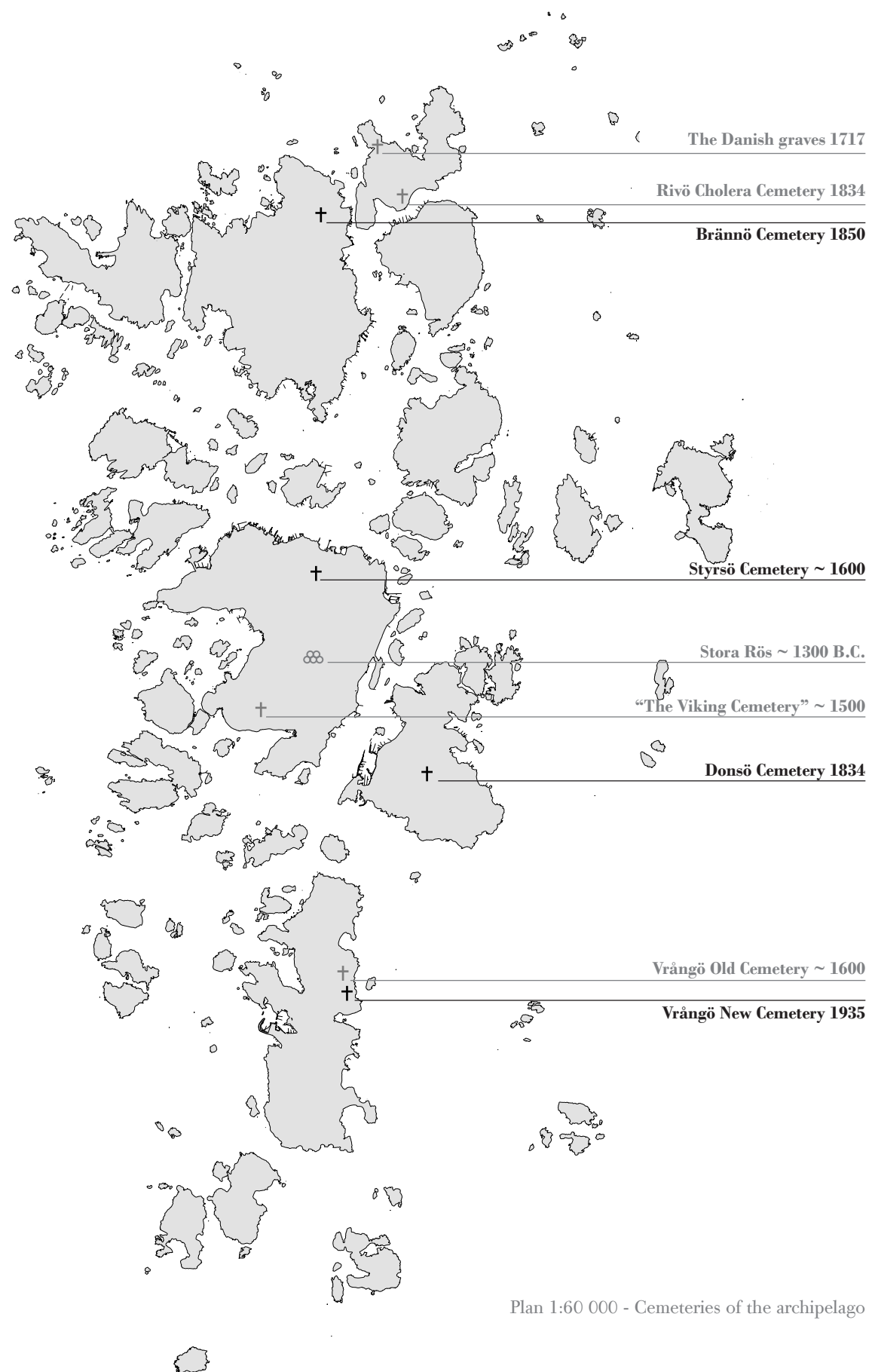
Cemeteries of the archipelago

There are in total four active cemeteries in the archipelago, three historical cemeteries and several historical burial places. The oldest grave being Stora Rös on Styrsö, from around 1300 B.C. The big size of it indicates that it is probably a chief or somebody important being buried here. Out of the seven cemeteries, the four which are actively used today are Vrångö new cemetery, Styrsö cemetery, Donsö cemetery and Brännö cemetery. The remaining three, Vrångö old cemetery, the mistakenly named "The viking cemetery" and Rivö cholera cemetery are not used anymore but are important historical landmarks. Just like Rivö cholera cemetery both Donsö and Brännö cemeteries were established as results of the cholera epidemics. However they have been extended and used as ordinary cemeteries as well (Dannbratt, Odenvik 1966)..

Plan 1:60 000 - Cemeteries of the archipelago

Rivö

Rivö is located at the northern tip of the archipelago, not far from Asperö and Brännö. It is uninhabited and is being used as pasture land for sheep and horses. It is also used for recreation, offering scenic walks as well as beautiful spots for picnics and swimming. There are in total five small houses on the island. Three fishing cabins, a sheep shed and one hunting cabin. There is also a small lighthouse located on the northeastern side of the island. Since there is no public transportation reaching Rivö, it is only accessible to people who owns a boat or kayak.

Above: Figures 8 & 9 Photographs - Rivö seen from Asperö in 1980
photographs by Ruben Johansson (Reprinted with permission)

BRÄNNÖ

Koggholmen

Korseviken

Brandhus

"The Danish graves" †

Kalko Huvud

"The sea captain's grave" †

Skyteberget

Sandvik
Old public bath

St. Ingrids nyst

Instads nyst

"The anonymous graves" †

RIVÖ

Stämholmen

Hövik

The hunting cabin

Aven

Bryngelbärsviken

Rivö lighthouse

Brännö Rödsten

The sheep shed † † The cholera cemetery

Skutviken

Bryngelbärsholmen

Asperö Norra

Fishing cabins

Fortviken

Yttre Kolmesudden

Inre Kolmesudden

Gula Udden

ASPERÖ

Valen Viewing Point

Kvistevik public bath

Asperö Östra

Saltholmen

Collective memories of Rivö

The oldest trace of human activity on Rivö is a fire place from the Stone Age. Besides this there has been no traces of early human habitation found on the island. Rivö has as long as we know belonged to the inhabited island of Asperö. The community of Asperö has used the land of Rivö as pasture land for their cows, sheep and horses. Up until 1925 when the chute was established for larger boat traffic going through the strait between Asperö and Rivö it was even possible to wade across from Asperö to Rivö. That is most likely how they brought their cattle there for the summer pasture. With time Rivö has also become a popular destination for recreation, offering scenic walks across its barren landscapes, as well as enjoyable swimming spots on its natural cliffs and beaches. Rivö also holds a history of death, with four historical burial places. After studying the history of Rivö, three main collective memories of Rivö can be identified:

1. Rivö as a place for recreation
2. Rivö as a place for the dead
3. Rivö as a place for pasture

Top: Figure 10. Photograph - Historical tank station on Rivö,
photograph retrieved from Asperö Kulturhistoriska Förening (Reprinted with permission)
Bottom: Figure 11. Photograph - Rivö Early 1900's,
photograph retrieved from Asperö Kulturhistoriska Förening (Reprinted with permission)

Sandvik
Disassembled public bath

Rivö as a place for recreation

Rivö is a popular recreation destination during summer, and has been so for many decades. Walking trails on the islands offers the visitor possibilities to wander across the island by foot, while the shallow, calm water surrounding the island provides perfect conditions for kayaking and swimming. Historically the public bathing facility of Asperö was located on Rivö, but it is now disassembled and replaced by the public bath Kvistevik located on the eastern coast of Asperö. Even though the bathing facility on Rivö no longer exists the natural cliffs and sand beaches offers several enjoyable swimming spots. Since 1950 there is a hunting cabin located in the center of Rivö, acting as a gathering point for the hunting team of Asperö. The hunting range is rather moderate, restrained to the hunting of birds and rabbits.

Top: Figure 12. Photograph - Camping at Rivö,
photograph by Ruben Johansson 1986 (Reprinted with permission)
Bottom: Plan 1:10 000 - Rivö walking tracks

"The danish graves"

"The anonymous graves

"The sea captain's grave"

"The cholera cemetery"
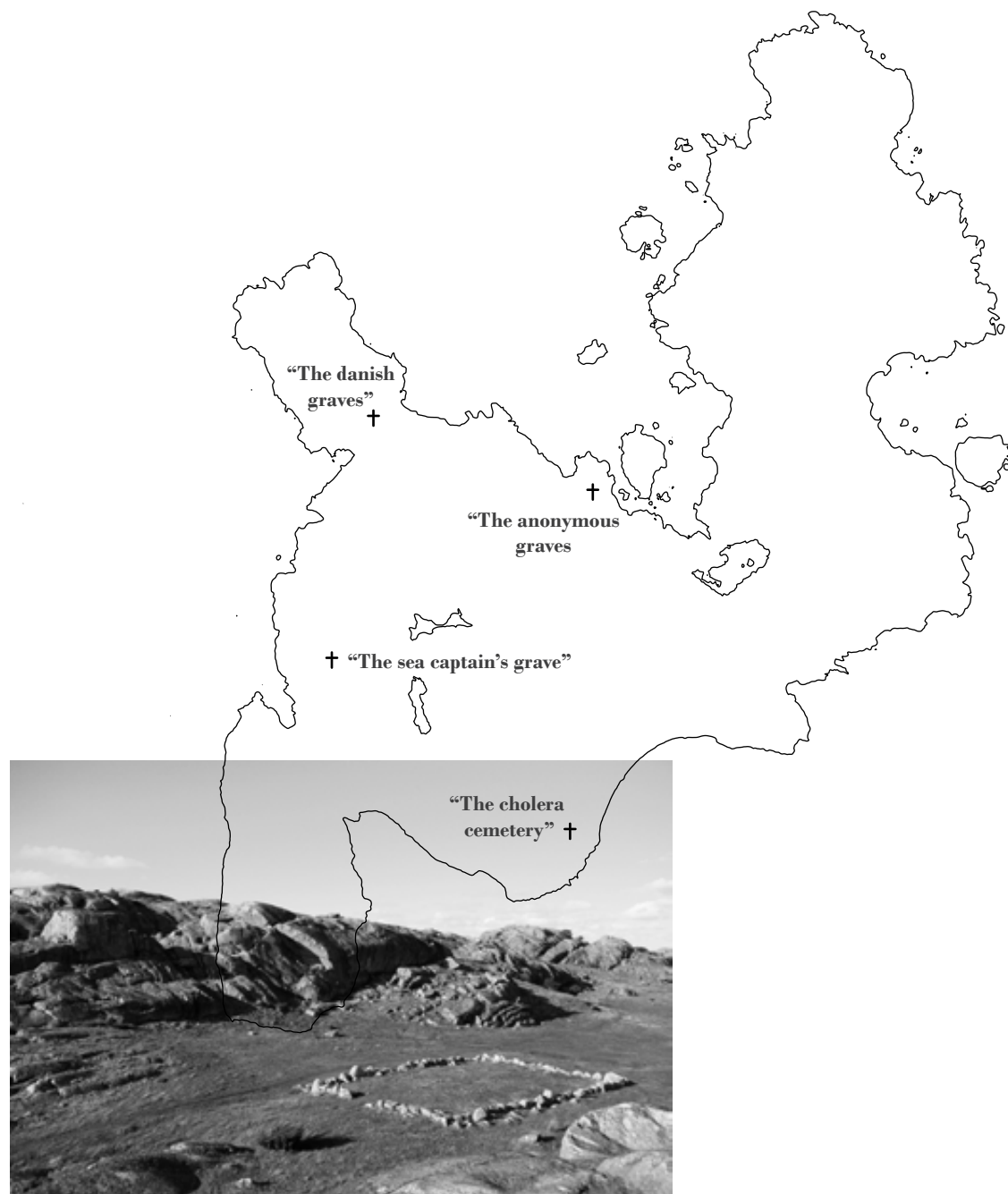
Top: Plan 1:10 000 - Rivö cemetery and graves
Bottom: Photograph - Rivö cholera cemetery

Rivö as a place of the dead

Even though Rivö has probably never been inhabited it has a history of being a home to the dead. There are four historical burial places located on Rivö, and it is not unlikely that more unmarked graves exists on the island. Because of its convenient location next to the big sailing fairway passing by the archipelago and leading into Gothenburg, sailors had the opportunity to row into the shallow, calm waters of Rivö and bury the dead that they had lost at sea before continuing their journey. That is probably the reason for most historical graves of the archipelago being located in bays easy to access from the sea. The biggest of Rivö's burial places is the one referred to as "The Danish graves", located on the northwestern side of the island. It is located in a deep gorge, easy to access from the sea side. The somewhat 50 graves are placed in parallel rows, in an east-western direction with headstones placed on the western side of each grave, which indicates a Christian origin. However not certified there are theories claiming that these graves belongs to Danish soldiers that died during the Danish siege of Gothenburg, lead by Norwegian admiral Tordenskjold in 1717. In another bay a few more graves have been found. There is little known about these graves, which is why they are referred to as "the anonymous graves". Perhaps also these belong to Danish soldiers, or captains. On the western side of the island two additional graves have been found. According to a local tale it is the graves of a sea captain and his wife. Stories about a haunted treasure being buried there has also occurred, which according to the tale has tempted brave men of Asperö to go dig there, unfortunately without any success. The most recent burial place of Rivö is the cholera

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LE CHOLÉRA

cemetery located just across the sound from Asperö. It is framed by a stone wall that measures 12 x 19 meters and was established in 1834 as a result of the violent cholera epidemics that swept across the world in the 19th century. The cholera epidemics raged in Europe since the 1820's but miraculously the Nordic countries managed to stay untouched by the decease during the first years. At midsummer in 1834 there were formal services in churches all over Sweden to express gratitude that the country had been spared from the cholera. But just one month later, the 26th of July, the first Swedish victim Anders Rydberg passed away in Gothenburg. His family died shortly after and the cholera spread rapidly in the working class districts of Gothenburg, killing around 10% of the city's population. The first victim of the archipelago was the fisherman Börje Nilsson who died in his home on Brännö the 2nd of August. The cholera spread fast and entire families were extinguished, as 67 persons on the islands lost their lives, just in 1834. The panic and fear made the population isolate themselves. Each island had to deal with their own dead. Therefore several new cemeteries were established. The Asperö community chose to bury their lost ones on Rivö. Only the priest and grave diggers went across the strait for funerals since the public was too scared of getting infected. These travels by the priest across the strait gave name to "the priest dock" on Rivö, which is now dissembled. In 1835 the fear of a new wave of cholera made the priest announce an order to add more soil on the graves since they were considered not deep enough. This additional layer of soil can still be seen as small lumps in the cholera cemetery. When the second wave of cholera hit Sweden in the 1850's the old graves had to be opened in order to provide space for more corpses (Dannbratt, Odenvik 1966).

Above: Figure 13. Magazine front cover - Le Petit Journal 1912 (Public Domain)

Rivö as a place for pasture

Rivö has for centuries been used a pasture lands for the cows, sheep and horses of the Asperö community. This long history of pasture has created a barren landscape with conditions for a specific flora and fauna, including rare plants and insects. Also the bird life is rich. In the report "Värdefulla Odlingslandskap - Natur- och kulturvärden i Göteborgs jordbruksområden" ("Valubale Agriculture Landscapes - Natural and cultural values in Gothenburg's agricultural areas") (2014, p.111) Emil Nilsson, Karin Nordström and Ulf Ragnesten claims that a continuous use of traditional pasture and agricultural lands such as the landscapes of Rivö is of great importance to preserve natural and cultural values. Nilsson, Nordström and Ragnesten (2014, p.112-113) sees pasture as a critical tool to maintain the characteristic nature of the archipelago and let the history of the landscape stay readable. Well grazed islands like Rivö, lets visitors experience the historical human traces in a way that would be impossible if they were left to become overgrown. Because of the long lasting pasture Rivö has become a tree less, rocky island with a peculiar landscape characterized by a mosaic of cliffs, dry grass meadows and wetlands (Nilson, Nordström, & Ragnesten 2014, p. 119). The large grasslands are particularly ecologically interesting as they demonstrate the result of longterm pasture.

Top: Photograph - Sheep on Rivö
Bottom: Plan 1:10 000 - Rivö pasture lands

Maiden Pink
Dianthus deltoides L.

Fairy Flax
Linum catharticum L.

Chaff Weed
Anagallis minima

Flea sedge
Carex pulicaris L

Quaking grass
Briza media L

Holy grass
Hierochloë odorata

Figure 14. Examples of Rivö native flora
© Den Virtuella Floran, Naturhistoriska Riksmuseet
Photographs by Arne Anderberg, Anna-Lena Anderberg, Rikard Anderberg,
Börje Wernersson, Jan Thomas Johansson (Reprinted with permission)

Among the native flora of Rivö plants such as Maiden Pink (Swedish: *Backnejlika*, Latin: *Dianthus deltoides L.*), Fairy Flax (Swedish: *Vildlin*, Latin: *Linum catharticum L.*), Carline Thistle (Swedish: *Spåtistel*, Latin: *Carlina vulgaris L.*), Quaking-grass (Swedish: *Darrgräs*, Latin: *Briza media L.*) and Holy grass (Swedish: *Myskgräs*, Latin: *Hierochloë odorata (L.) P. Beauv.*) can be mentioned. Also the red-listed plants like Flea sedge (Swedish: *Loppstarr*, Latin: *Carex pulicaris L.*), Chaffweed (Swedish: *Knutört*, Latin: *Anagallis minima (L.) E. H. L. Krause*), Allseed (Swedish: *Dvärglin*, Latin: *Radiola linoides Roth.*) and Tawny Sedge (Swedish: *Ängstarr*, Latin: *Carex hostiana DC.*) are to be found (Nilsson, Nordström, & Ragnesten 2014, p. 119).

The beach meadows are also important hedge sites for birds such as Common kestrel (Swedish: *Tornfalk*, Latin: *Falco tinnunculus*), Northern lapwing (Swedish: *Tofsvipa*, Latin: *Vanellus vanellus*), Common redshank (Swedish: *Rödbena*, Latin: *Tringa totanus*), Meadow pipit (Swedish: *Ängspiplärka*, Latin: *Anthus pratensis*), Northern wheatear (Swedish: *Stenskvätta*, Latin: *Oenanthe oenanthe*) and Common linnet (Swedish: *Hämpling*, Latin: *Linaria cannabina*). The wetlands house an environment suitable for the Natterjack toad (Swedish: *Strandpadda*, Latin: *Epidalea calamita*) and the redlisted Moor frog (Swedish: *Åkergroda*, Latin: *Rana arvalis*), listed by Nilsson, Nordström, & Ragnesten (2014, p. 118-119).

Individual memories of Rivö

Half of my DNA originates from the granite islands that constitute the Southern Archipelago of Gothenburg. My family on my fathers side has lived there, on the island of Asperö, for generations and generations as long as we know. My most precious childhood memories comes from this world. A world I regarded as total happiness. During summers me and my extended family used to go to Rivö (and later Kungsö) for camping trips. Even though we only stayed for three days, it felt like an eternity. Like if we belonged there more than anywhere else. I grew up with stories of how my father used to build small wooden rafts in secret with his friends in order to sail across the sound between Asperö and Rivö. I've heard about Rivö being the favorite swimming spot of the grandmother I've never met. Anna. They say I got my green eyes from her. Perhaps also my interest for photography. She was one of the first on Asperö to own a camera and she used it as much as she could afford. The analogue technique didn't allow the same prodigally snapping on the shutter as the digital technique of today. Anna's old camera has been standing as decoration in my father's bookshelf for decades, until I decided to test it. Perhaps it still works, I thought, and went back to revisit Rivö through the lens of Anna's camera.

Photograph - Anna's camera

Photograph - Rivö seen from a dock on Asperö

Photograph - The sheep shed on Rivö

Photographs - Rivö cholera cemetery

Photograph - Antonin on Rivö

Photograph - Sheep on Rivö

Photograph - Asperö seen from Rivö

Photograph - Rivö seen from Asperö

Strategies

Chapter 5

Study the ritual
of remembrance ············> Identify and map spatial
translation on the site ············> Propose interventions

SEPARATION

1. Crossing a boundary

Rivö coastline as boundary

The crossing articulated by
new access points

TRANSITION

2. Moving through space

Existing walking trails as
tool for spatial transition

The path articulated to
guide visitor's movement

INCORPORATION

3. Stopping, Accepting,
Arriving at space for grief

Historical cemeteries as
landmarks in the landscape

New cemeteries as spaces for
contemplation

A cemetery for individual memories

To answer my first thesis question "How can architecture support the individual ritual of remembrance?" I propose a cemetery that can act as a framework for individual memories, where the spatial sequence of the design is based on the psychological steps of the process of mourning and ritual of remembrance.

"The ritual of remembrance" is a concept based on the theories of the French etnographer Arnold van Gennep, who analyzed commemorative rites and rituals as tools for mourning. Van Gennep identified a sequence of three main steps as key elements in the ritual of remembrance: Separation > Transition > Incorporation. This sequence constitute the starting point of my design proposal.

By studying the topography and existing communication patterns of the site this sequence is then translated into spatial aspects of the site. The act of separation can be conducted by crossing the natural boundary of the water surrounding Rivö. The act of transition can be conducted by walking along the existing paths of the island. Spaces for incorporation can be found in the historical cemeteries and burial places on the island.

Through the proposal of architectural interventions this sequence is intensified. The act of crossing Rivö's coastline is enhanced by new access points that act as clear entrances to the island and the cemetery. The act of walking along the path is enhanced by poles guiding the visitor across the island and providing a rhythm to the walk. The existing spaces for incorporation are complemented by new spaces in form of a cemetery and chapel designed as spaces for grief, remembrance and contemplation.

Diagram - Strategy, a cemetery for individual memories

1. Rivö as a place for recreation

Existing walking trails

New access points makes Rivö easier to access

2. Rivö as a place for the dead

Four historical burial places

Articulated path connects historical burial places

3. Rivö as a place for pasture

Holy grass
Hierochloë odorata

Unique native flora and fauna

Framing native flora

A cemetery of collective memories

To answer my second thesis question "How can architecture support the collective memories of a place?" I propose a cemetery that take the existing collective memories of Rivö in consideration and articulates them by integrating them into the design proposal.

First the existing collective memories of Rivö are identified by studying the history of the site through literature, site visits and meetings with Asperö Kulturhistoriska Förening (Asperö Culture Historical Committee). The identified collective memories of Rivö are: 1. Rivö as a place for recreation. 2. Rivö as a place for pasture. 3. Rivö as a place for the dead.

The collective memories are then mapped and analyzed. The memory of Rivö as a place for recreation can be seen in the network of walking trails, the hunting cabin and swimming spots. The memory of Rivö as a place for pasture can be seen in the specific flora and fauna that has evolved there. The memory of Rivö as a place for the dead can be seen in the four historical burial places.

Through the proposal of architectural interventions the collective memories are then articulated and made more accessible and noticeable to the visitors. The memory of Rivö as a place for recreation is kept alive by facilitating access to the island in form of new access points. The memory of Rivö as a place for pasture is enhanced by the usage of native flora in the design proposal. The memory of Rivö as a place for the dead is enhanced by the proposal of an articulated path connecting the historical burial places with the new cemetery and chapel.

Diagram - Strategy, a cemetery of collective memories

Design process

Chapter 6
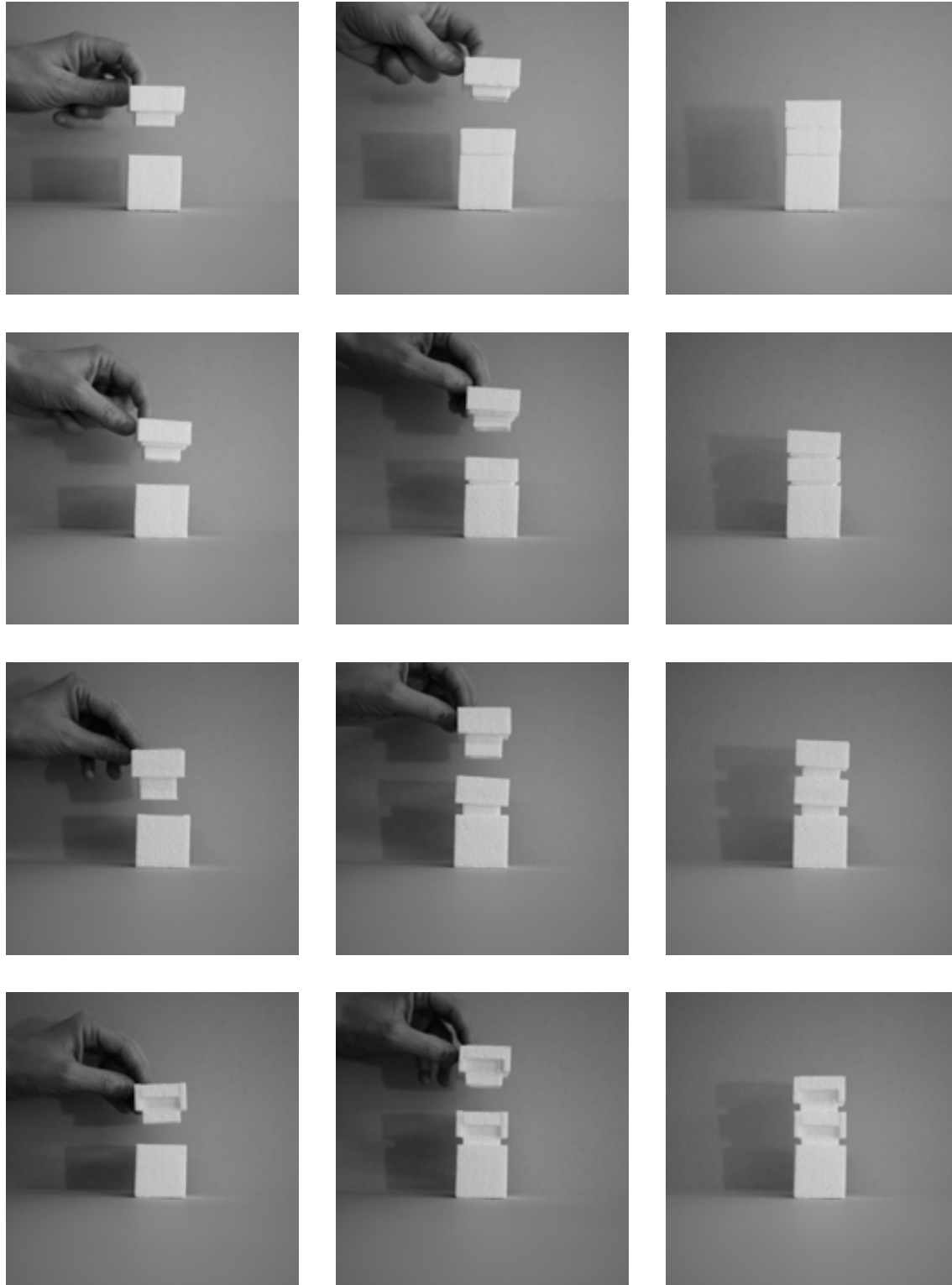
Designing a growing grave stone

I started my design process with investigations of grave stone designs. Questions I asked myself were:

- How can I link the gravestone to the site and its memories?

- Can the gravestone not only be a symbol of death but also a symbol of life?

- Can a grave stone change with time?

After doing research on burial traditions in Sweden I surprisingly found out that 80% of Sweden's population wish to be cremated after their death, and it is a rising trend. I therefore decided to work with ideas regarding cremated ashes rather than land burials of coffins. I got the idea of integrating the native flora of Rivö into my grave stone design, using a hollow grave stone rather than a solid one. In this way the stone could be placed into ground of Rivö and filled up with soil and the ashes of the departed. A native plant from Rivös flora can then be placed into the grave stone, letting the ashes of the departed together with the soil of Rivö be the fuel for the life of the plant. In this way death and life is intertwined into a garden of memories. Both memories of the departed, but also memories of the place. In Sweden it is also a common wish to be buried together with family, in one common grave. I therefore started sketching on a system of growing grave stones. Grave stones that could extend to more than one person. The sketches resulted in a system of stacking grave stones vertically on top of each other. In this way the cemetery also becomes a stronger symbol of the passing time, as it grows both horizontally and vertically through time.

Above and next spread: Photographs - Sketch models of grave stones 1:10

Experimenting with light and reflection

Rituals are important tools in the process of mourning, as the previous theoretical studies have shown. The action of doing something, as a manifestation of grief can be helpful in times of mourning. Such actions can be something as simple as lighting a candle for someone that you have lost. I started sketching on the chapel with an idea of designing a space around that simple action of lighting a candle. The questions I asked myself were:

- How can a space be designed around the action of lighting a candle?

- How can the light effect of a candle be enhanced?

I started sketching on and experimenting with a system of glass shelves, with the idea of placing candles within it. By using reflective glass surfaces both horizontally and vertically, an interesting illusion arose. Just one lit candle could give the effect of several light sources as it got reflected multiple times. The experience of the glass shelf system is changing depending on the observer's point of view. By moving along it, an interesting sequence of lights appearing, disappearing and appearing again is created. I therefore decided to let the layout of the chapel allow a flow of movement through it. The chapel will also be experienced from the outside, seen on distance from Asperö. I therefore decided that I wanted to let the chapel act as a lighthouse in the dark and empty landscapes of Rivö. By introducing glass laminated with textile in the facade, the light can be spread in the fibers of the textile, making it visible from far distance.

Above: Photographs - Concept experimentation with light and reflection
Next three spreads: Photographs - Model experimentation of the chapel 1:20
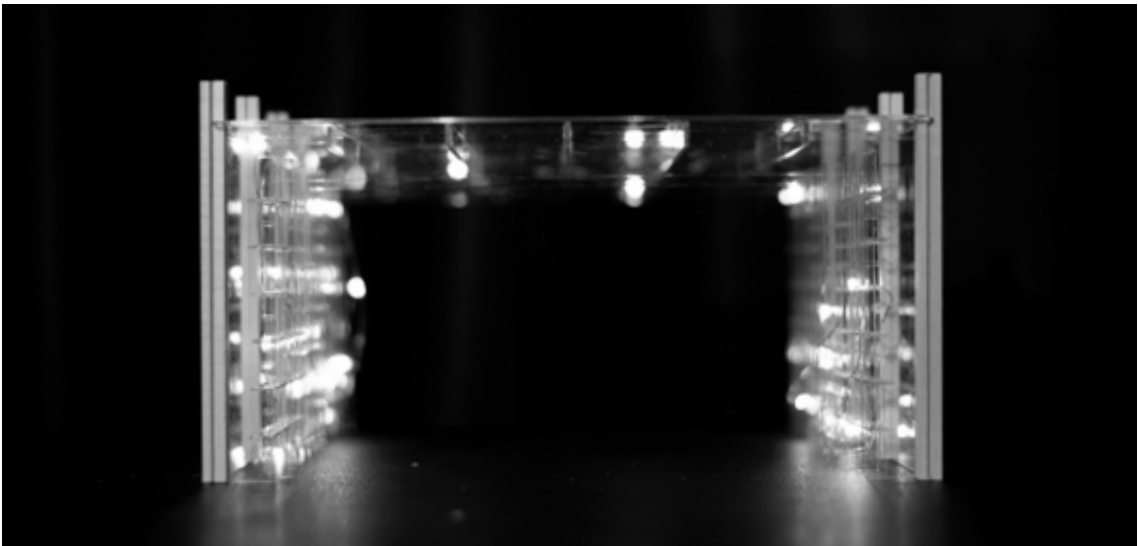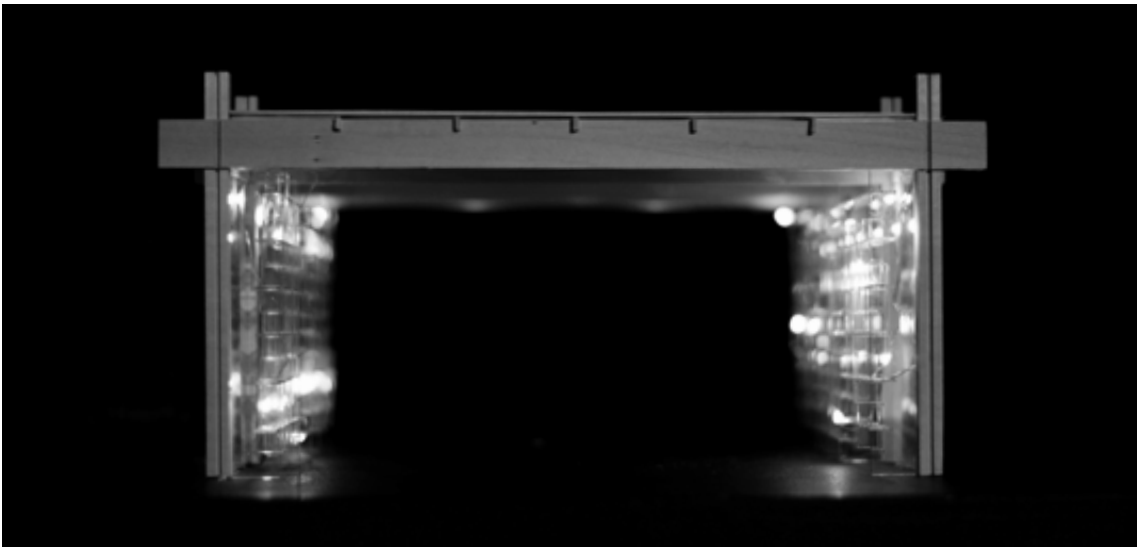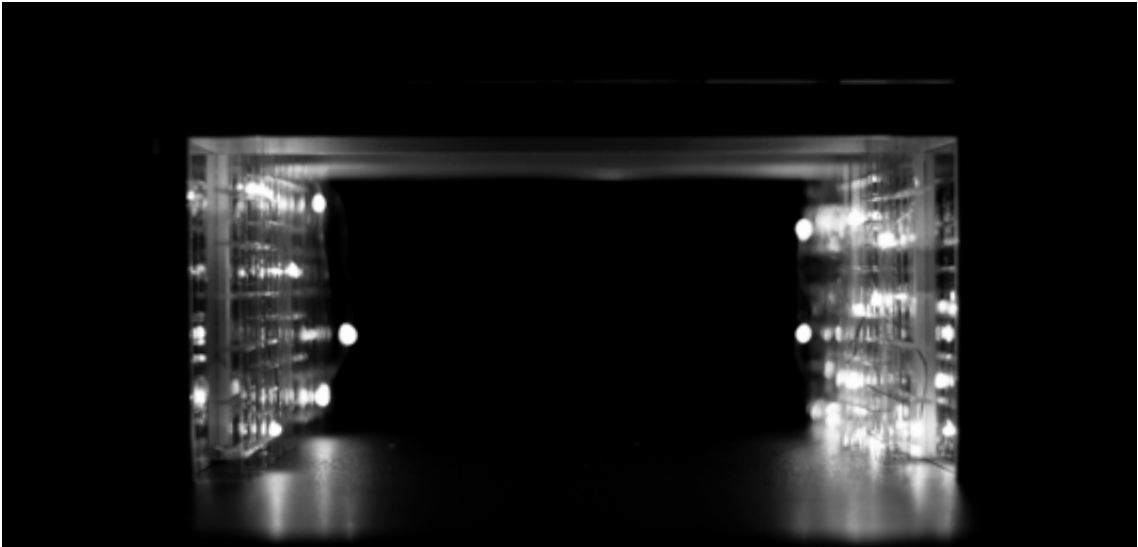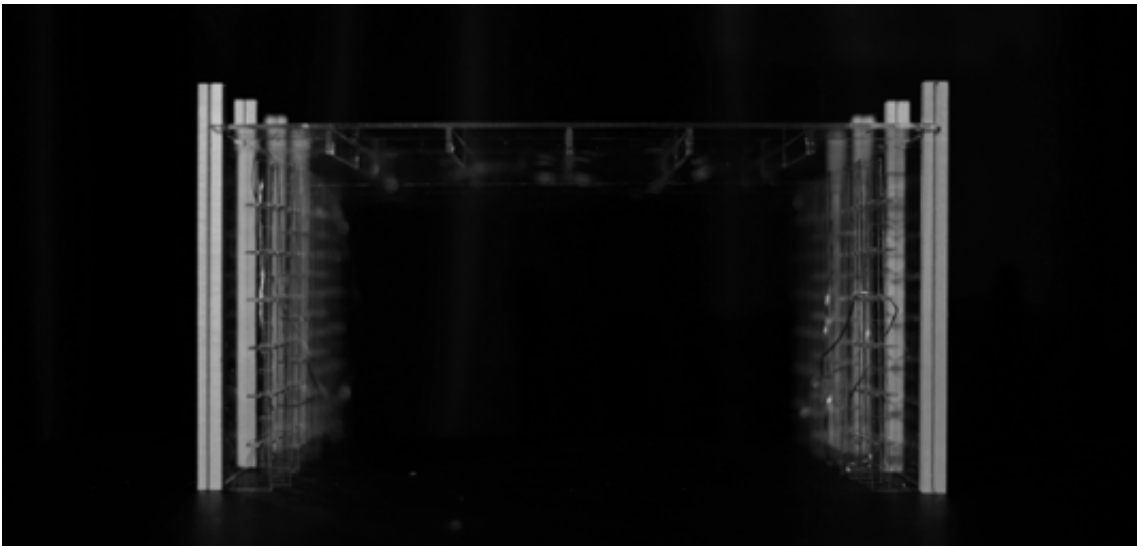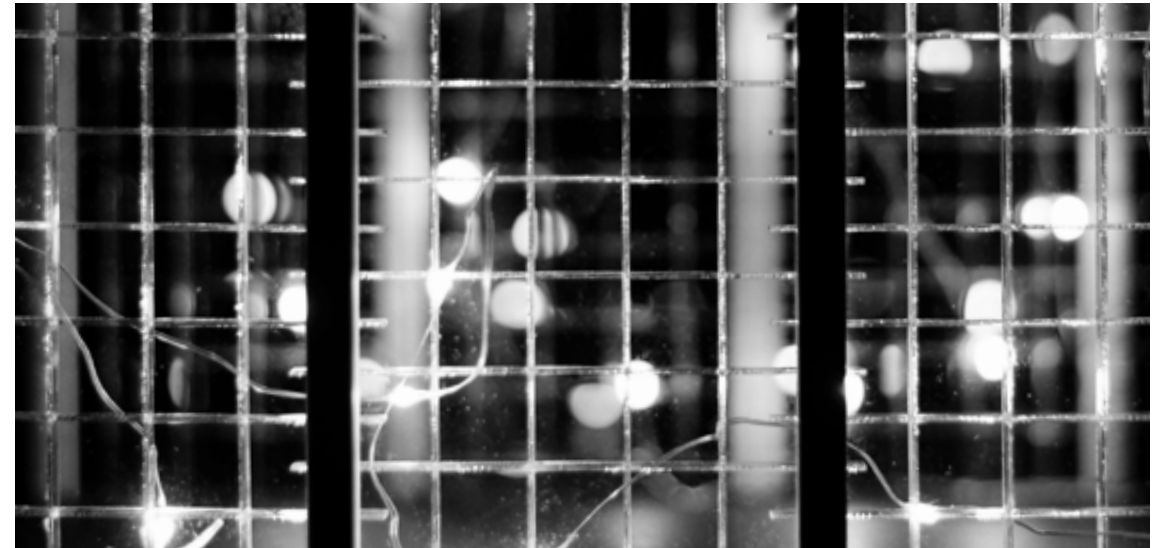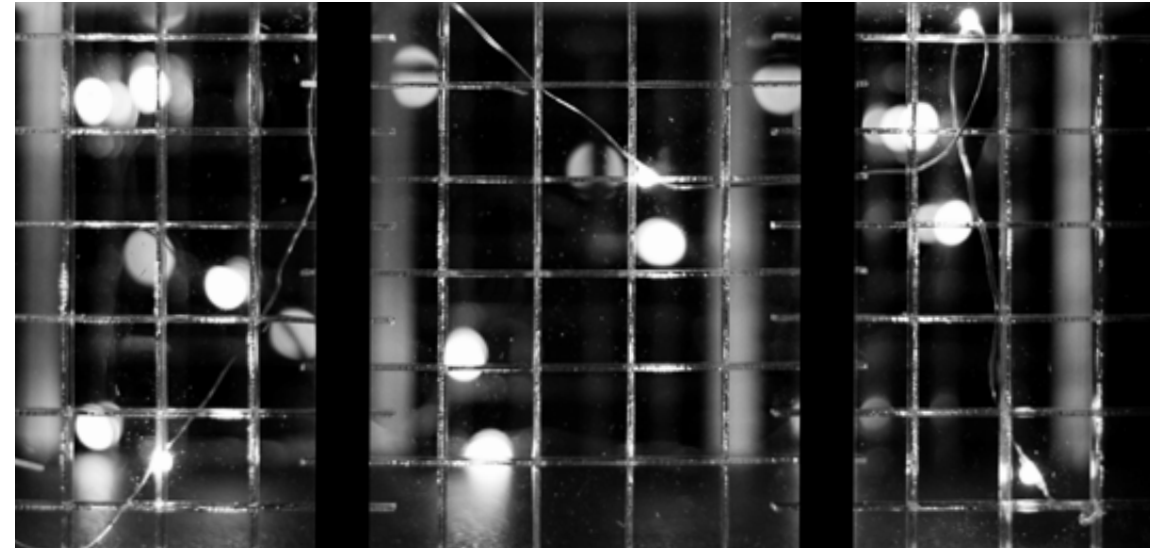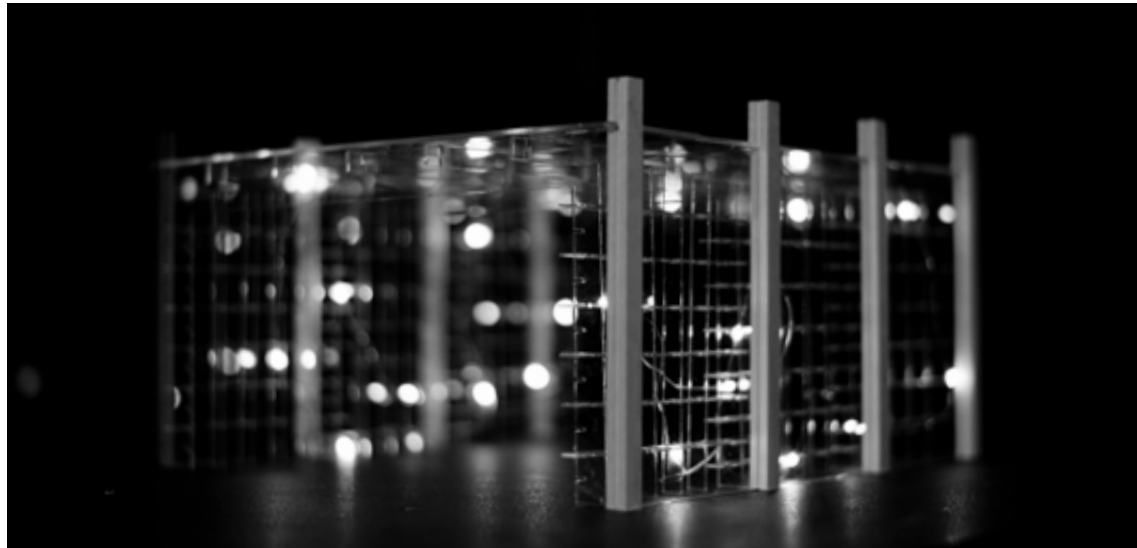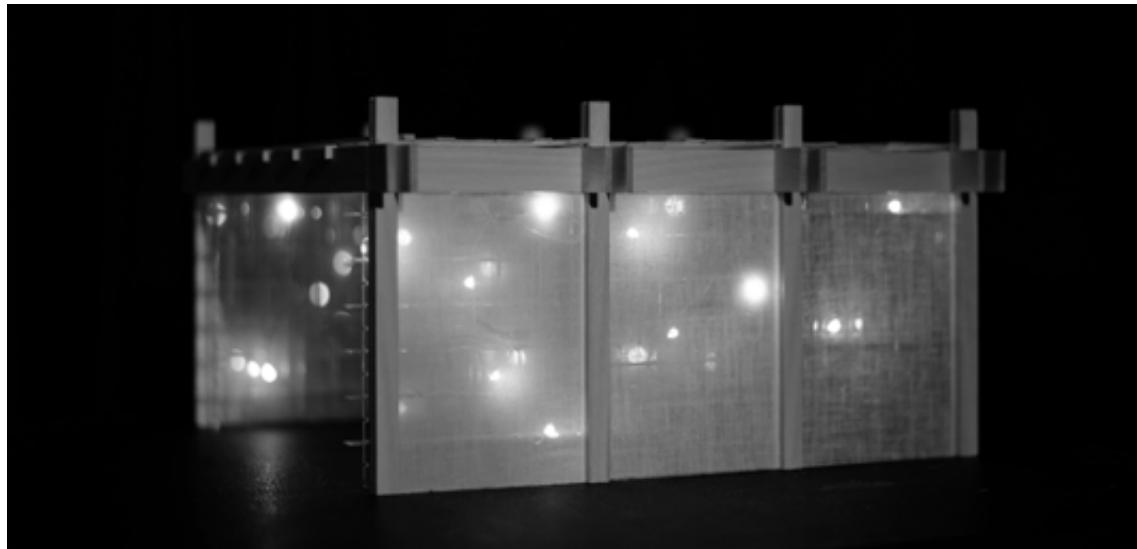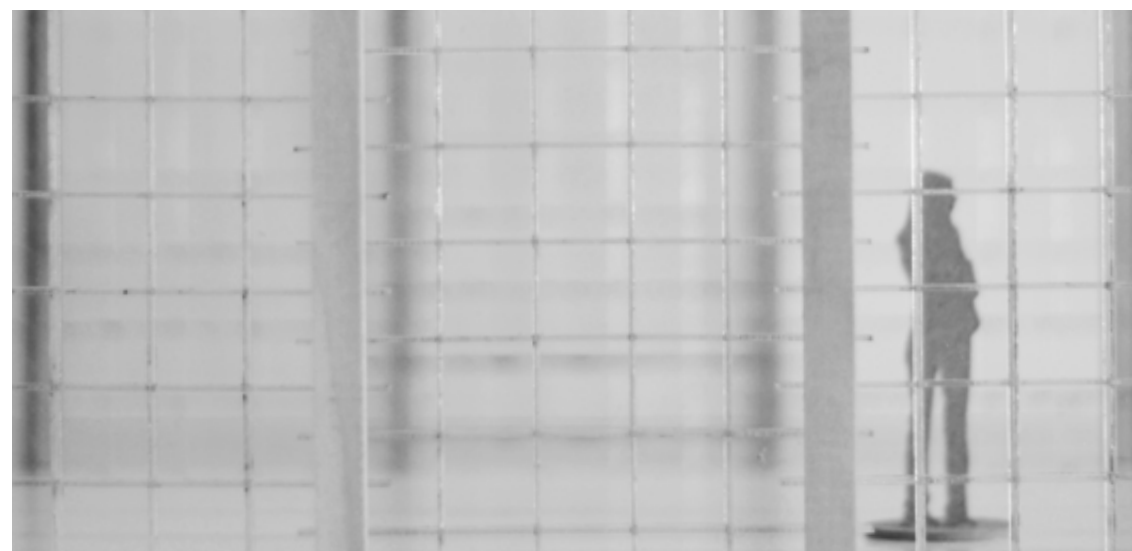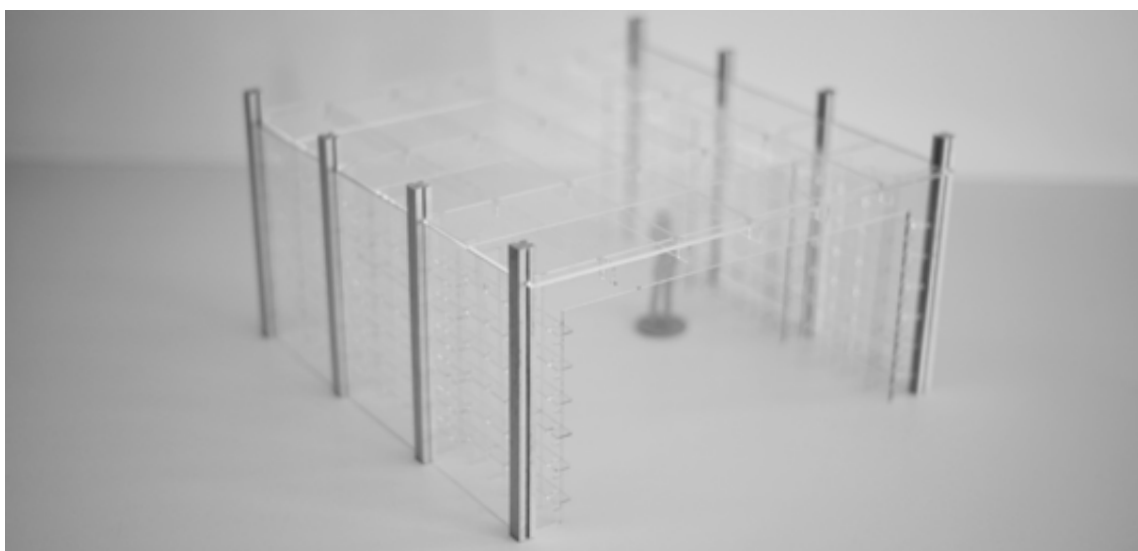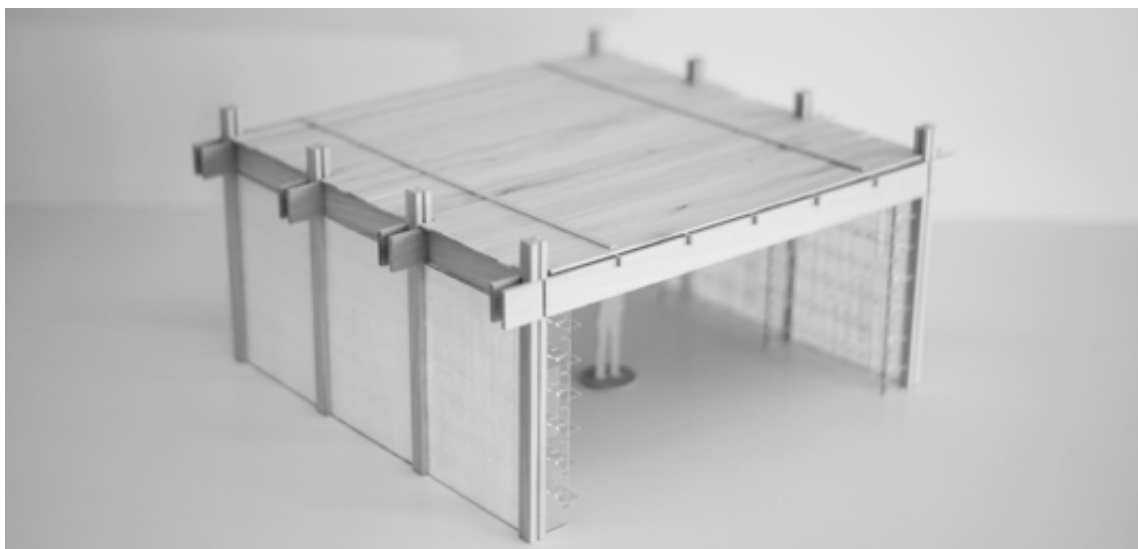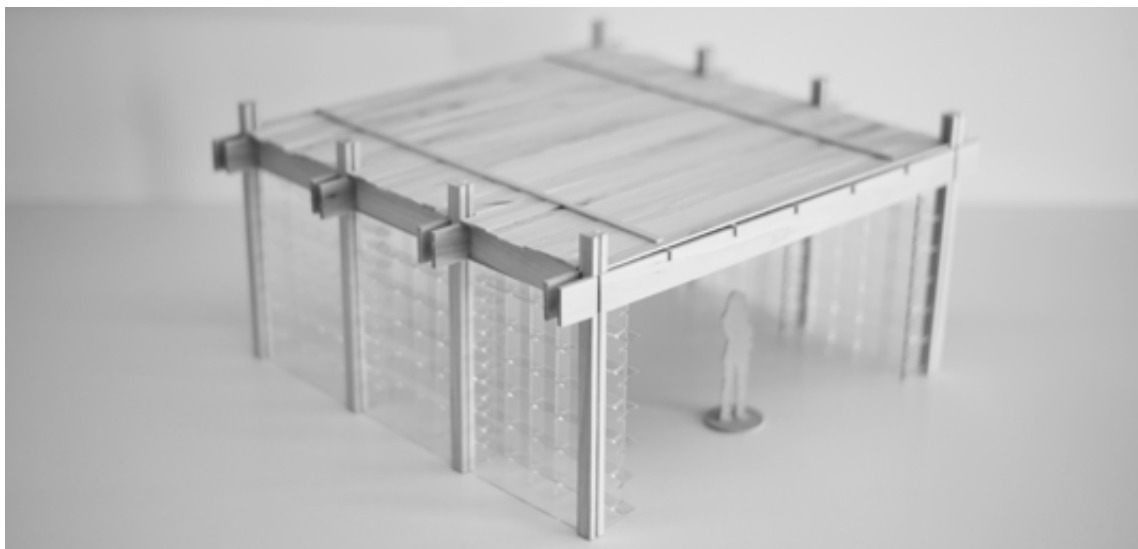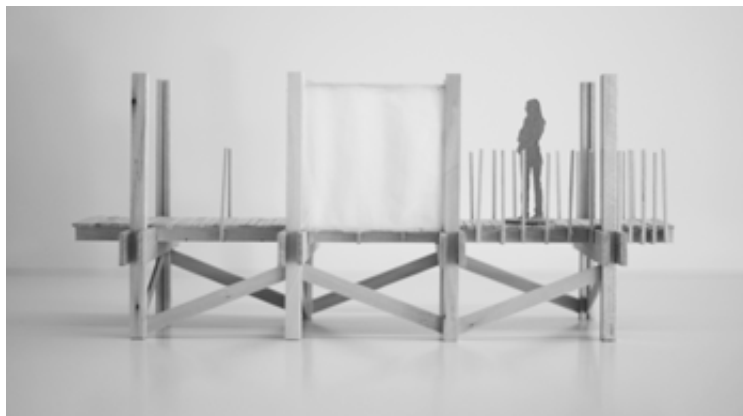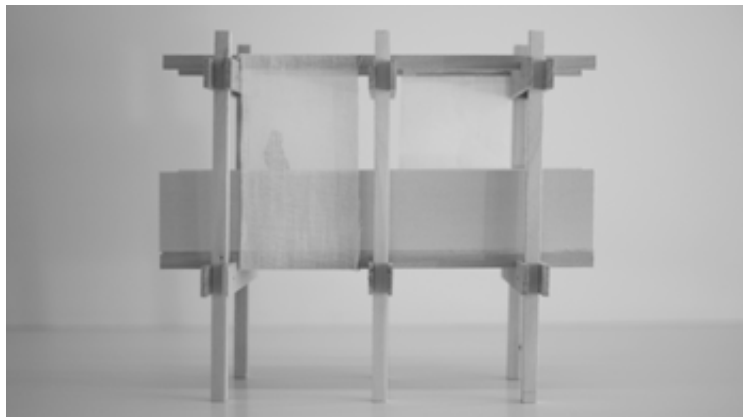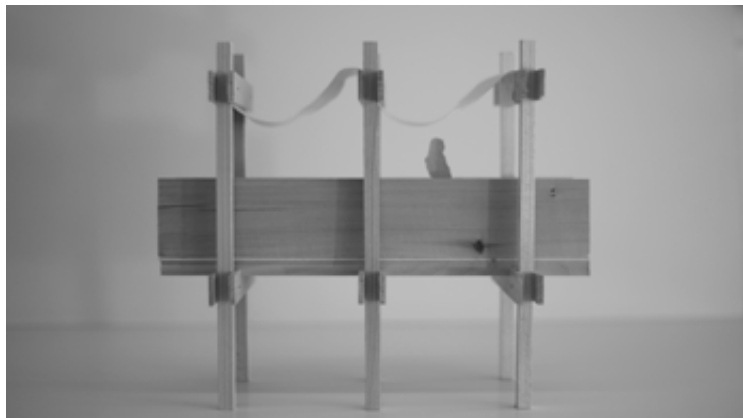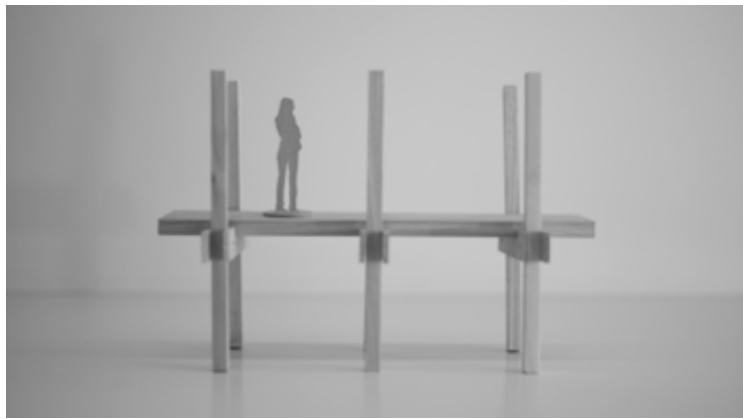
Providing rhythm to a walk

Since the starting point of my thesis I knew that the journey would be a big part of the project. How the visitor approach the site, access it and move around it. Questions I set out to explore were therefore:

- Can the access point of the island be more than a traditional dock?

- Can the dock be a mutable structure that changes between various functions?

- How can I provide a sense of rhythm to the walk?

I used the traditional wooden dock as a starting point for my design. By then letting the poles extend vertically up on the sides and using different combinations of textile screens I started to explore ways of providing a sense of rhythm to the walk. I concluded that a combination of vertical poles and occasional textile screens on the sides of the walk gave a sense of rhythm of the walk, while still not blocking the view of the surrounding landscapes.

Left and next spread: Photographs - Model experimentations of the dock 1:20
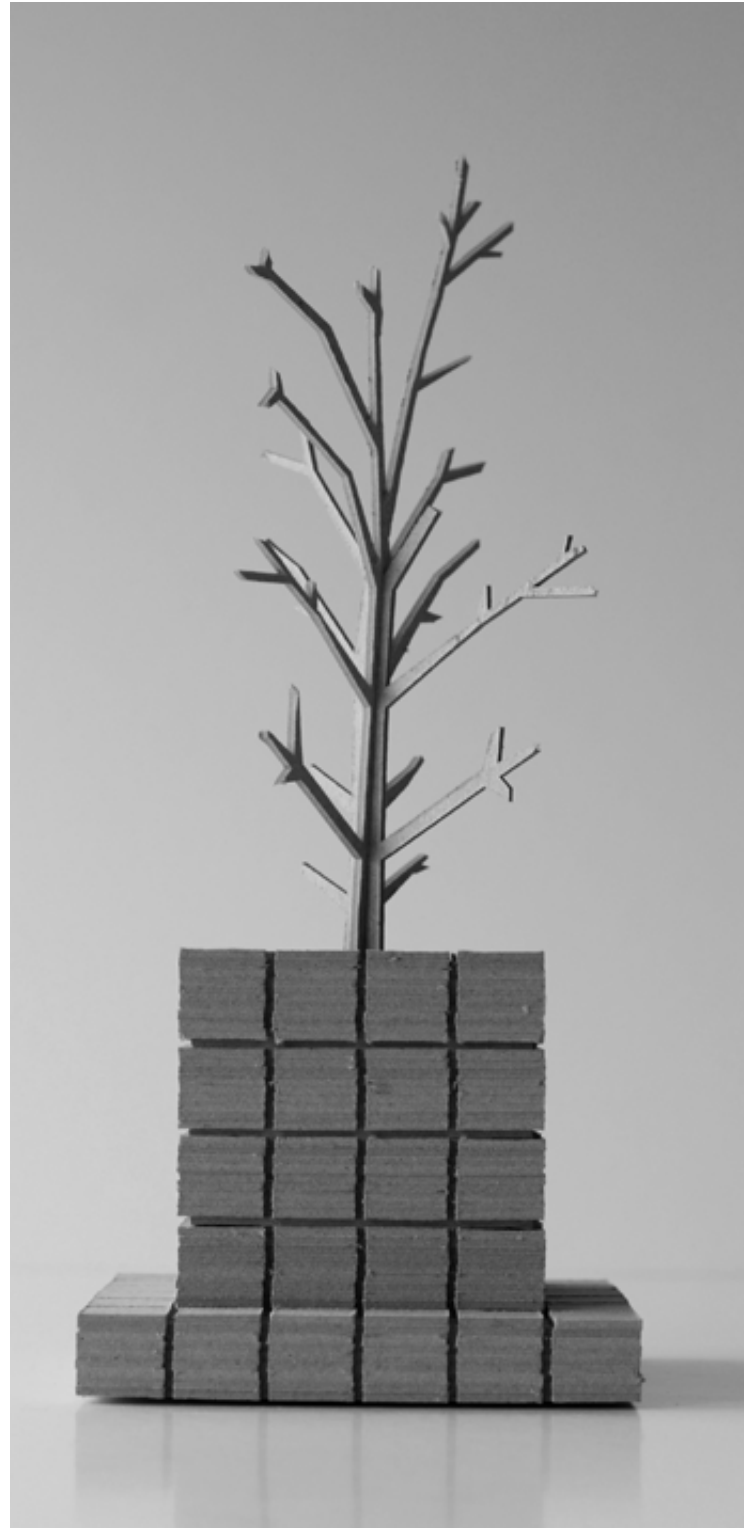
Designing a monument that reflect time

The grave stones of the cemetery provides space for individual remembrance, but in on order to also acknowledge collective remembrance within the cemetery I recognized the need of a monument. A monument that could also act as a clear origin point and marker of the cemetery. Questions that I decided to investigate were:

- How can the monument reflect the passing time?

- How can the monument be designed as a collective version of the individual grave stones?

- How can the monument provide space for rest and reflection?

I started designing with the idea of using the monument as a frame for vegetation, similar to the grave stones but in a bigger scale. Instead of framing plants from the native flora I decided to work with an entire Aspen tree. As the cemetery grows around the monument horizontally, the tree will grow vertically, reflecting the passage of time. Instead of using ornaments I started playing with the joints of the stones as decoration. Letting shadow gaps decorate the monument. On one side of the monument the gaps grows into bigger shelfs providing space for placing flowers, candles and personal objects for those who want to honour and remember someone that is buried somewhere else, maybe too far away to visit. A bench surrounding the monument provides the opportunity for the visitor to sit down, pause, reflect and remember.

Path continues guided by
poles

Cemetery grows as clusters
around monuments

Dock merges with
existing path

Chapel act as threshold
to the cemetery

Dock continues guiding
visitor up on land

Dock as access point

Defining a spatial sequence

With the design ideas of the cemetery and chapel as well as the stated strategies for supporting the collective memories of Rivö and the individual ritual of remembrance I started searching for a coherent concept that could merge and connect all components of the project. Questions I asked myself were:

- *In which sequence should the different components be placed in order to support the individual ritual of remembrance?*

- *How can movement or stillness be guided by the architectural spaces in the sequence?*

- *How can the chapel act as a threshold to the cemetery?*

I decided to let the path and the action of walking be the spine of my project. The dock, chapel and cemetery are all placed along the path on a straight line with visual connections between each other. The dock is the entrance point to the island. It continues up on land, leading the visitor through the chapel that act as an articulated threshold to the cemetery, preparing the mourning visitor for the arrival at the grave. The path continue to guide the visitor towards the cemetery, where the central monument is placed across the path, blocking it, forcing the visitor to slow down the pace when passing through the cemetery that grows as a cluster around the monument. Even though the dock has stopped, its vertical poles then continue out in the landscape as guideposts. In this way the visitor is guided through both the landscape and the grief.
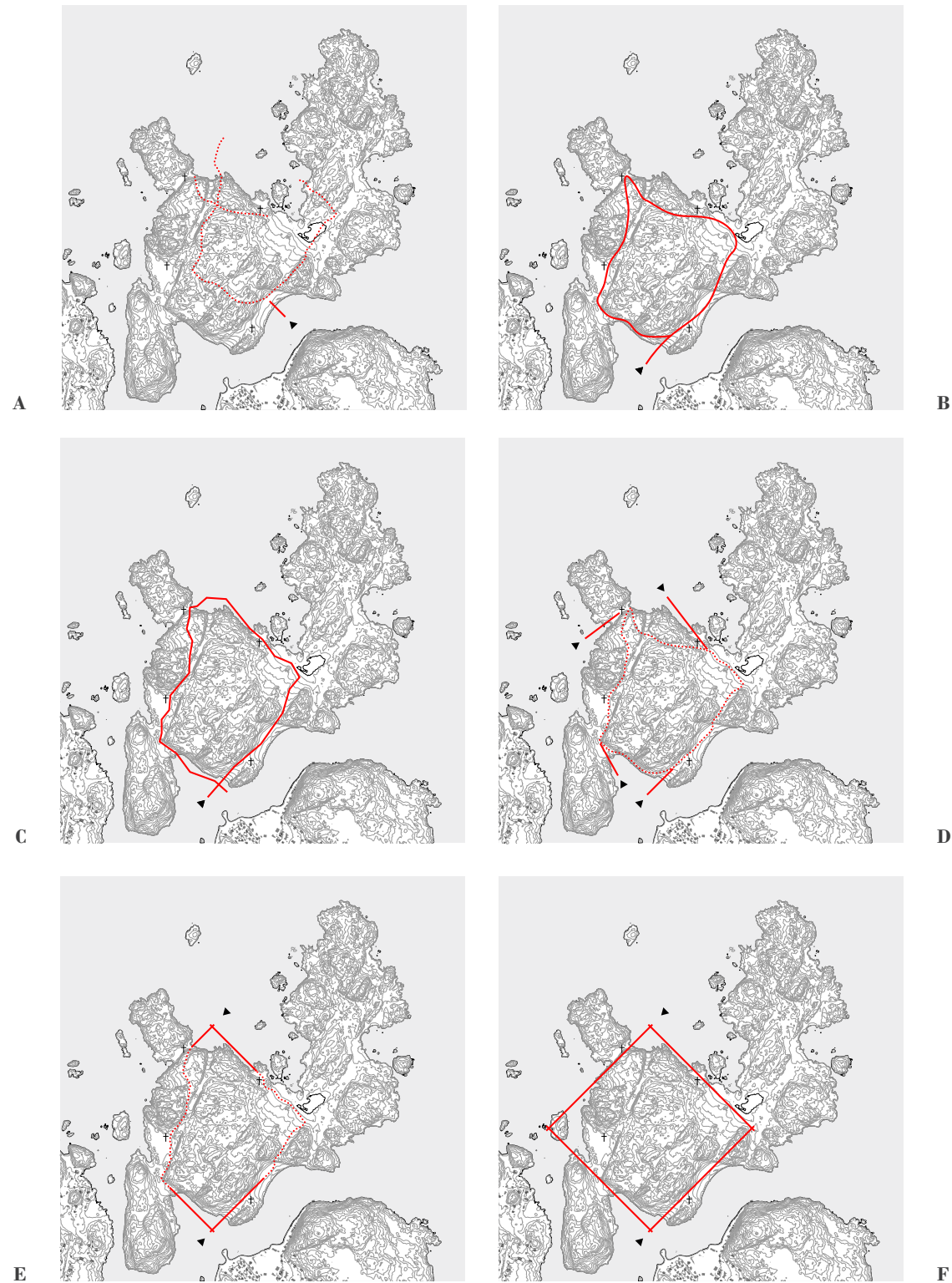
Plan 1:400 - Concept of spatial sequence

A

B

C

D

E

F

Implementing the sequence on site

With a defined spatial sequence, I started experimenting with how to implement the spatial sequence on site. Several options were tested with the following questions in mind:

- *Where is a suitable access point to the island?*

- *Where is a suitable place for the new cemetery?*

- *How can the historical burial places be connected to each other and the new cemetery in a coherent walk?*

After examining several options I decided to continue working with option E since it can answer all the three questions stated above in an interesting way. It proposes four access points to the island instead of just one, allowing a cemetery divided into several clusters but still easy to access. It also provides an opportunity to connect all four historical burial places through a coherent walk consisting of a combination of the existing path and new additions in form of wooden docks stretching out into the water, letting the visitor also experience Rivö from the waterside.

Top left: Model Rivö 1:5000
Top right: Model Rivö 1:500, view from Asperö
Bottom: Model Rivö 1:500

Proposal

Chapter 7

Framing Rivö

The proposal for a new cemetery, chapel and walking trail on Rivö is the result of studies and experimentations of the collective memories of Rivö and the individual ritual of remembrance. The proposal takes a holistic approach to the site, aiming to frame Rivö through a coherent walk that goes around a major part of the island. The proposal is designed around the act of walking, where the path is the spine of the project as it guides the visitor across the landscape, through the chapel, through the cemetery and passed the historical burial places. The design is based upon the idea of a spatial sequence that starts with a wooden dock that reaches out in the water, guiding the visitor to Rivö and functioning as the access point to the island. The dock then continues up on land, guiding the visitor towards the chapel. The chapel act as the threshold to cemetery, preparing the visitor for the visit at the graves. The dock continues as it leads the visitor to the cemetery. After the visit at the cemetery, simple wooden poles continue to guide the visitor through the landscape, passing by all the four historical burial places of Rivö. As time pass, there is a possibility to extend the cemetery by adding new cemetery clusters on strategic spots along the path.

Above: Axonemtric drawing - Rivö
Next page: Plan 1:6000 - Rivö

BRÄNNÖ

Koggholmen

Korseviken

Brandhäs

"The Danish graves"

Possible cemetery

"The sea captain's grave"

Mysteberget

Ingrids myst

Possible cemetery

Stämholmen

St. Ingrids myst

RIVÖ

"The anonymous graves"

Possible cemetery

Sandvik
Old public bath

Kalfö hufvud

Hövik

The hunting cabin

Aven

Bryngelbärsviken

Rivö lighthouse

Chapel

Cemetery

Brännö Rödsten

The sheep shed

The cholera cemetery

Skutviken

Bryngelbärsholmen

Fortviken

Asperö Norra

Fishing cabins

Yttre Kolmesudden

Inre Kolmesudden

Gula Udden

ASPERÖ

Valen Viewing Point

Kvistevik public bath

Asperö Östra

Saltholmen

The dock

The spatial sequence that constitutes the project starts with a dock reaching out into the water. It is designed as a simple wooden pole structure with beams holding a wooden deck. Unlike traditional docks some of the poles are extended in the vertical direction in order to provide a sense of rhythm to the walking. Occasional textile screens are attached between the poles in order to enhance the sense of rhythm as the visitor walks along the path, without blocking the view of the surrounding landscape. The dock continues up on land guiding the visitor towards the threshold of the cemetery: the chapel. After moving through the chapel, the dock continues as it leads the visitor to the cemetery. After the visit at the cemetery, the dock stops but it's vertical poles continue to guide the visitor through the landscape, passing by all the four historical burial places of Rivö.

Axonometric drawing 1:400 - The dock
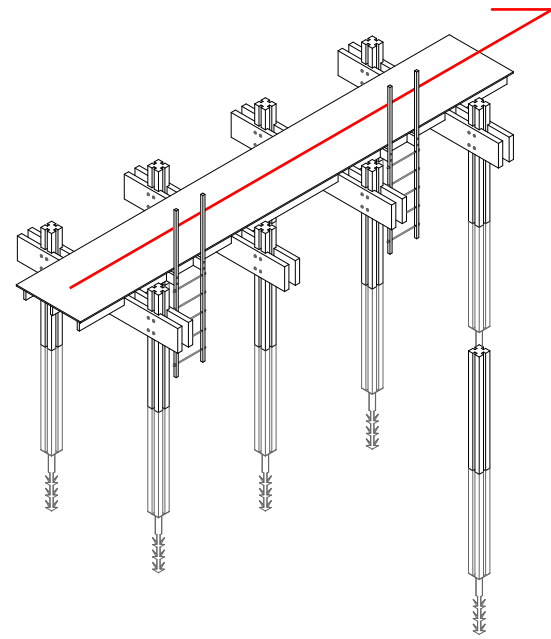
The dock is the access point to the island, providing ladders and poles to moor boats
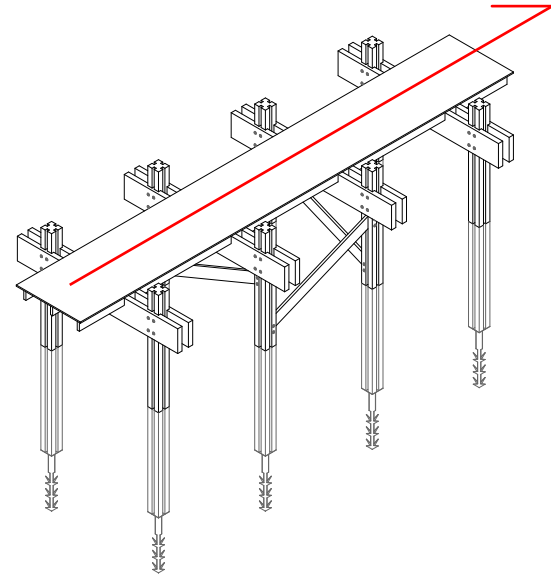
The dock is stabilized by diagonal planks
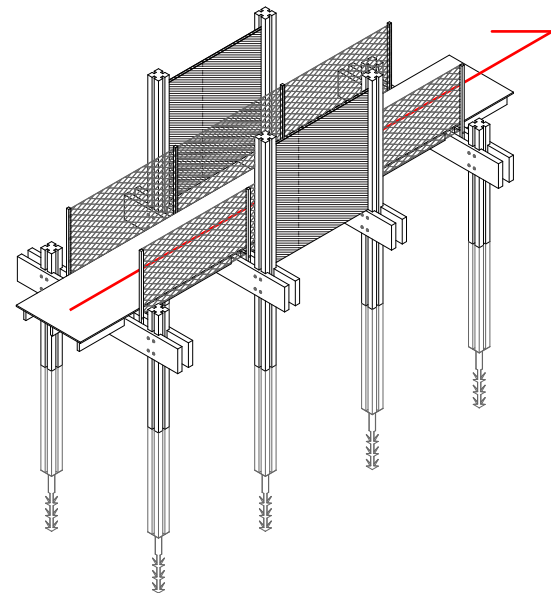
A metal net makes the dock safe when approaching shallow water and land. Occasional textile screens provides a sense of rhythm to the walking.

The dock continue as a ramp up on land, guding the visitor towards the chapel and cemetery
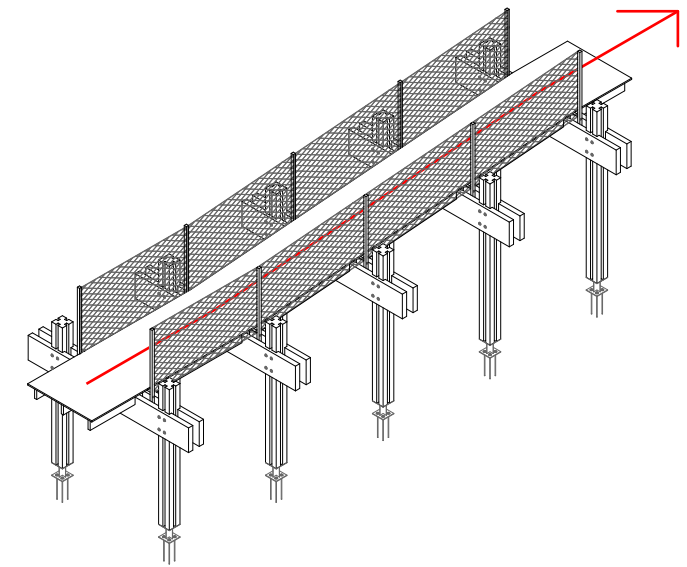
The poles of the dock keep guiding the visitor around the island after visiting the chapel and cemetery
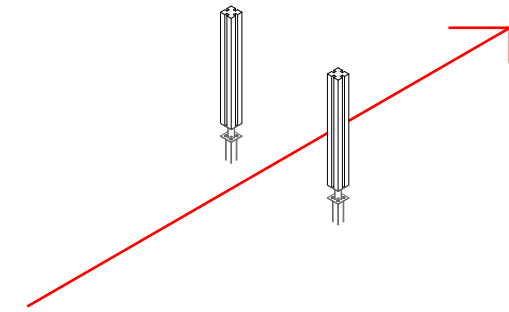
Towers along the dock gives opportunity for the recreational visitors to jump, swim and enjoy the water
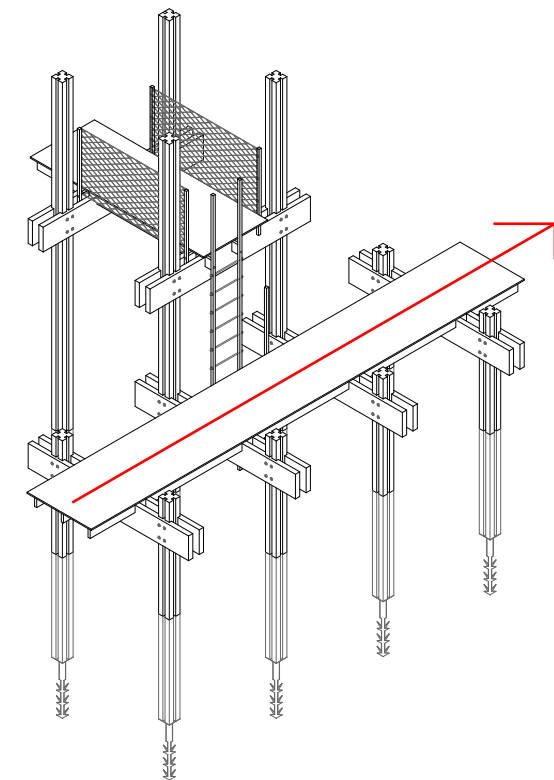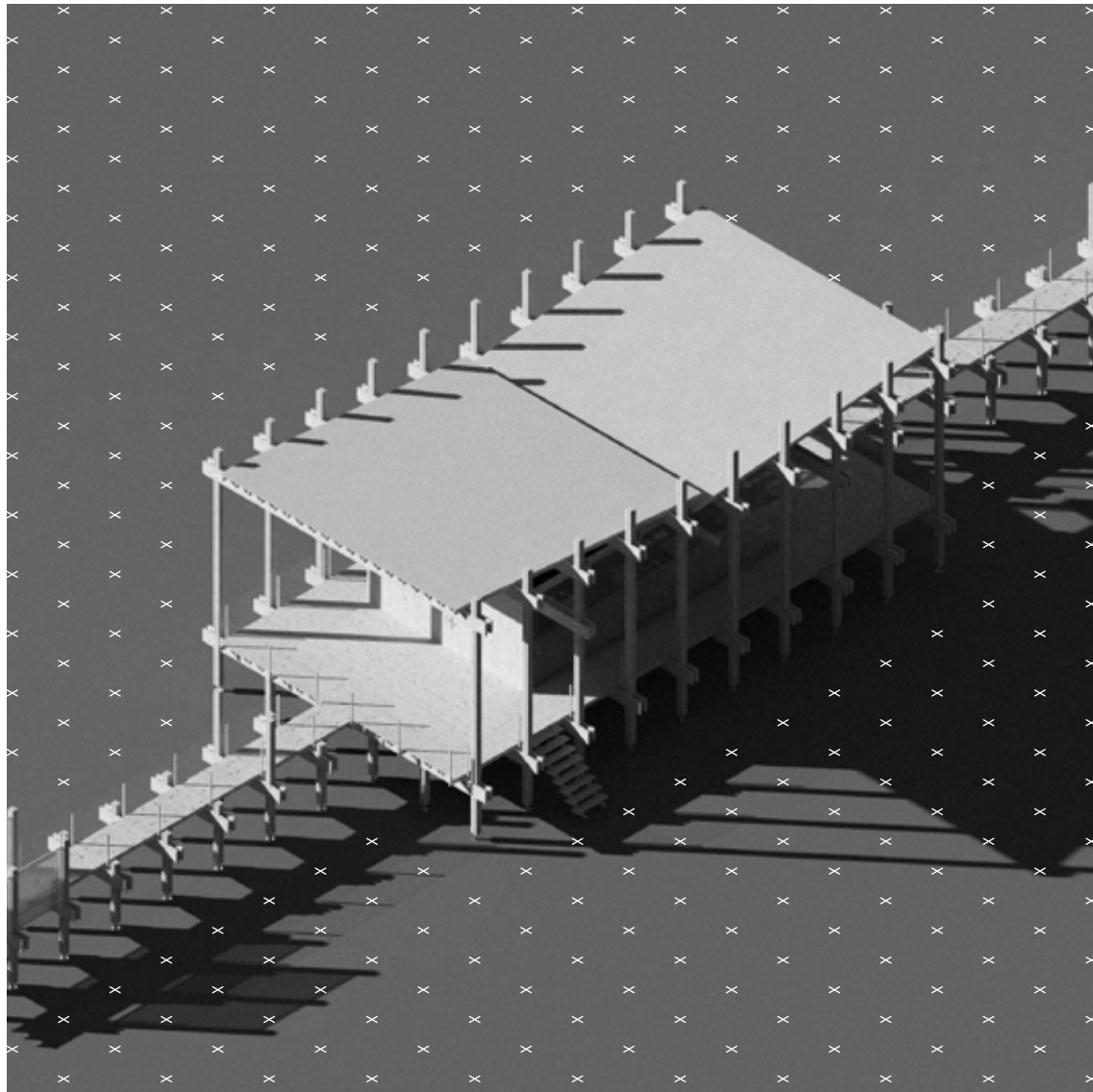
The chapel

The chapel is an extension of the dock, acting as a threshold to the cemetery, preparing the visitor for the visit at the graves. The chapel is built by the same construction principle as the dock. Wooden poles rests gently on the ground, drilled into the rock. Beams attached to the poles let the floor hover a bit over ground. A second layer of beams holds an exterior roof protecting the two terraces placed at each end of the chapel. The chapel itself is a rectangular wood and glass structure, with big sliding doors at each end, providing the opportunity to expand the room out on the terraces. The benches are light and easy to move, with the possibility of stacking them on top of each other depending on the needs of the visitors or ceremony. In this way the chapel can be flexible in its usage, offering space for various sizes of gatherings in different configurations. The chapel facade consists of a glass shelf system. Through this system the whole chapel act as a big light carrier. With just one candle lit and placed into the shelf, the illusion of several candles will appear due to the surrounding reflective glass sheets. From outside the chapel also acts as lighthouse during the dark times of the day. Since there is no available electricity on the island and no other buildings nearby, the chapel will be clearly seen as a lonely light source in the dark from Asperö across the sound. Some of the glass sheets in the facade are laminated with textile in order to spread the light through the fibers of the textile, making it even more visible from far distance.

Top: Axonometric drawing 1:200 - The chapel
Next page: Exploded axonometric drawing 1:100 - The chapel
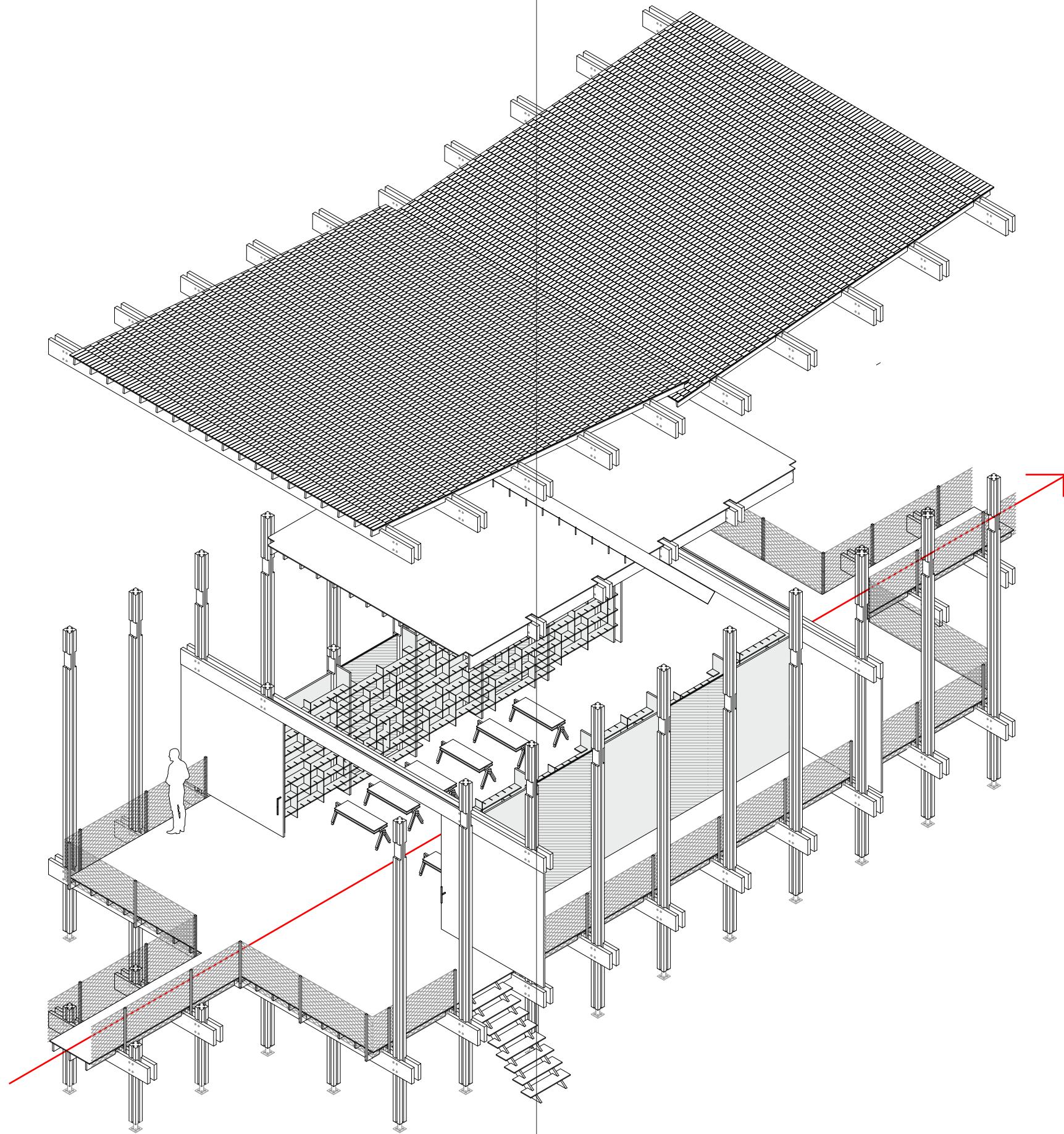
Every second window
is laminated with textile
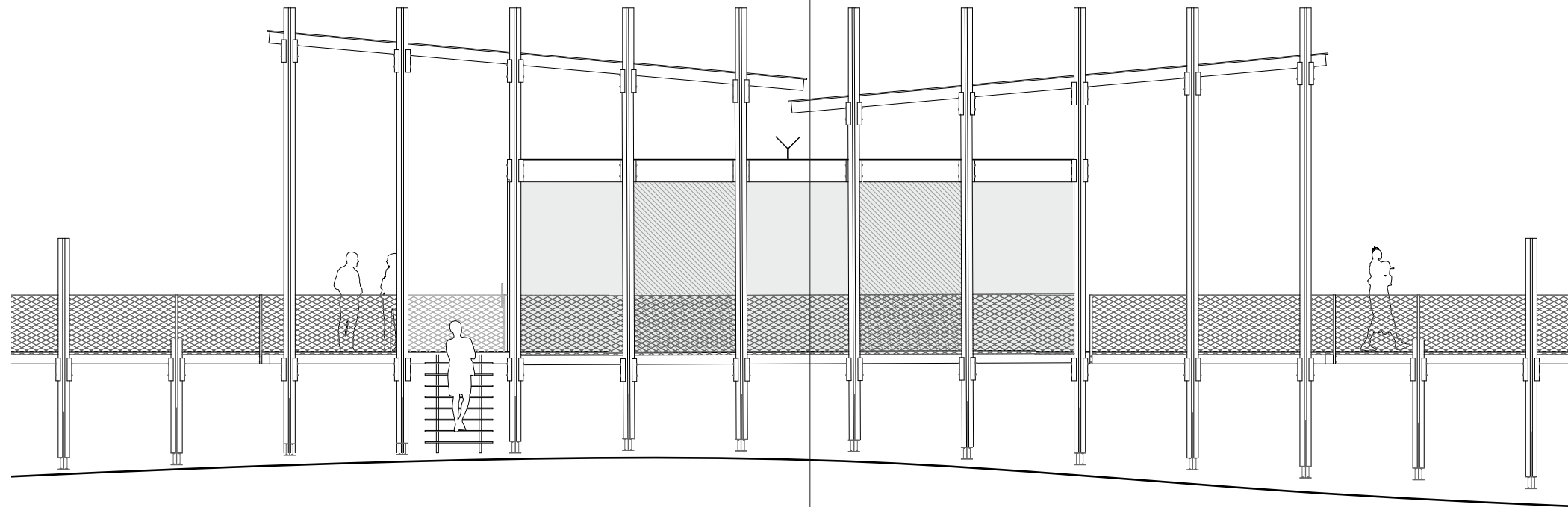in order to spread and
diffuse the light
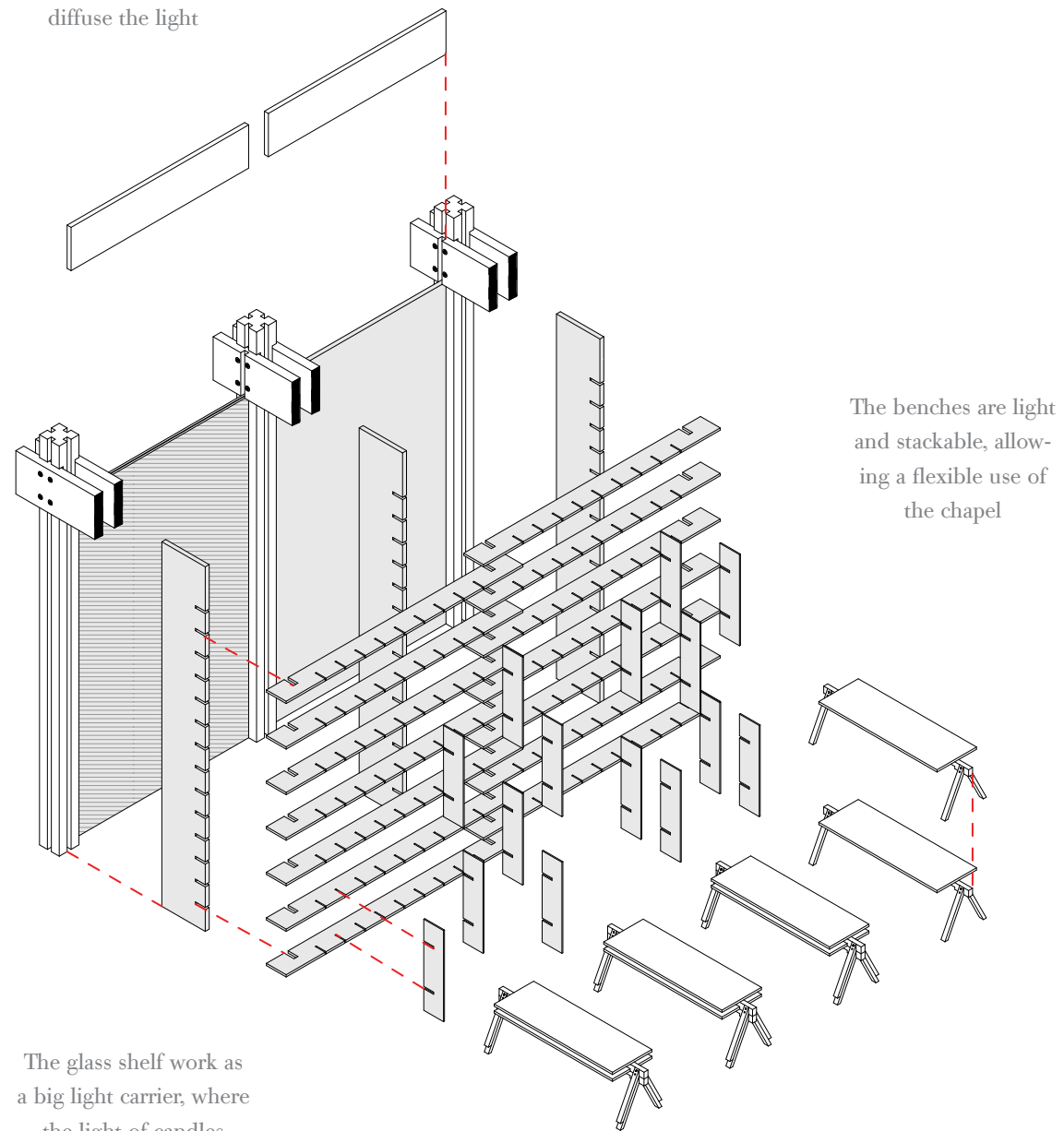
The benches are light
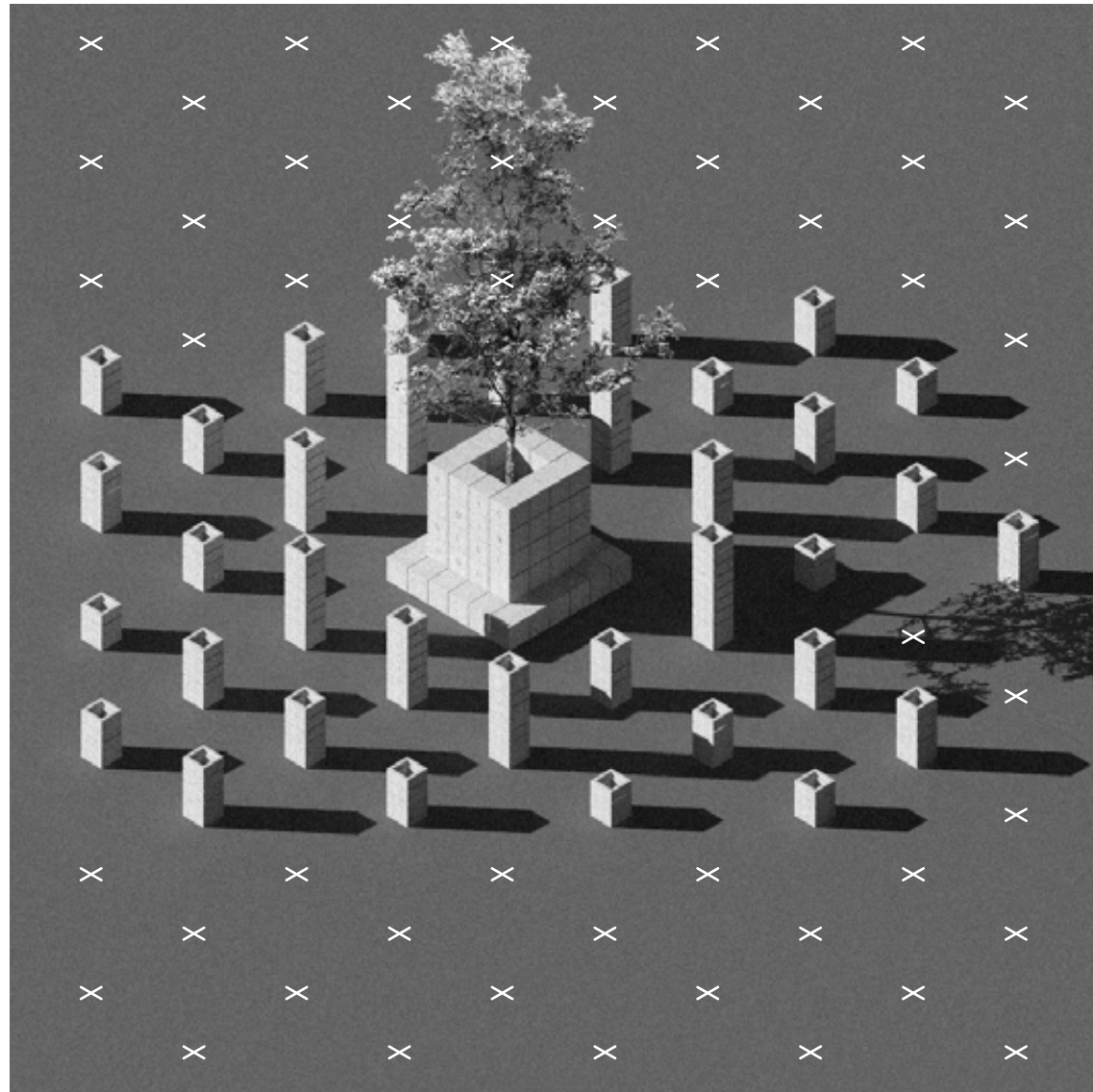and stackable, allow-
ing a flexible use of
the chapel

The glass shelf work as
a big light carrier, where
the light of candles
placed in it gets reflect-
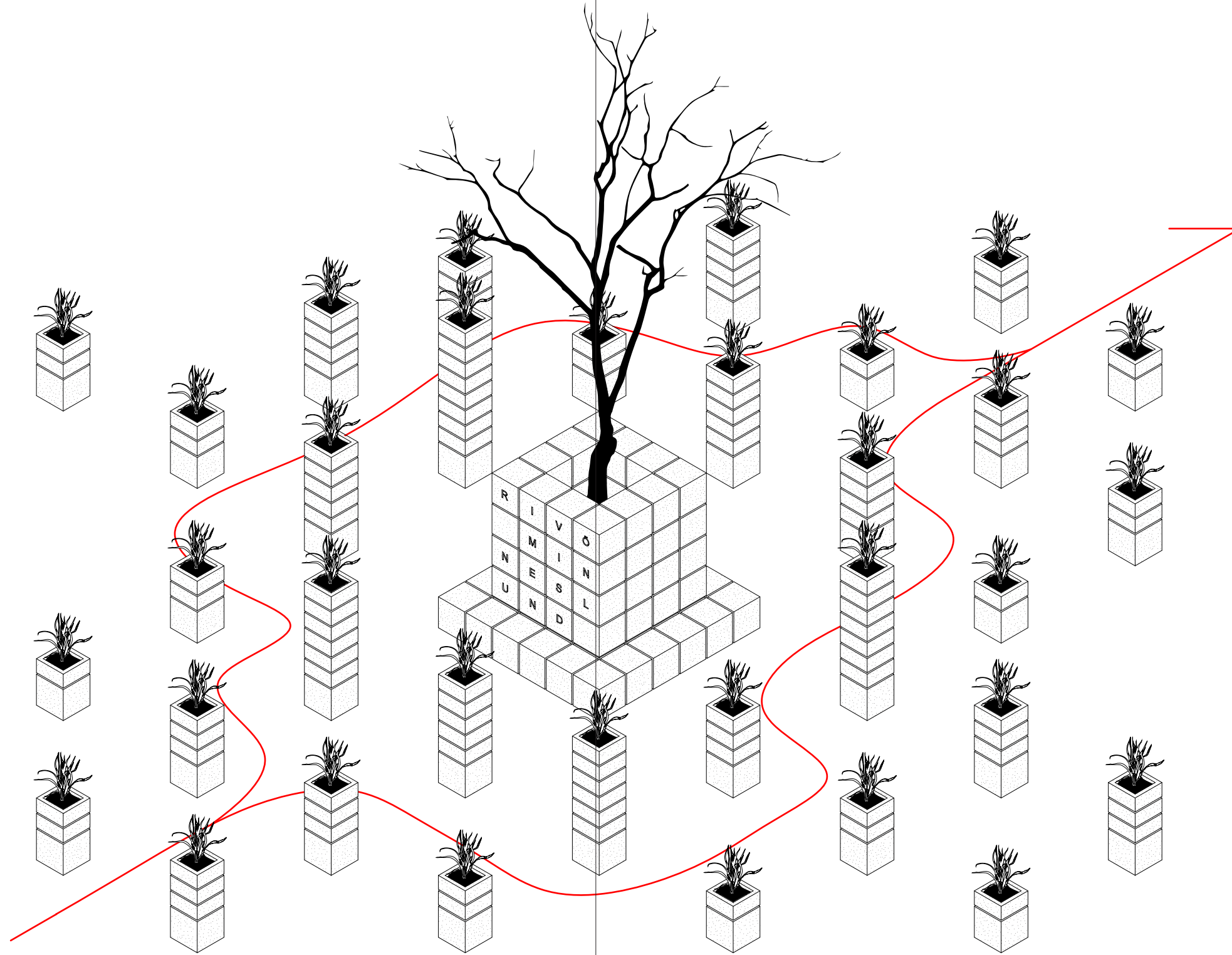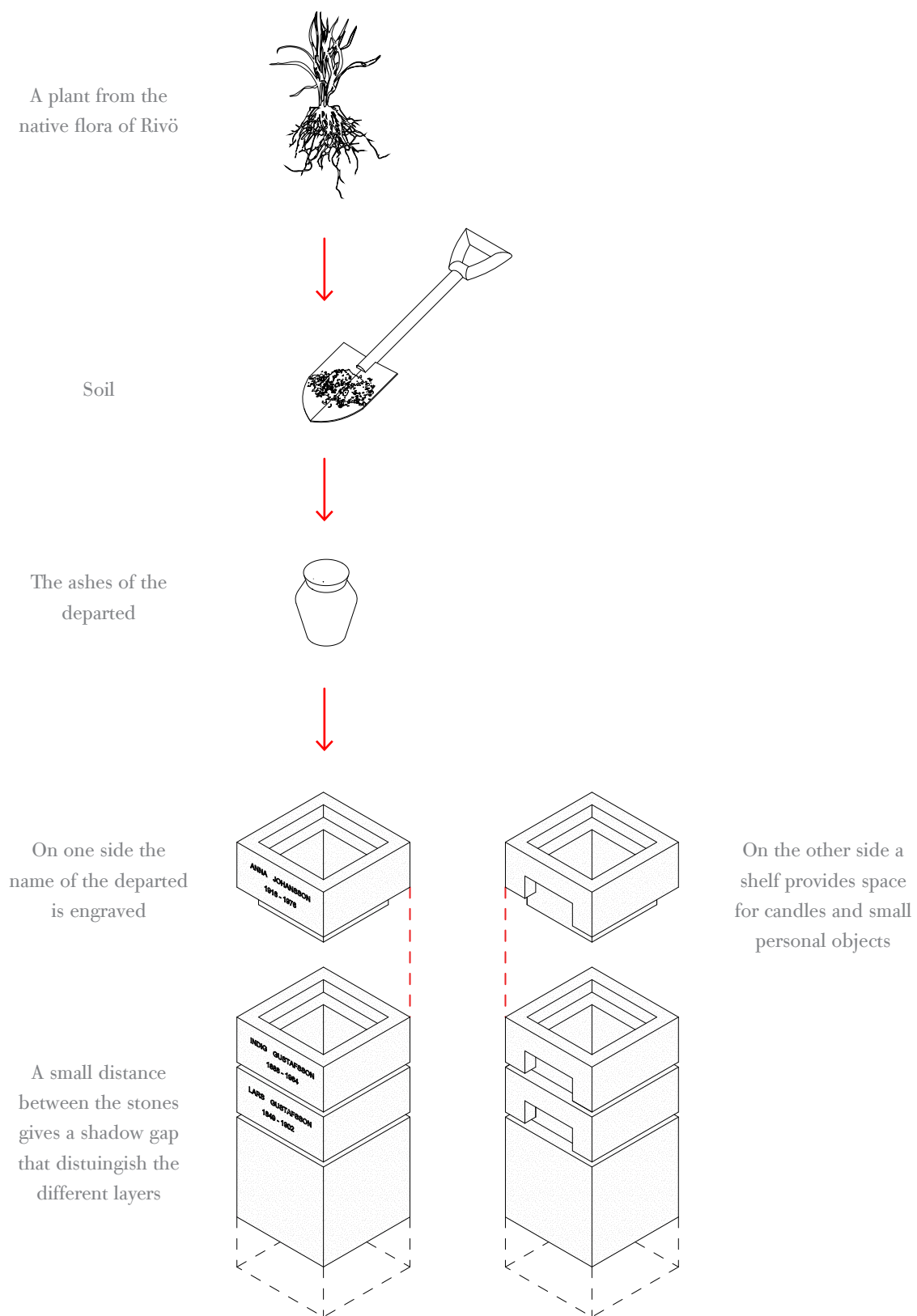ed in surrounding glass
surfaces

Exploded axonometric drawing 1:50 - Facade principle

Photographs - Concept model of candle in glass shelf

Plan 1:200 - The chapel
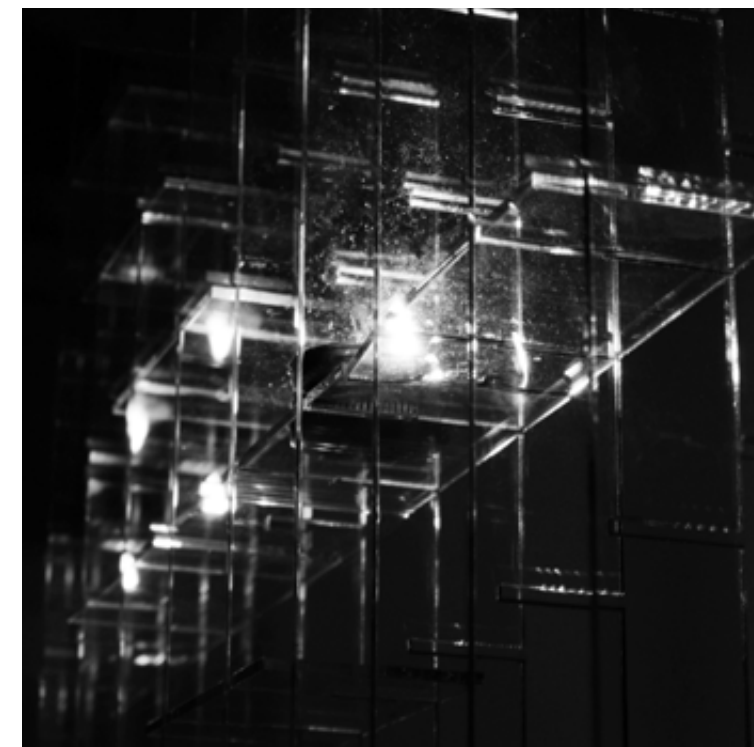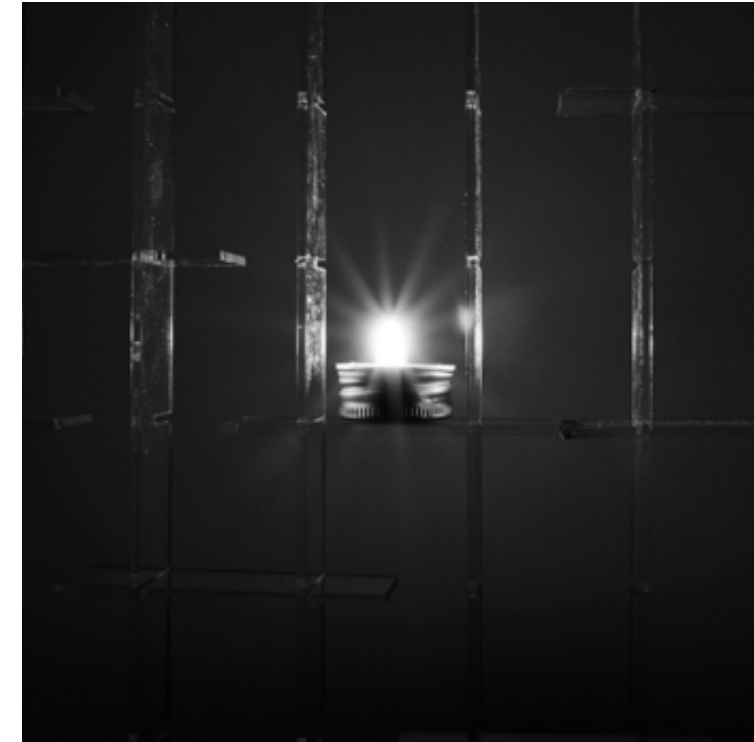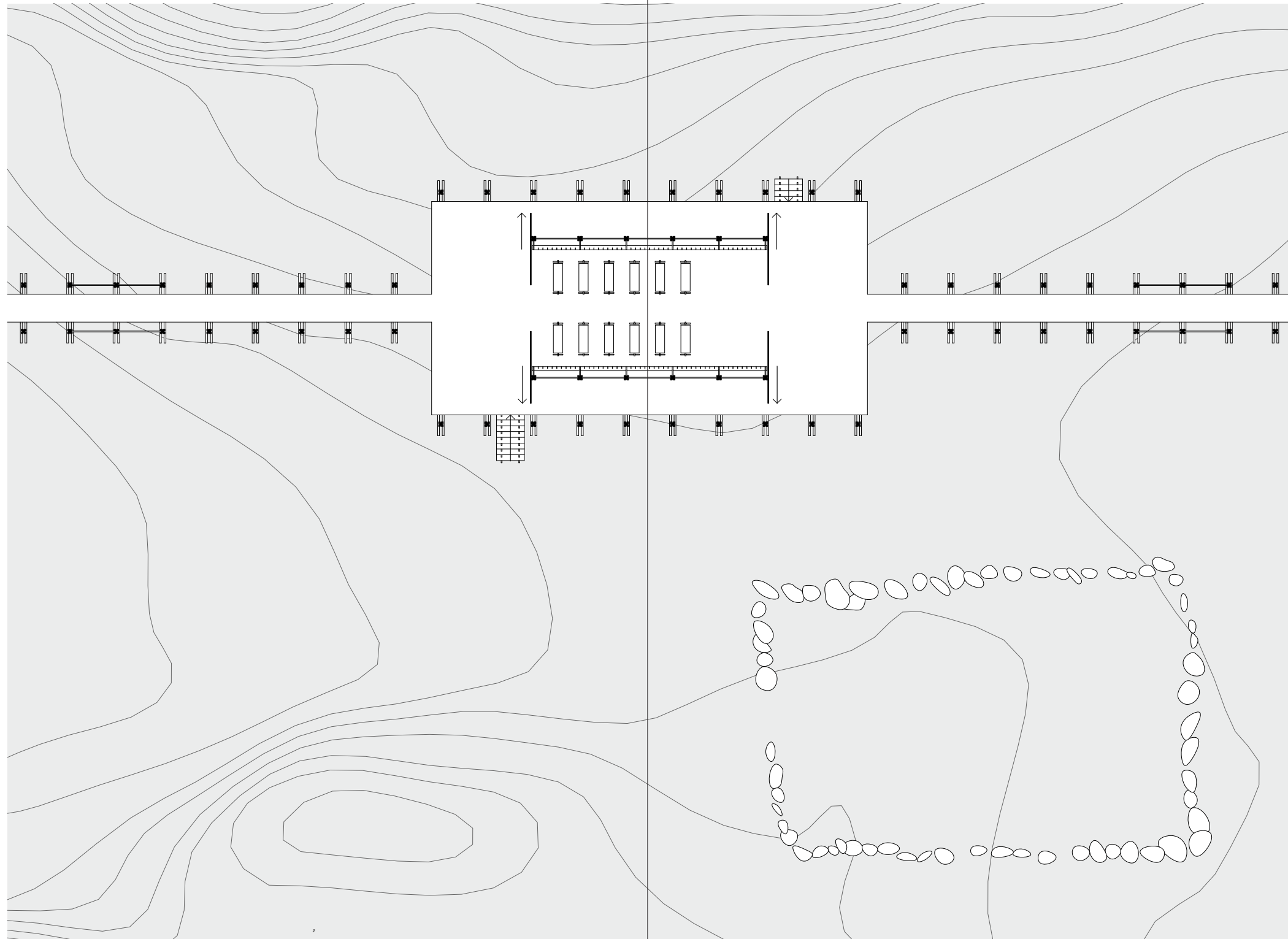
Elevation south east 1:100 - The chapel

The cemetery

The cemetery consists of a central monument, with gravestones placed in a grid surrounding it. Its origin point, the monument, is placed straight across the path, blocking it. In this way the visitor is forced to slow down the pace, and move around the monument in order to continue the journey. The monument's integrated seating also gives the opportunity for the visitor to sit down, pause and reflect. The monument is a hollow structure with a tree planted inside it. As new grave stones are added in layers around the monument as the cemetery grows, so will the tree grow taller, manifesting the passage of time. Also each grave stone is hollow, placed into the ground of Rivö and filled up with soil and the ashes of the departed. A native plant from Rivö's flora is then planted inside it, letting the ashes of the departed together with the soil of Rivö be the fuel for the life of the plant. In this way death and life are intertwined into a garden of memories. In order to provide the possibility for common family graves the grave stones are stackable and can be placed on top of each other. As new stones are placed on top of the old ones, the graves will turn into vertical stone columns. The layers of generations and time will be seen through the aging of each layer, where the bottom layers will be marked by weather and time, moss growing on them in contrast to the more recent top layers of shiny granite.

Top: Axonometric drawing 1:100 - The cemetery
Next page: Axonometric drawing 1:100 - The cemetery

A plant from the native flora of Rivö

Soil

The ashes of the departed

On one side the name of the departed is engraved

On the other side a shelf provides space for candles and small personal objects

A small distance between the stones gives a shadow gap that distuingish the different layers

Exploded axonometric drawing 1:20 - Grave stone

Photograph - Model of grave stone

An Aspen tree is planted inside the monument. As the cemetery grows so will the tree, reflecting the passage of time.
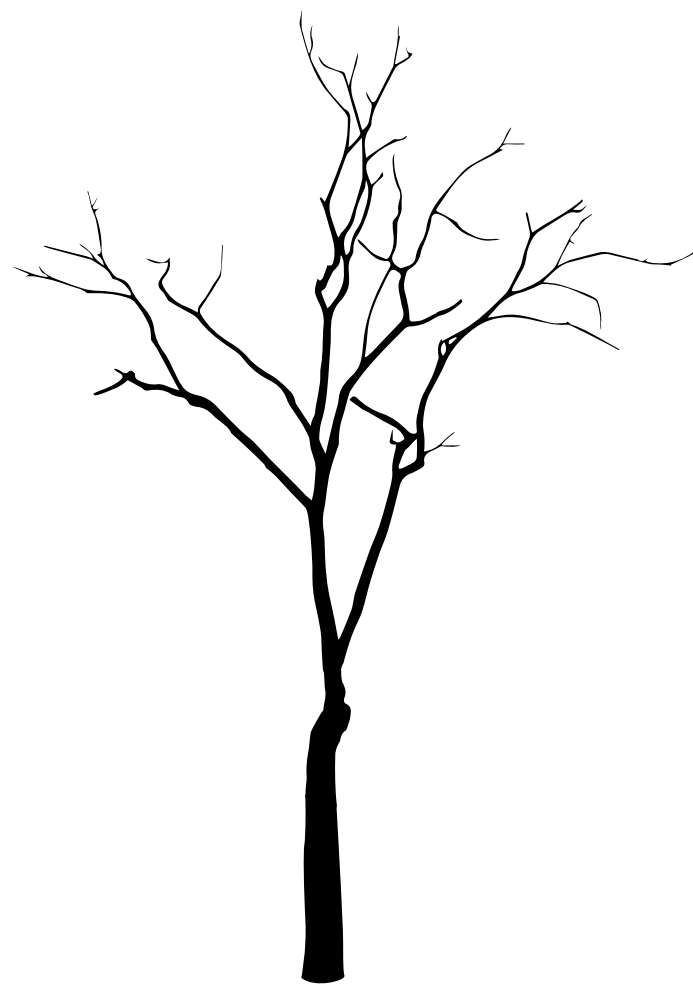
Granite blocks that interlock in each other without mortar constitute the monument walls
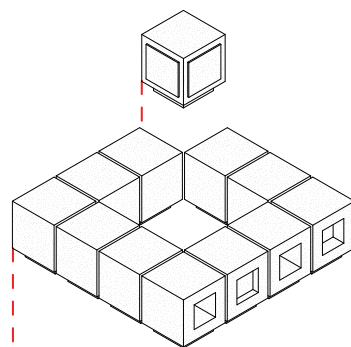
A bench surrounding the monument provides space to sit down, pause and reflect
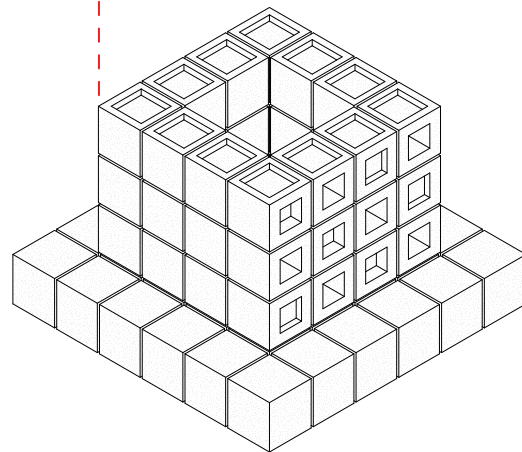
Carved out shelfs on one side of the monument provides space for candles and personal objects for those who want to remember and honour someone not buried on Rivö
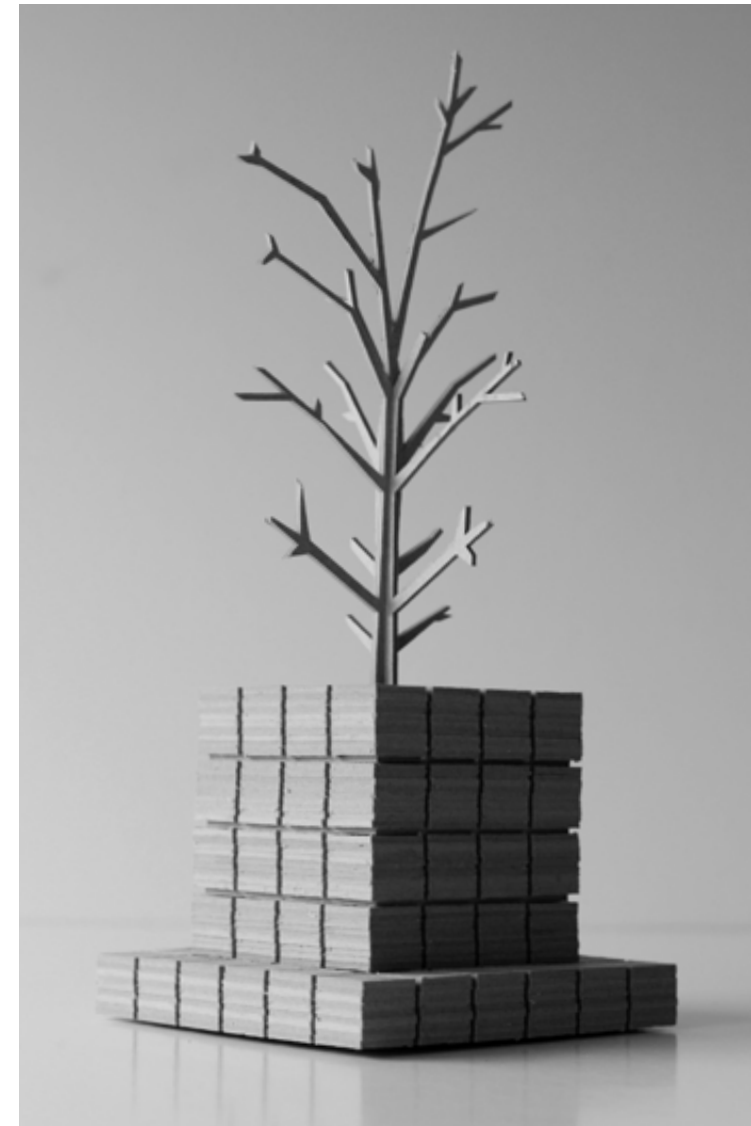

Above: Photograph - Model of the monument
Left: Exploded axonometric drawing 1:50 - The monument

TIME

Axonometric drawing 1:200 - Evolution of the cemetery through time
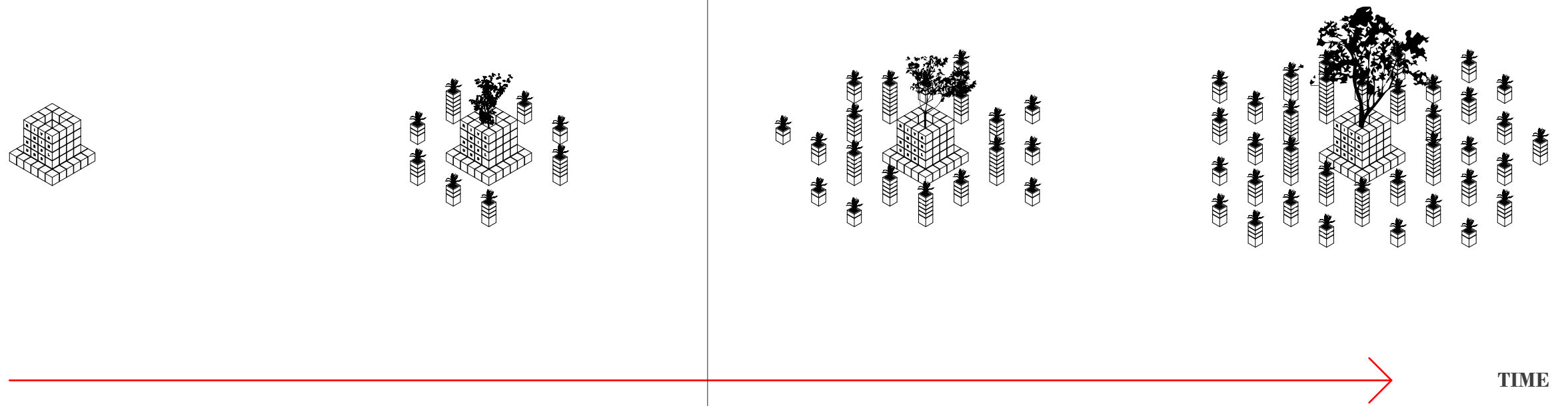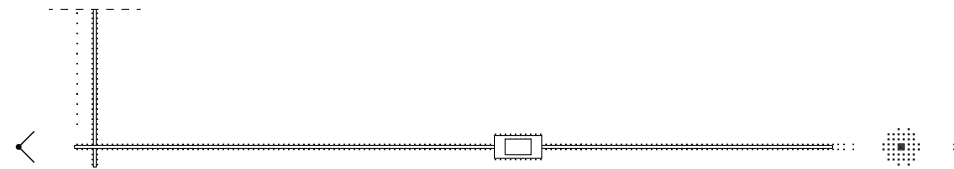
The ritual of remembrance

You just left Asperö and are now sitting in a rowing boat in the strait between Asperö and Rivö. The strong wind makes the boat drift eastwards so you throw a glimpse over your shoulder to see if you are on the right track. A wooden dock is reaching out into the water, guiding you in the right direction. When you arrive to the dock you attach the boat with ropes, climb up the ladders and start to walk. You can see a building on top of the hill.
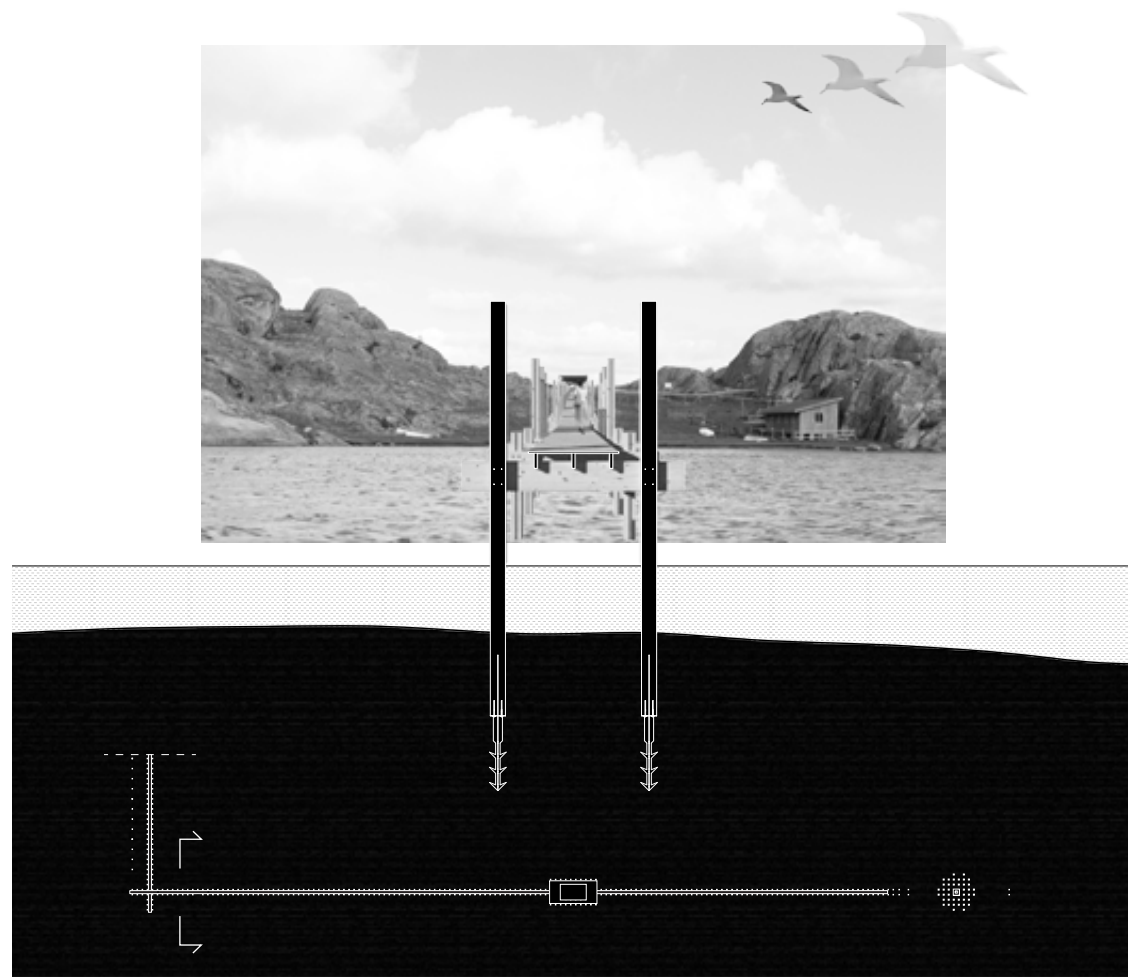
As you get closer to land you pass by vertical poles and screens of textile that direct your focus forwards. Between the poles and textile screens you notice how the barren granite cliffs and grass meadows of Rivö are getting closer.
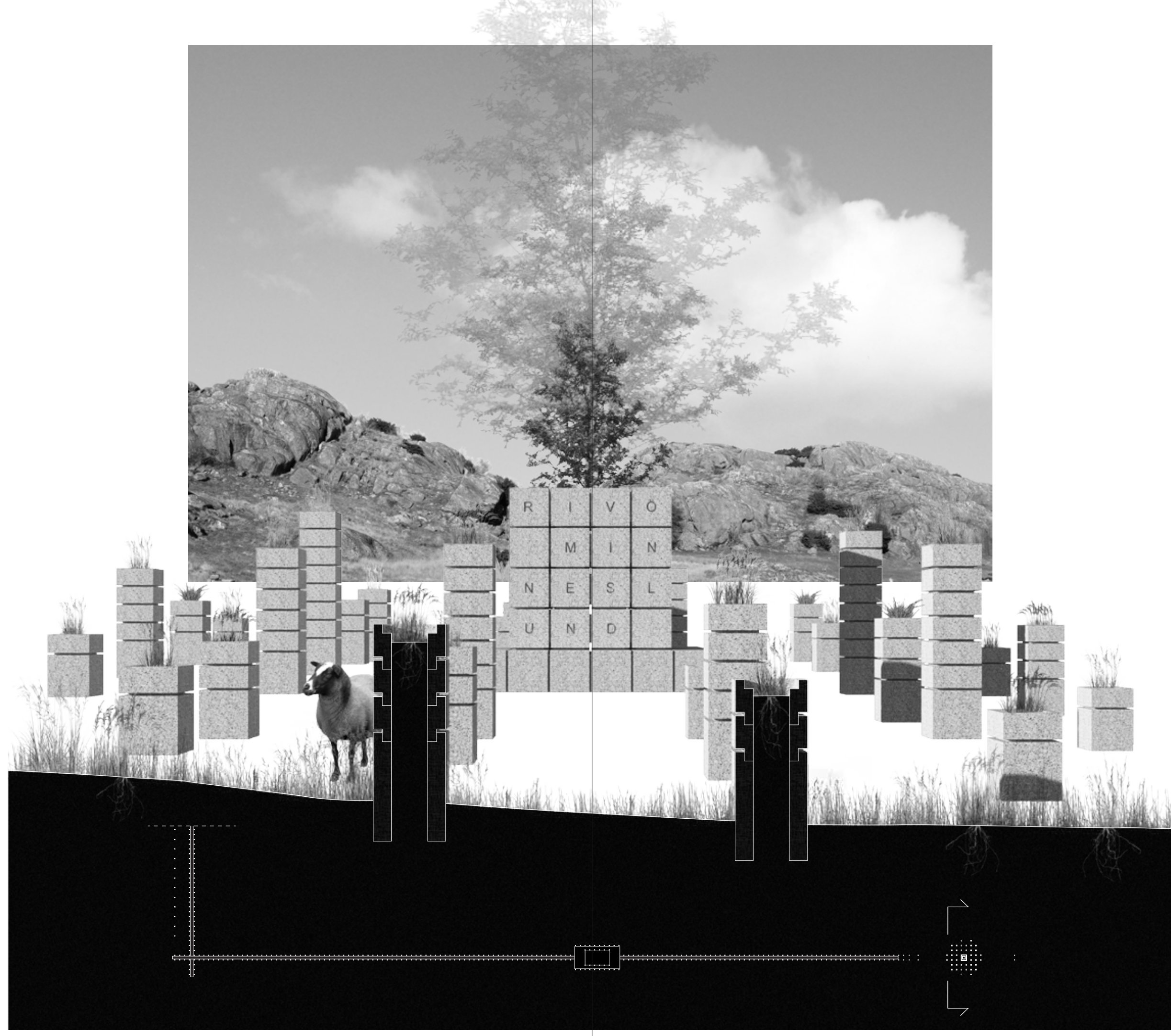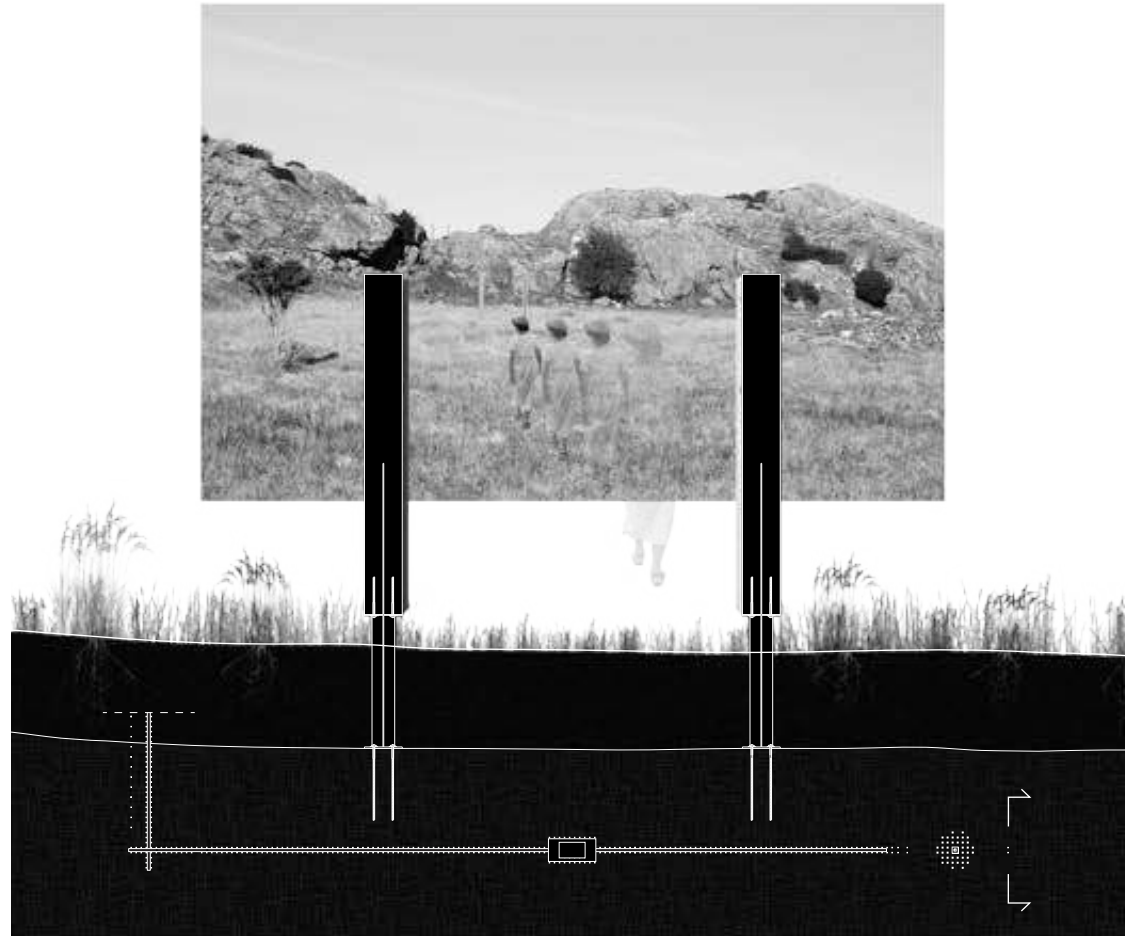
Section perspective 1:100 - The dock in water
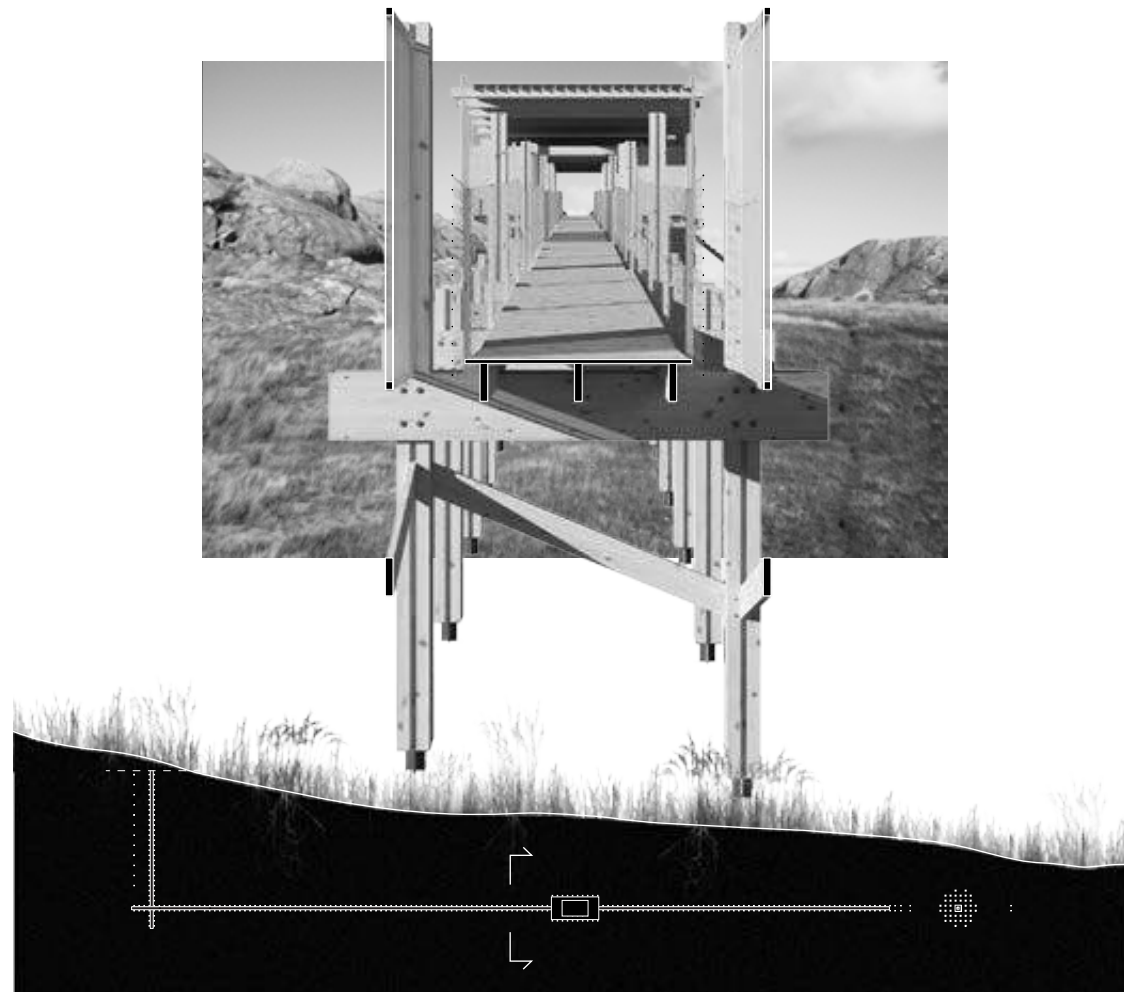
The dock that carried you across the water continue up on land, so there is no question in which direction you should go. You just follow the path. The chapel on top of the hill is getting closer. You arrive to a terrace, with big sliding doors. You slide them open and step inside. There are glass shelves along the walls, bringing in loads of daylight. Some of the windows are laminated with textile, that gives a diffuse and smooth light inside. You light a candle and place it in the shelf. As you move to sit down on a bench you notice how the light of your candle is reflected in all the glass surfaces surrounding it. You stay there on the bench for a while, observing the burning candle.

Top: Section perspective 1:40 - The dock on land
Next page: Section perspective 1:40 - The chapel
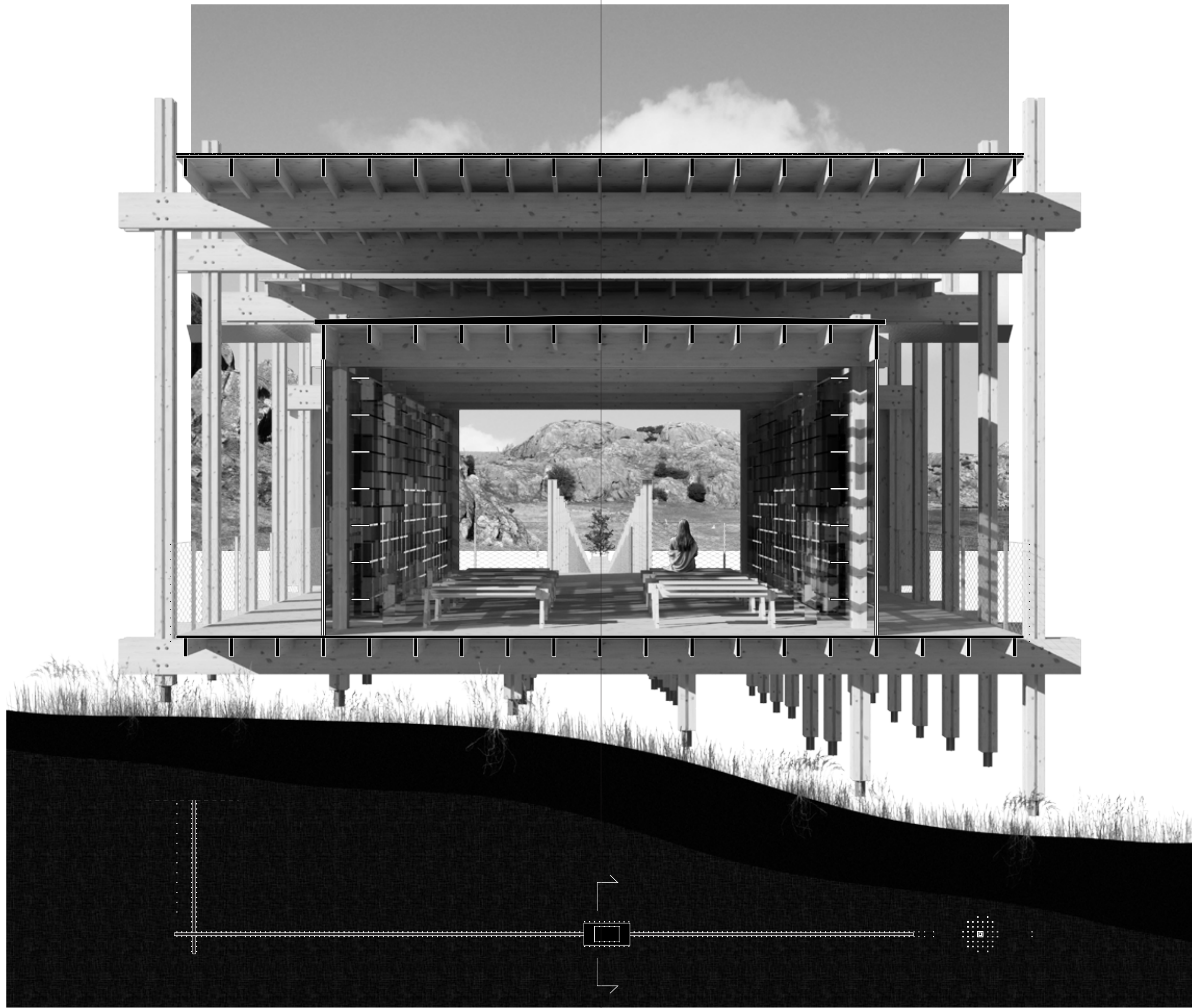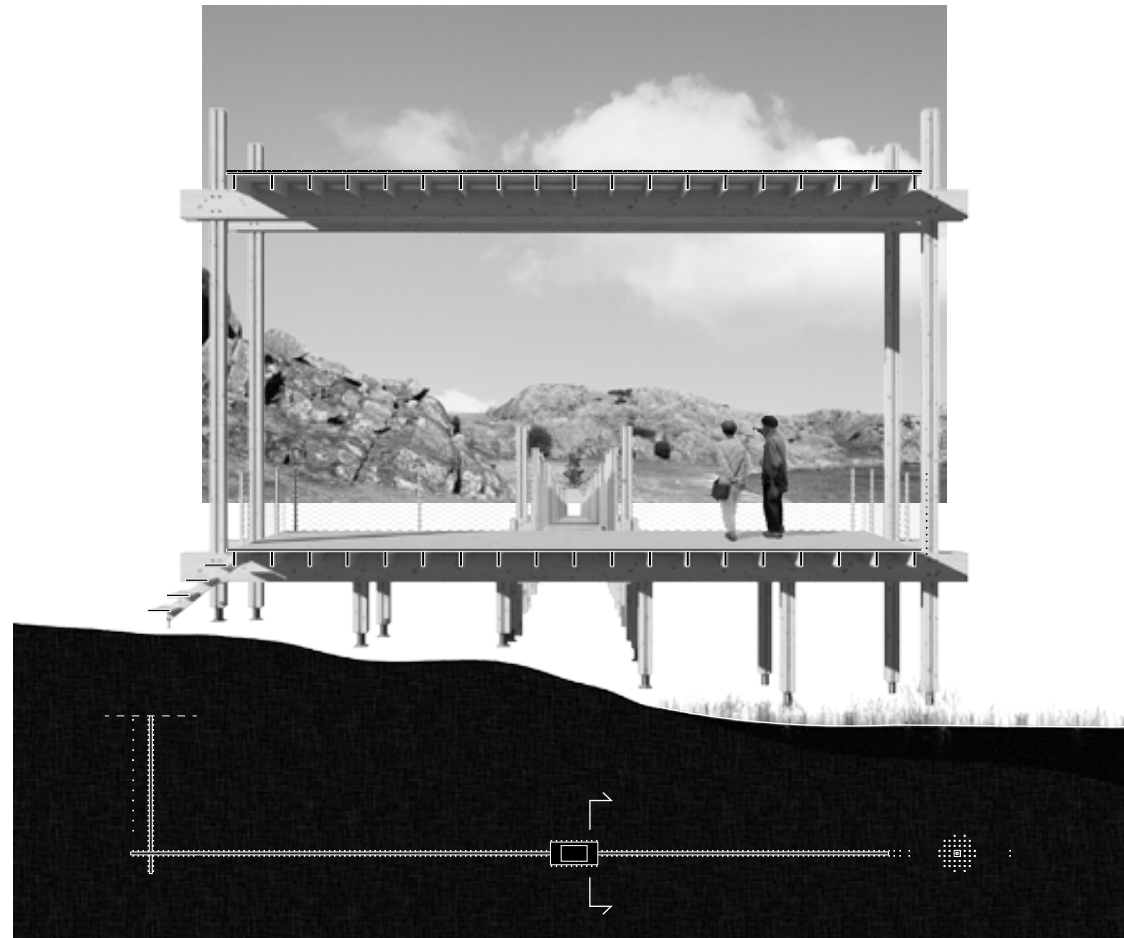
As you stand on the terrace outside the chapel you can see the cemetery down the hill. The dock continues to guide you there. When you arrive you meet a stone monument surrounded by vertical stone columns. When you look closer you see that the columns are divided into layers. On each layer there is a name written. As you move around a column you notice that small personal objects are placed in shelves on the other side. Each column is crowned by a plant that sways in the wind. The monument tells you that you have arrived to "Rivö Minneslund" ("Rivö memorial"). A bench surrounding the monument invites you to sit down and rest for a bit. The leaves of the Aspen tree crown above you trembles.

Top: Section perspective 1:100 - The chapel terrace
Next page: Section perspective 1:40 - The cemetery

After a few minutes rest it is time to continue your journey. You leave the cemetery and start to wander out in the landscapes of Rivö. You are not lost, wooden poles placed in the landscape gives you an indication of which direction to go. As you follow the poles, you pass by several historical burial places. They seem to have been there for a long time, but you have never noticed them before.

Section perspective 1:40 - The path

Postlude

Chapter 8

Discussion

We live in a world of globalization. People are constantly moving, often far away from their origin. What happens with us when we loose connection with our past? With the generations before us? With their memories, as well as our own? Social media offers the possibility of sharing and storing memories online, but perhaps we also need physical places where we can store our memories. Places where we can go to reflect and remember. Places that tell us something about the lives and memories of the people that has been there before us.

When I started this thesis I stepped into a new field of knowledge, the memory field. I did not consider memory as something particularly important to architecture. But the more time I spent working within this field, the more I realized that architecture is based on memory. All architecture, in fact all artefacts, are based on the knowledge and memory of previous works.

In the beginning of this thesis process I got lost in philosophical ideas of what a memory is. Linking the design to the theory I studied was at first hard, but then fell into place when I started to separate the ritual of remembrance into distinguished steps, linking each step to spatial aspects within my design project. I believe that the fact that I worked with two parallel thesis questions was also beneficial to my process. Working with both collective and individual memory within the same project, gave it a deeper level of complexity and understanding of the term memory and what is means within architecture.

Conclusion

In order for architecture to support the individual ritual of remembrance, it should be designed as a physical answer to the sensuous steps of the ritual of remembrance. By linking a sequence of spaces to specific steps of the ritual, the ritual can be manifested physically through actions in space. To support the collective memories of a place, architecture should be designed with collective memories in consideration already from the early phase of the design process. The collective memories should be identified, studied, mapped and then integrated into the design. The integration can be conducted in several ways. Through reusing and reinventing structural principles, materials and knowledge from the specific place or by directing focus to remains and traces of the past through the new architectural addition.

The conclusion drawn from this master thesis is that there is a strong link between memory and space. Already the ancient Greeks knew this as they developed their "method of loci", also called "memory palace" which consists of spatial constructions in the mind, in order to store and organize a large body of knowledge. I believe that architecture can, and perhaps should be considered as a physical memory palace. Structures in which we can insert memories of cultures, people, communities and places.

In times of globalization, we should not get lost in generic architectural solutions. As architects we have to see to the specific memories of the site, and let them speak. Remind and show the visitor the history of the place. After all, memory does not only exist in time, but also in space. It is my hope that this thesis can contribute to the discussion of how cemeteries can become spaces for memories. Not just the individual memories of the people that are buried there but also the collective memories of the specific landscape, culture and community in which it is placed.

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Credits

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Figure 1. Millet, J. (1857-1859). L'Angélus [Painting]. Musée d'Orsay, Paris. Retrieved from https://en.wikipedia.org/wiki/The_Angelus_(painting)#/media/File:JEAN-FRAN%C3%87OIS_MILLET_-_El_%C3%81ngelus_(Museo_de_Orsay,_1857-1859._%C3%93leo_sobre_lienzo,_55.5_x_66_cm).jpg (Public Domain)

Figure 2. Unkown. (n.d.). Maeshowe Tomb Chamber. [Photograph] Retrieved from https://thelastdiadoch.tumblr.com/post/105828761935/6-ancient-tributes-to-the-winter-solstice-for (Public Domain)

Figure 3. Boullé, E-L. (1784). Cenotaph to Sir Isaac Newton [Drawing] Retrieved from https://it.wikipedia.org/wiki/Cenotafio_di_Newton#/media/File:%C3%89tienne-Louis_Boull%C3%A9e,_C%C3%A9notaphe_de_Newton_-_04_-_Coupe,_repr%C3%A9sentation_de_jour_avec_effet_int%C3%A9rieur_de_nuit.jpg (Public Domain)

Figure 4. Unkown. (n.d.). Model of Mausoleum for Dvorak. [Photograph] Retrieved from https://en.wikipedia.org/wiki/Adolf_Loos%27s_Dvo%C5%99%C3%A1k_mausoleum#/media/File:Adolf_Loos%27s_Dvo%C5%99%C3%A1k_mausoleum.jpg (Public Domain)

Figure 5. Fløgstad, F. (2016). Allmannajuvet Zink Museum. [Photograph] Retrieved from https://en.wikipedia.org/wiki/Allmannajuvet#/media/File:Caf%C3%A8bygget_i_Allmannajuvet.jpg (Creative Commons)

Figure 6. Staudt, W. (2007). Memorial to Murdered Jews of Europe. [Photograph] Retrieved from https://www.flickr.com/photos/wolfgang-staudt/566295389 (Creative Commons)

Figure 7. Shalev-Gerz, E. Gerz, J. (1986). Monument Against Fascism. [Photograph] © Studio Shalev-Gerz (Reprinted with permission)

Figures 8 & 9. Johansson, R. (1980). Rivö seen from Asperö. [Photograph]. Göteborg. (Reprinted with permission)

Figure 10. Unknown. (n.d.) Historical tank station on Rivö [Photograph]. Göteborg. Retrieved from Asperö Kulturhistoriska Förening. (Reprinted with permission)

Figure 11. Unknown. (n.d.) Rivö early 1900's [Photograph]. Göteborg. Retrieved from Asperö Kulturhistoriska Förening. (Reprinted with permission)

Figure 12. Johansson, R. (1986). Camping at Rivö [Photograph]. Göteborg. (Reprinted with permission)

Figure 13. Unknown. (1912). Le Cholera [Magazine front cover]. Retrieved from https://en.wikipedia.org/wiki/Death_of_Pyotr_Ilyich_Tchaikovsky#/media/File:Cholera.jpg (Public Domain)

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Acknowledgments