TALES OF AN ISLE

AN APPROACH FOR SUSTAINING COASTAL IDENTITIES IN THE FLUX OF CLIMATE CHANGE

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Tales of an Isle Lovisa Olsson & Lina Sundberg Master's thesis in Architecture and Urban Design Spring semester 2020



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In a vast ocean landscape, islands present a dual nature of adaptation, beyond technological innovation: How can both isolation and connectivity. Today, the islands are linked architects, in a local context, support a cultural and historical to each other and to the mainland of Gothenburg, forming an continuum endangered by sea level rise? overall whole related through both collective identification and A brief description is made of Critical Regionalism, through infrastructure and public transportation. Yet, islands an architectural theory and practice which searches an are finite pieces of land that may share characteristics, but equilibrium between the locally rooted and the universal have in a zoomed in perspective individual local identities. modern. From there, a method is developed to approach the Hundred years from now the sea level rise will transmute context of Vrångö island and its relationship to a rising sea. the archipelagic landscape. The world will witness a loss This method becomes fundamental for an analysis of three of coastal communities and architectural heritage. Sea phases which principally results in a twofold solution. It is a level adaptation has become a question for many Swedish proposal which on the one hand protects and communicates municipalities. In Gothenburg, high water barriers located in a determination to sustain today's island society while the estuary of Göta älv, might save the urban river shores, but preserving its relationship with the sea. On the other hand, it will not protect the peripheral archipelago. These islands it gives space for a local community to flourish side by side are, due to their location, particularly exposed to the forces with the fluctuating presence of island visitors. Finally, it is of nature. concluded that while linking theory, analysis and design, the method has been instrumental for the generation of initially This thesis seeks one approach for sustaining the coastal identity of Vrångö in the flux of environmental change. The unimagined results.

aim is to explore and discuss an approach to climate change

Keywords: Island community, Sea level rise, Locally rooted architecture, Coastal heritage, Critical regionalism

Abstract

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I.

Introduction



57° 36' 42" N

The climate on Earth is changing and the threat of global waming has become widely acknowledged as a major crisis. Gothenburg from future flooding (Granberg, 2019). Global sea level rise is one of the results of the increasing This thesis will explore the finite and bounded space mean temperature. Billions of people will be affected directly, of an isle - one of the southernmost inhabited islands of and the rest of the world will witness a great loss of coastal Gothenburg's archipelago, Vrångö. The island is, due to its location and lowland settlement, particularly exposed to the communities and cultural heritage. The exact future scenario is uncertain but recent reports from IPCC indicate that the forces of nature. water is rising quicker than anticipated; the global mean At a time when high-tech innovation and uniqueness have sea level might reach over one meter above today's normal become an established norm for contemporary architecture, level by year 2100 (IPCC, 2019, pp. 55). With an increased we would in this thesis like to explore and revive the qualities global sea level there will also be a higher water level along of the rooted architecture of place. It is our belief that the the Swedish coastline. The ongoing land rise in the northern knowledge one seeks on how to sustain a local identity and parts of the country will for a time compensate the sea level create a 'historical continuum' in the flux of change can rise, but the consequences for our most southern coastal areas be found within the local context - through the architect's will, within a foreseeable future, be severe (Stockholms stad, sensibility of place. Communities which are regularly 2020). exposed to nature's extremes find ways of adapting. After all, Gothenburg will be affected too. SMHI alerts for a sea level if they did not, they would no longer be around. Furthermore, rise of 0.5 to 0.8 meters by 2100, which at extreme weathers this thesis intends to explore the specific building tradition, equates a possible rise of 2.6 meters above today's normal sea culture and overall identity of Vrångö, and accordingly, make level (SMHI, 2017). To stop the large volumes of water, sea an architectural proposal for the community and the local level rise adaptation has become an important question for knowledge to thrive over the years.

our coastal municipalities. Outer gates and embankments are

Prologue

examples of solutions being discussed to save central parts of



Aim

The aim of this master's thesis project is to explore and discuss an approach to climate change adaptation, beyond technological innovation. The thesis seeks an architectural equilibrium between the locally rooted and the 'placeless' modern, where on-site knowledge plays the uppermost role in a sensible and thoughtful development of an island sinking into the sea. Moreover, it does not praise tradition out of nostalgia for the past, but as a necessary tool to support local identities. It aims to study the current, past and future scenarios of Vrångö as well as the relationship between the island and the forces of nature. The thesis focuses on sea level adaptation and the sense of place, which intertwined forms the discourse and essence of the expected thesis outcome. These subjects will be explored through an architectural proposal, a new layer to the history of the island. A proposal where the local community can be preserved and the collective knowledge and mentality can thrive over the years. We strongly believe that a humbleness to place, knowledgemaking and local participation will strengthen the fields of climate change adaptation and cultural preservation.

Theoretical framework

In a rapidly evolving globalized world, where the phenomenon of universalization has become an established norm for contemporary architecture, one may wonder what the future holds for our traditional rural societies. The lack of local rootedness in today's increasingly rationalized building tradition has aroused frustration in many quarters. The search for an architectural equilibrium between the locally rooted and the universal modern has, over the last decades, become a subject of concern for architects all around the world.

One way to combat the 'placelessness' of universal civilization is, according to British architectural historian and critic Kenneth Frampton, through critical regionalism. A term with roots leading back to a phenomenological approach developed by French theorist Paul Ricoeur. There is no coincidence that Kenneth Frampton in his description of critical regionalism takes off from a quotation by Ricoeur, discussing the conflict between modernization and tradition. (2016, p. 314). This paradoxical relation between, on the one

hand, emphasizing tradition and local context and, on the other hand, allowing influences from mass culture and universal modernization, is ditto, the point of departure in the theory of critical regionalism. Accordingly, it does not proceed on the basis that modernity per se is a problem (it is rather an essential prerequisite for a society to progress). At the same time, it emphasizes the embodiment and understanding of local site specific elements such as context, topography, light conditions, climate and tectonic form. In Frampton's manifest *Towards a critical regionalism: Six points for an architecture of resistance* he also addresses the capacity of the body to read the environment in terms other than those of sight alone. (n.d. p. 28) In this way, the critical regionalism seeks to complement the simple visual dimension with the whole range of human perceptions.

If one takes a closer look at the phenomenology and Paul Ricoeur, he proceeds on the same basis as the structural linguistics, where the subject occupies a central role as the carrier of meaning, which is a mediation between the subject and the world. While the structural linguistics refer to language as this mediatior, Ricoeur links the subject to the world where the language (architecture) instead operates as the intermediary bridge (Grillner, 1994, pp. 66-88). What Frampton stresses, in his description of critical regionalism, is the problematic relation between local tradition and universal culture, and what the architecture should convey. (Frampton, 2007, pp. 314-315) With the dialectic approach (above) as reference, one could thus assume that architecture plays an important role as the intermediating vehicle between the both.

In the Nordic Journal of Architectural Research, architecture professor Katja Grillner compares postmodern architecture with that of critical regionalism and their respective carriers of meaning. She describes concrete examples of critical regionalism in architecture. When reflecting over a potential critical regionalist method, she identifies three shared features. Firstly, is the approach to place, where there is always an active dialogue with the immediate surroundings. The architecture provokes or bows to its context, celebrates surrounding nature or blends into an urban landscape. Secondly, are various approaches to time and movement, whether there is a historic or present tie, traces of time or a characteristic timelessness. Lastly, there is a bodily presence and a relationship to the senses. Materials are understood by the tactile senses, the individual's sense of presence is deepened, and the movement of the body is accentuated. (Grillner, 1994, p. 85).







Thesis questions

Sea level rise caused by climate change will in the next hundred years affect architectural heritage all around the globe. A large-scale counteraction is called for to protect both coastal landscape and human settlements: How can architects, in a local context, support

- When approaching a local context; Can a methodology based on critical regionalism be helpful in the understanding of place?

a cultural and historical continuum endangered by sea level rise?

- How can contemporary architecture articulate and strengthen associations of the specific context it is in?

Delimitations

In this project we will delimit ourselves to work with the bounded space of an island. We will also proceed from current prognoses of sea level rise made by IPCC (2019) and SMHI (2017). We do not investigate exclusively technical solutions such as vast dams or complete reconstruction for flood resistance, acknowledging that such operations in themselves would affect the island's heritage and relationship with the sea. Instead, we explore limited but operative architectural interventions, and an approach that reflects over the concept of place and local identity in an anticipated state of flux.

Methodology

proposal.

The master's thesis is performed through three main steps a potential bridge from theory to practice. Derived are three the theoretical body of knowledge, the exploratory analysis main aspects common for a critical regionalist architecture; and the architectural translation presented through a design the relationship and interaction with time (past-presentfuture), place (local context) and body (bodily presence and The exploratory phase focuses on three main themes, through experience). The three characters are explored separately in which the island is analysed from different perspectives. consideration to these aspects in stages, first crossed with These themes, the 'main characters', are carefully chosen to time, second with place and third with body. Superimposed cover the most important features of the island. Water focuses after each stage, the characters produce a vocabulary forming on the island's relationship with the sea, *Entities* on relative the language of an architectural translation, while delineating space and the meaning of isolation for the island typology, and scope and focus. The method enables us to explore our way Matter on the physical elements and make-up of the island. forward while simultaneously generating a product, where By analysing built examples of Critical Regionalism, answers can be found or discussed from the anomalies or intersections of the layered analyses.

Grillner introduces an approach which presents the project with







Π

Exploratory analysis









Time

At the beginning of our explorations we observe the whole island and discuss how the three identified characters relate to time. We delve into the past, present, and future of the island, searching for our project's first form. We believe that to enter this local context, its place in time is essential, not only as background knowledge, but also to shape our project's part in this timeline.

Discovered is that the island has changed greatly over the last century, and is predicted to change even more. Originally an isolated fishing society, it opened to the outer world. Its ties to the mainland were strengthened and its independence weakened. As the source of income changed, so did the island's character and the islanders' relationship to the sea. While adapting to the fickle sea in the past, the island community is now unprepared for a disruptive development.





Water is the beginning from which the principal idea emerges. Constantly present, and constantly shifting it surrounds the island - posing as a threat in a distant future. Its character changes by hour, weather and season. Its movements alter landscape over time. Less today than in the past, water is a livelihood, a host for living things. It was once crossed by ships piloted by islanders, today by summer guests (Westerlind, n.d., pp. 50-52). It is a, now seemingly conquered, great unknown. Once traveled with difficulty it is in present time part of a commuting routine, observed through a window. It is accessed from the island, which in the southern archipelago hosts the community most distant from the city centre. To the west and south the water is continuous, therefore for some, the island is a gateway between archipelago and open sea (Westerlind, n.d., p. 54). Long ago dividing the island into two, the water later withdrew as the land rose, leaving the present valley bare (Danbratt and Odenvik, 1966, p. 594). Now swelling, the water is anticipated to encroach once more and become increasingly fluctuant.

Global mean sea level (GMSL) is rising (virtually certain) and accelerating (high confidence). The sum of glacier and ice sheet contributions is now the dominant source of GMSL rise (very high confidence) (....) Coastal risk is dynamic and increased by widely observed changes in coastal infrastructure, community livelihoods, agriculture and habitability (high confidence) (....) SLR at the end of



Water & Time

the century is projected to be faster under all scenarios, including those compatible with achieving the long-term temperature goal set out in the Paris Agreement. GMSL will rise between 0.43 m (0.29–0.59 m, likely range; RCP2.6) and 0.84 m (0.61–1.10 m, likely range; RCP8.5) by 2100 (medium confidence) relative to 1986-2005. Beyond 2100, sea level will continue to rise for centuries due to continuing deep ocean heat uptake and mass loss of the GIS and AIS and will remain elevated for thousands of years (high confidence) (....) Sea level rise is not globally uniform and varies regionally (....) Due to projected GMSL rise, ESLs [Extreme sea levels] that are historically rare (for example, today's hundred-year event) will become common by 2100 under all RCPs (high confidence). Many low-lying cities and small islands at most latitudes will experience such events annually by 2050 (....) almost high to very high risks are expected in all low-lying coastal settings at the upper end of the likely range for high emission pathways (medium confidence). (IPCC, 2019, pp. 55-56)

In an imagined future, half a century ahead, a vast steel levee controls the water not far away, separating the sea from Gothenburg's city centre (C. Cato, 2019). In the periphery of this future water seems to advance unhindered around the island





An entity is "something that exists apart from other as the fishers developed their methods. Its land was divided, things, having its own independent existence" (Cambridge and new large houses scattered over the fields that were once Dictionary, n.d.). The island, intrinsically isolated, is here part of the sea bed, leaving old reasoning behind. (Westerlind, understood as an entity which change character over time. Its n.d., p. 50) As the Second World War begun in the distance, size and level of isolation creates a certain climate for certain it was closed to foreigners. Military came to the archipelago. emergences. Several islands make an archipelago, a network First at the end of the century foreigners would set foot at of entities which itself is isolated on another level, separate its shore once more (Stadsbyggnadskontoret, 2008) At the from mainland. middle of the century, islanders continued to cultivate its land This entity is the farthest inhabited from the city centre. and fishing in its waters. When fish were scarce boats became Secluded, it has distinguished itself from the others. (Danbratt fewer, so did the people. Homes became summer houses. and Odenvik, 1966, p. 596). Almost half a millennium ago About fifty years ago, only a first few took the hour-long there were only a few islanders, piloting and fishing around it. ferryride to the mainland every day for work. Fishery remained During centuries the land of the island was cultivated, and its the backbone of the community on Vrångö. By changing less, population was growing. For long, Vrångö depended little on it became different from its peers. (Westerlind, n.d., p.50) the mainland. Boats were always tied to its border. Its oldest Despite this, a carpet of houses developed in the flat area dwellings are situated as the terrain would allow in the past. that for long had been farmland. Fences separated one from An irregular cluster of houses stood at its edge, close to each another. Since ten years ago the island's distance from the city other, close to the boats in the modest bay. Parcels blended centre seems smaller, new ferries scurry between the isles. into each other and the cliffs, some were manifested in fences. (Skärgårdsredarna, 2010) All demografical layers but the old First the buildings were small and simple. (Westerlind, n.d., are becoming smaller. At summertime the population on the island double. (Vrångö Bygdegård, n.d.) Occasionally its land p. 50) For a while, ferries only operated between its northern neighbours. (Danbratt and Odenvik, 1966, p. 600) When the is taken by a new building, but its population is becoming first steam ship brought summer guests, its houses grew large smaller (Kaaling, 2016).

and more elaborate. New were built next to the old on the bare cliffs. Generous jetties and piers sprung out of the island

Entities & Time





The matter of an island is full of contrast. The barren rocky contour surrounds an island rich of nature. Wild in the north and in the south this nature frames the islanders and their homes. It is an ever-changing composition of matter.

When the land-based ice withdrew, for about twelve thousand years ago, Vrångö was entirely underwater. Ever since, decade by decade, the mass of land has slowly risen from the sea, shaping the island as it is recognized today. Traces from the immense sheets of ice are still detectable in the island's body, these are in the form of glacial striations, sheepback formations and potholes in the granite rocks. Fine moraine material, deposited by the glacier ice, was washed into hollows and valleys generating fertile agricultural land (Folkesson, 2004). This strip of lowland, crossing the island from east to west, was used for farming up until the 1950's, when the area was exploited for further settlement. At the turn of the 20th century, nearly 300 sheep was grazing on the island's grassland, keeping the barren landscape free from vegetation. Since the livestock farming ended in the 1950's, all fields and pastures have continued to grow into bush wood and forests (Westerlind, n.d.). Today, a herd of 15 sheep, delimited to the island's northwestern part of the nature reserve, is kept to slow down the overgrowth (Vrångö fritidsförening, n.d.).

The vegetation on Vrångö is vigorously conditioned by wind and seasalt from the open ocean in the west. On the most exposed parts of the island, only lichen survives while grass,

Matter & Time

moss and heather cover areas higher up on the island. Thus, the nature varies from dense deciduous forests in the protected valleys, to calcium affected meadows or barren rocks towards the sea (Folkesson, 2004). To protect the rich vegetation and botanical rarities of the island, the southern and eastern parts of Vrångö, together with the skerries around, were stated as nature reserve in 1979 (Styrsöbolaget, 2017). This has turned the island into a unique and popular destination for visitors.

There are several marked trails through the nature reserve, which also take in some ancient remains. The northerly path passes Brevik, where plants such as hempagrimony, sea aster and sedge are to be found in the damp meadowland. Young broad-leaf trees including hazel trees grow on other former meadows... The southerly path leads past the popular beach at Nötholmen (...) At Stora Röddholmen, there is a rocky shoreline with typical plants such as sea-kale, sea-wormwood and lymegrass. Several species in the nature reserve are protected, such as sea-holly, oysterplant, liverleaf and several species of orchid. (Styrsöbolaget, 2017)

The untouched nature makes the bird and animal life rich. It is also the part of the archipelago where seals are most commonplace.



Conclusion of time





Conclusion of time

Superimposing our investigations of time, three sites are identified. On the border of today's and tomorrow's extremes, an intrusion of the sea can be imagined. Buildings are placed in the topography in such a way that today's extreme level leaves most untouched. Rising further the water finds three passages entering the community. The three sites, still abstract in form, interact with one passage each. They represent a possibility to protect the community from the sea without disrupting the relationship between the two. Instead they emphasize this relationship which is fundamental for the island's identity. They allow water to reshape the landscape over time as it has always. The physical character of Vrångö has before undergone gradual changes, first rising from the sea, becoming one island. Later as farming ceased and a reserve was established it became lush and filled with animal life. It will continue to change as the sea encroaches once again. but the island will not be split into two. The building tradition has changed for each paradigm shift, and now a new layer will be added.

While their main purpose is one, to protect, each site has its own individuality. They perform in the world of today, tomorrow and the day after tomorrow. Presently, each intervention could be a host and manifestation of its own individuality. As the sea rises in the future they become edges, interacting with and defining the water as well as the community.



Water / Human conflict 1

Entrance from the sea

The site is situated next to the harbour visited by travelers from the sea every summer. It is close to the bottleneck connection to the young north settlement and the northwest promenade through the reserve.



Water / Human conflict 2

Historic fishing community The site is placed nearby the piloting cabin on the hill. It is surrounded by the old cluster shaped fishing village, and on top of the old harbour, now covered up. It faces the small bay with crooked jetties.



Water / Human conflict 3

Entrance from the mainland The site is seen from the ferry quay and situated at the end of a large future bay or salt marsh. It involves the main connection from ferry to settement. It could connect north and south reservations.



Place

If I would show this picture to my great-great-grandfather, he would probably say 'it is something very familiar', but if he looked around he would say 'oh my Jesus it is very, very strange'. (Strange & familiar, 2014, 07:00)

The documentary Strange and Familiar: Architecture on Fogo Island tells the story of how architect Todd Saunders shoulders the mission to revitalize an isolated island community, suffering from a dying fishing industry and high depopulation rates, through architecture. Architecture with the aim of making old things in new ways while simultaneously creating a catalyst for social and economic change. Sanders takes the island's specific culture and local building and handcraft tradition into account, but creates something that is not simple copies of the old, instead something fairly strange.

By letting the alien enter one might rekindle the familiar, we conclude while entering the second phase, *place*. We meet for a day-long interview with a local inhabitant and business owner on the island, Håkan Karlsten, to deepen our understanding of the community. The chapter focuses on the local context of our proposed sites. To propose something strange we must first detect the familiar.

Water & Place

Stretching across the topographical passages, the three sites merge with the terrain in two points each. By acting as barriers for a water that still has not come, they also become spatial interruptions, dividing one space into two. One space is vulnerable and changing. It is controlled by the water; it is an exposed landscape space that will be reshaped over time. It has few clear boundaries apart from one face of which our time. imagined building consists, which meet the landscape space. The three landscape spaces risk being consumed by the sea, each in their own way. Sudden or gradual, violent or soft, they are defined by the wind and the water. The other space is protected and lasting, enclosed by existing buildings and the opposing face of our building. The wind is scattered by the hills and the houses surrounding this sheltered community space. Each community space has its own relationship to its context, as it is defined by what is already existing. All three buildings inevitably interfere with existing connections in some way. All resist the water. They have a face towards an exposed landscape space and another to a sheltered community space, dividing the two while producing a border space.

As a we introduce a border on the eastern site, one side becomes part of the community space. Today the carpet of houses dissolve into a space where heaps of old twigs and branches have accumulated into undefinable terrain. Preserving the lands mitigating quality during floods on both sides of the border is essential while adding a barrier for worse scenarios. The landscape space on the other side is a

vast overgrown area which is today hard to understand and difficult to access because of the untamed vegetation. To the eye it seems impenetrable but can be imagined slowly turning into a salt marsh, sandy ground eroding and vegetation disappearing. We envision more access to this overlooked wilderness, and the possibility to observe its change over time.

The western and northern sites have much in common. Close to the sea and the wind they can change rapidly. Both contain a small cliff on one side of the passage and on the opposite side a small municipal complementary building, which could be transformed into anchor points of new border spaces. They both have private property, impossible not to intrude on, but which could also be saved by this intrusion. One difference is that while the southern border interacts with the path to one home, the other does so with a main artery of the community. Today important, this artery will in the future end in the sea. The western landscape space is a bay with private jetties, its community space will be small, enclosed by the old village and the new border space. It has a close connection to the historic fishing community and the piloting cabin on the hill. The northern landscape space is the inner harbour, which will be swallowed by the sea. Its community space is surrounded by houses with secondary boundaries, it connects to the nature reserve and enclave of houses in the north.









0 10 50



Matter & Place

On the strip of lowland stretching from east to west lies the settlement of Vrångö. The congeries of off-white facades contrast the cliffs and vegetation in north and south. The oldest settlement, the cornerstone of the original fishing village of the island, follow the the laws of the hilly terrain. An irregular pattern of plots forms dense clusters of houses climbing the cliffsides. Some plots are enclosed by fences or stone walls but most of them are simply embraced by open grass-areas or barren cliffs. Borders between what is public and what is private are thus blurred as the private zones of each building overlap and blend into a common whole. Many of the houses are a hundred years old but have, on different occasions, been restored and extended. The granite bases, wooden facades and gable or mansard roofs unifies the tectonic expression. At the turn of the last century oblong rectangular buildings constituted the body of the settlement, where barns, storages and dwellings were integrated into one. 'Ryggåsstugan' is a similar building typology that was common in the whole district during this time. A simple dwelling, characteristic by its oblong, single-story formation, that later on as the prosperity grew, developed into larger houses and villas.

Today, many of these simple buildings have been torn down as the settlement has grown, but in some cases they are still in use, incorporated in new contexts and configurations as storage houses or complementary dwellings to larger houses (Werne and Östnäs, 1983, pp. 81-83).

The flat terrain on the former agricultural land enables a more general and rigid typology, 'the carpet of villas', which was brought from the mainland during the 70's and 80's. It represents a completely new mind-set regarding the distribution of public and private space. These plots are clearly defined by fences, walls or hedges and form larger blocks surrounded by straight asphalt streets.

Looking at the matter of earth deposit; a clear distinction between basement rock and post-glacial sand. Soil depth varies. The two sites on the western shore have a shallow soil depth, and a constructed extension, risking little erosion but also providing less mitigation during a flood. Contrary, the eastern site has deeper soil which stretches to the waterfront, meaning a more extensive operation has to be done to attach the border volume to the bedrock.













'Simple house' typology

One of the oldest typologies of Vrångö's settlement is 'Ryggsåsstugan', recognized by its oblong, single-story formation. Today, many of these buildings have been torn down as the settlement has grown, but in some cases they are still in use, incorporated in new contexts and configurations.

Elaborated cluster typology

The oldest parts of the settlement is recognized by an irregular pattern of plots forming dense clusters of houses climbing the cliffsides. Most of the plots lack fences and walls and are simply embraced by grass or cliffs. Thus, the private zones ovelap and blend into a 'common whole'.

Rigid carpet typology

A newer typology of the island is the more general and rigid 'carpet' of villas, brought from the mainland during the 70's and 80's. Plots are clearly defined by fences, walls or hedges, forming larger blocks surrounded by straight asphalt streets. Here, private and public zones are explicitly separated.

Entities & Place

It is winter when the ferry reaches its final destination and we disembark with the few remaining passengers. Going from island to island, the boat has already been emptied before reaching the east bank of Vrångö. During the summers the ferry passengers to the island triple. On the west side more the southern archipelago, hosting twice as many visitors as Donsö harbour, the second in line (Styrsö samverkan, pp. 10-11). Thereby the conditions on the island change greatly over the seasons depending on its isolation or congestion. Together with the other passengers we move along the long path from the quay, to then scatter once inside the settlement. visit. We pass by Vrångöhuset, now locked and dark, but which hosts several community functions. Among these are a preschool and a primary school, a sports hall, venue and a health centre (http://www.vrango.com/vrangohuset/). Across the football field one of the island's three churches is situated. By foot, the two other churches are less than five minutes away. Passing by the playground we arrive to the church of Svenska kyrkan, observing groups of people entering. The hallway is filled with coats as the monthly soup lunch begins. In contrast to the atmosphere of abandonment outside, a lively

buzz of voices reaches us from inside.

Walking through the community, the space perceived as public take different shapes. The newer settlements have straight secondary boundaries that divide public space from private property, making gardens inaccessible but visible summer guests arrive to one of the largest guest harbours of from the street. In the older areas public space is understood as more fluid. Lining the paths are pockets of ambiguous space between the houses. Much of the clearly public space also have an irregular shape. In general there are plenty of large spaces at Vrångö which are public or publicly accessible, some of which have little evident use at the moment of our

> Shaping a content for our triptych, we are challenged by an uneven flux of people over the seasons. The border spaces which in their essence already fulfill a protective purpose, will also be given other roles. There are several community spaces around the island. Therefore we see a potential in introducing three strangers with today absent functions. While they are long-lasting, their use may change over seasons and years. Their activities might expand into the adjacent community spaces. The three will be related but also distinct, placed at the edges of the community.







Conclusion of place

Since the old archipelagic tradition of building and infrastructural development has been more or less abandoned, especially in the mid 20th century, a new kind of adaptation to the sea is called for. Superimposing our investigations of place, four key issues for further development are identified.

Firstly, the triptych. Three sites are found which are related but still distinct, adapting to and hosting their own context. The site in east is situated close to the current ferry quay and will act as a new entrance point towards the community. The site in north is a link to the harbour and the western site relates to the historical core of Vrångö's settlement.

The second issue consider the border space each intervention will generate. The oblong structures divide one space into two; a protected community space and an exposed landscape space, while merging with the topography in each end. The border space relates differently to each side, as one is volatile and changed by the water, and the other enclosed and permanent.

The third issue, bedrock, deals with the need of preparatory work to make the border space resistant to the rising sea. The topography shapes the interventions as our structures become one with the bedrock, merging with it. Hidden from the eye they continue down through the soil.

Finally, the fourth issue, threshold, is the awareness of the present pathways each intervention frame. While today leaving connections active, they aid a fast adaptation to the worst future. Taking form for the rise of the sea they reveal traces of what is to come. Each passage is shaped after its context.

1. Proposed volumes	5. Building i
2. Path crossing triptych building	6. Area save
3. Community space related to triptych	7. Path that e
4. Public building taken into account	8. Existing ro



in need of further risk management

- ed from future floods
- eventually will be underwater
- road connecting public buildings



Embodiment is not a secondary experience; the human existence is fundamentally an embodied condition.(Pallasmaa, 2009, p.13)

Finnish architect and theorist, Juhani Pallasmaa, means that the western division of body and mind disregards the body's meaning for the human consciousness, understanding and existence. The senses of the body connect us to our world, it is a knowing entity (2009, pp. 11-13). Furthermore, the essence of the hand is more than just that of an executor, it also carries intention and knowledge (2009, p. 21). While drawing one looks both outwards, to the observed or imagined, and inwards, into the own mind; "Sketching and drawing are spatial and haptic exercises that fuse the external reality of space and matter, and the internal reality of perception, thought and mental imagery into singular and dialectic entities". As one draws an object or a place, one internalizes its nature without knowing it (2009, p. 89).

Entering a new phase, we use drawing as an exploratory medium from which insights emerge. Both by direct depiction which forces a greater presence and awareness, and by abstraction and interpretation of other senses such as touch. Sometimes an insight comes before a drawing, sometimes the drawing precedes it. We focus our minds on especially tactile and visual impressions and on impressions in relation to the movement of the body. Together we contemplate what the three characters can mean to the body and its memory on each site and on the island.

Body

Matter & Body

Trying to free ourselves from prior notions, we focus on the can imagine it awkwardly being claimed by the sea, a strange contact between our hands and the surfaces around our sites. Different sensations are explored by drawing while changing the pace, direction or focus of the movements of our hands over the surfaces. Challenging ourselves to draw the tactile sensation instead of an image, we concentrate our awareness.

dry, shaped slowly by time or actively by humans, it always has variations. Unyielding and cold under our hands it has an eternal essence, almost indifferent to the sea caressing it. Homogenous asphalt and concrete, mowed lawns, and created by humans. Built to last but also to be maintained, we change in two directions.

underwater ruin.

The eastern site is similar in this way, but there the human made surfaces are more irregular. Some wood is stringy and uneven, its surface sometimes caving, giving a sense of its short-lived nature here on the island, exposed to the sea and The rock is diverse, whether it is smooth or rough, wet or the wind. This relationship between the eternal rock which meets the water, and the perishable wood which hosts the life, becomes evident to us.

The sensations of the wetland around the eastern site Besides the cliffs, the northern site is full of hard surfaces. are very different. It is fragile and fleeting, its reed and mud yielding under each movement. At the same time, it has taken rhythmic wooden decks and facades blend into a landscape a long time to become rich and lush. Divided it will inevitably





<u>cliff</u> A rough skin; heavy body; hard edges; a deep glyph; cold against skin



reed A crowd of high, fragile bodies; vertical movements; bowing by the rain; soft



branches & twigs A vivid mess; a jumble of movements and lines; thorns scratch my skin; unpredictable



stone wall A heavy mass; spherical forms; knobby but soft; deep hollows; hard edges



wooden facade A smooth surface; warm against skin; a rhythmic play of vertical movements; dynamic



wooden bridge A knobbly softness; warm against skin; rhythm of crevices



<u>moss & grass</u> A gentle surface; evenly uneven; wet against fingertips; few edges



<u>tree trunk</u> An uneven play of verticality; rough but warm; a living creature; irregular cavities

Entities & Body

As an attempt to break free from the logics of a digital site plan we immerse ourselves in the experienced details of a route in sequence. Instead of representing it all we limit the information to what is visually perceived along a walk; the matter constituting the pathway, the sightlines of importance, the feeling of moving through space. The walked route is a loop proceeding from the ferry quay in east, passing the three sites of proposed development. At six spots, two by each site, we stay for a longer bit, sketching the scenery of which we appose and contemplate It is reached by a squiggly path meandering between wooden the experience of the specific place and how one reaches it.

The first site is approached through a meadow of low vegetation and reed, parallel to the paved path in south. Beauty lies in the sublime play of shadow and light, in the vastness of nature, but also in the entangled complication of moving through the inaccessible marsh. There is a this site immediately meets the waterline; a literal meeting long straight sightline towards the imagined wall.

The second site is reached through a pronounced path.

Mainly houses, and their gardens, constitutes the paved road we walk upon. After a light turn one gets the first glimpse of the western harbour. Even the horizon is apparent, far away. Here is a tangle of roads, sprawling in different directions; to the south, east, west and north. Here passes a flow of people every day, like water through a creek. Reachable by land or sea. The water in the sheltered harbour lies calm and its surface blank, reflecting the scenery of its surrounding.

The third site hides behind the irregular pattern of houses. facades in the historical core of the island's settlement; through a sequence of framed spaces. When one reaches the paved surface that makes up the site, the view unfolds. Crooked small-boat bridges, fishing huts and tall cliffs in front of the backdrop of horizon. Unlike the two other situations with the sea, today as well as in hundred years from now.



"The walk" - experience map





3

Arriving at the ferry quay, the island's back. Scattered houses to the left, wild nature to the right. The focal point is further away.

Along the straight paved path, a clear movement from east to west. The longer we walk, the more buildings appear.

An untamed marshland full of reed. They bow by the wind. A baroque play of shadow and light. A straight sightline over the meadow. The soil is wet but the sea distant.

Searching some path, let the feet guide our way. Obstacles, bushes and thorns. Beauty lies in the entangled complication, in the challenge.

Northwest of the meadow, a rigid pattern of villas. A dead-end street to the left. Boats walk on legs.

The cliffside to the right is a comfort. A formal movement, following a logic of surfaces.





Pavement and grass. Gardens with hedges frame the path. The view unfolds. A first glimpse of the harbour. An artificial border between water and land.

A tangle of roads, sprawling in different directions. In the harbour the water lies still, like a diffuse mirror, reflecting the scenery of its surrounding.

...

Moving through the irregularity of houses. A squiggly path. On the left side there is water, a bay. Wooden bridges stretch towards it. Soft wrinkles in the water's skin.

A gradient from water to land, distinct but soft. The open sea is a backdrop to the climbing houses on the rocks. Levels.

The sea hides behind the pattern of buildings, dense and irregular. A squiggly path supported by facades. A play of angles and fond motives.

They lean on shoes of rocks, protecting their wooden coats from water.

Water & Body

In three abstractions the water line of each site is interpreted with a focus on layering impressions. The water is experienced differently in each place. Sometimes its presence is visual, sometimes it can be felt or smelled.

At the northern site the sea is close but at the same time far away as the wind and the water is tamed here in the innermost part of the harbour. Looking far towards the horizon, one can detect the open sea between the piers. Both under the water surface and over it the landscape has been modified. A hard edge meets the water, in an attempt by humans to control the sea. On its serene surface clear reflections of boathouses, boats and jetties are sometimes broken by a breeze.

In the marshland on the eastern site the water has a different presence, far away there is a blurred waterline which can barely be seen, a distant sea. Undefined and always changing it blends with sand, cliffs and heaps of seaweed. Soaking our feet at one wrong step is another water, cold and treacherous, more felt than seen.

At the western site, the wind and the water are mostly unrestrained, as we face the open sea. Here the water has both a hard and a soft edge, a bed of sand, alga and mud resting at the feet of a stone wall. Climbing close to the water a sandy seabed is seen under its surface. Although calm this day, the sea here can change rapidly, the force of the water and the wind can be imagined on the skin, waves breaking into the stone wall.



West

Hard edge, at its feet an earthy accumulation of sand shapes the water. Unpredictable water and wind.

<u>North</u> Hard edge shapes the water, uniform seabed, quiet water and broken wind.

<u>East</u>

Vast and varying landscape, hazy water line, slow erosion and infiltrating water, wind shapes the landscape.



Conclusion of body

Profound architecture does not merely beautify the settings of dwelling: great buildings articulate the experience of our very existence.

(Pallasmaa, 2009, p. 19)

The eternal meets the water and the wind, complete on its own, absolute. A footprint that remains over the years to come, playing on the same rules as the heavy bodies of the cliffs. In the calm of the eternal, the ephemeral takes place, always transforming in shape and purpose - as the everchanging communities were protected by historic city walls.

As we move, these eternal beings behave differently, each and one relate to our bodies in their own way. They talk with their surroundings, verbalizing their essence, what has been and what will become. All know the water that surrounds the island, but each relationship is unique.

On the eastern site, *Reed*, a contrast between shadow and light plays with the timeless landscape of the marsh. There is a clear passage through its unfriendly vastness, seen from afar. The sea is distant, but easily approached.

On the northern site, *Brook*, flows are articulated, movement and stillness find their spaces. A framed glimpse of the horizon connects our border to the untamed sea. The still water reflection echo at its base, tying it to the future.

The southwestern site, *Corners*, lies in the heart of the old settlement of the isle. It is reached along a squiggly path, and after a sequence of framed spaces the view unfolds. Our border is in literal contact to the sea and extends a play of perspectives until water is reached and the horizon fully exposed.





The thickness of the wall should, in my opinion, be such that armed men meeting on top of it may pass one another without interference. In the thickness there should be set a very close succession of ties made of charred olive wood, binding the two faces of the wall together like pins, to give it **lasting endurance**. (Vitruvius, 1989, p. 19)

III

Design proposal

The realization of our earlier defined triptych departs from the distinction between eternal and ephemeral elements, which emerge in two architectural layers. Together they form a compound of quite aggressive infrastructural solutions on a larger scale, and lighter architectonic qualities in a zoomed-in perspective. The proposed triptych forms a versatile universe of its own, targeting the local community and citizens associations, as well as the island's guests.

The aim of the walls is to achieve eternal durability while the protected, ephemeral architecture follows the fickle rhythm of time. They interact and accentuate each other, as they become one whole. The twofold proposal on the one hand protects and communicates a determination to sustain today's island community, while preserving its relationship with the sea. On the other it gives space for a local collectivity to thrive side by side with the fluctuating presence of island visitors.

The eternal

A timeless protection gates the island. Three unyielding walls span over the lowland, becoming one with the rock. Although anticipating an invasion by the rising sea, these walls act as passages for the people. Openings cut through them, letting us cross their thresholds. It gives us the notion that someday, these borders will be gradually sealed.

Their erection is painful and causes disorder. Cast in concrete these foreign objects curl over pathways, plot limits and mowed lawns. To seal the terrain they take into their possession a strip of land, disregarding its public or private nature. When complete, they keep today's worst sea levels at bay; the new ground level is elevated. Introducing a new infrastructural layer they take control over the ground and break the wind, giving shelter and stability to something more delicate. As time goes by, their surroundings recover and even flourish. Places that before were inaccessible or passed by with little interest are transformed. A large threat brought with it an opportunity for change.

















East - Reed

The ephemeral

The walls are in place, but they are rigid and cold. In its protection, the ephemeral takes place. Here the ephemeral becomes the host of everyday life. It is the second layer of this proposal; comfortable, functional and changeable. While the walls are held by the public, the ephemeral can be public, private, or something in between. It provides the opportunity for something common or private to coexist with highly public spaces and connections, creating places full of social life and activity without compromising the public. This layer contains spaces that house immediate necessities and desires. Therefore, as we continue, we look back to our interview with one of the islanders, and to our visits. We depart from a threefold program when we investigate the relationship between ephemeral and eternal.

Light wooden structures turn towards the walls. Their simplicity complements the intricacy of the walls, shaping spaces between them. The ephemeral reacts to the eternal, creating a tension between the two. It finds a sunlit wall or a view over the sea, creating sequences of impressions and moments of revelation.



Southern nature reserve







West - Corners



<u>North - Brook</u>




The concrete walls and the wooden buildings are separate makes the wall two thirds heavier than regular concrete. As structural elements, but they are joined spatially. Interior the skin of the concrete ages the aggregate is exposed, making spaces open up towards the walls, their light and views defined its surface dark and rough with time. The wall stands without by this meeting. The large eaves of the roofs stretch out as if reinforcement, aging on its own terms. also belonging to the walls. The use of iron ore as aggregate





Facade Scale 1:25 Facade detail Scale 1:25

Reed

The eastern proposal is first seen from afar. From the ferry quay it is approached on a long footbridge crossing the wetland. Seemingly homogenous from a distance, its depth and crevices appears to the eye as one comes closer. During the day, large creases in the wall cast dark shadows under the sun. At night, interior lights escape through them. Two wooden structures surface above the wall, their roofs in dialogue with it. The buildings rest lightly above the wetland, charred wooden pillars burrowing into the damp ground.

Since the wall divides the wetland into two, each side changes differently over time as the outside is transformed by the sea. When the sea rises further, the footbridge can be lifted along the extended pillars, forming a long pier into the sea. The entrance to Vrångö from the mainland is thereby moved and the present café situated in water. One of the eastern buildings could become its new base. The other could perform as an open space for parties, conferences and community activities.



View from footbridge in southeast





East - Section A-A Scale 1:50



Interior perspective - rentable hall

An axis joins the two buildings. As one pass into them through narrow passages, larger spaces are revealed, defined by the concrete wall advancing and retracting. In the atriums between wall and wooden building the wet ground is slowly recovering, with time it will be overgrown by bushwood, birches and reed. Narrow interior spaces expand into the concrete surfaces of the wall. Sights of the landscape are caught through its openings.



East - Plan Scale 1:100

Corners

In the old village the western site appears suddenly as one takes a turn and reaches a clearing in the cluster of houses. If one approaches the buildings from the heart of the old village, the surfaces of the wall seem to be layered, leaving only one narrow sightline of the horizon.

From the sea, the wall and the half hidden buildings emerge between the rocks as one drifts by the bay. The concrete wall rise from the water. Light reflected in the water surface is caught by the sheet plate under the eaves of the roof, traveling into the buildings.

One of the buildings serves as an exhibition space which can expand or shrink when needed. Its first room could contain a permanent exhibition, and its second temporary ones. This space is open to the public while the other building, a workshop or atelier, could be commonly shared by a cooperative or rented for periods. Between the two a smaller square takes form, performing as an outdoor space into which the adjacent activities can spread.



View from sea in west



View from east



West - Plan Scale 1:400



West - Plan Scale 1:100



West - Section B-B Scale 1:50

Brook

Moving through the neighbourhood one reaches the northern site. First, an opening in the wall gives a sight of the harbour inlet far away in the distance. The roof of the wooden building frames the opening. Its heavy beams gives a hint of the large interior space. As one procedes, a passage in the wall is revealed which disperse into three directions.

This place was once a broad, mainly unused, passage between private gardens. The wall provided a chance to define this place more by purpose, and by dynamic or static, and private or public space. Now, there are both spaces for movement and stillness.

Close to the harbour this building could function as a workhop both for boat owners and people working on their summer houses. A belt of closed functions line a windowless facade and the large hall opens to the concrete wall. As on all sites, a toilet shared between the public and the common is accessed from outside.



Interior perspective



View from east





North - Plan Scale 1:400



North - Plan Scale 1:100



North - Section C-C Scale 1:50

Time, place & body

Reaching the end of this tale we reflect upon the three main aspects of our explorations - time, place and body - and how they are discernible in our proposal.

If one begins with *time*, it is intrincic to the main issue of this project and probably also the most prominent aspect in the being of the walls. With the persistence of a cliff they stand against the rising sea while the lighter, fleeting architecture takes shelter in the calm of it. It is a subtle reference to the historic building tradition on the island. Worn down by time the walls are, also like the cliffs, organically shaped by the forces of nature. On the edge between the exposed and the protected they will, when the sea is on the verge of intruding, be the link between the two. Today's passages are a reminder of a future in which they will be gradually sealed. In a sense, the interventions communicate with the past and illuminate the future.

When it comes to the aspect of *place*, all proposed walls actively participate in and articulate their immediate spatial contexts. They react on the topography, on the point of compass, wind, water and sun, but also on subtle characteristics of their surroundings. In their context they are alien and familiar at the same time and adds a new annual ring to the island community.

An example of the bodily presence in the architecture is pronounced through the materiality of choice. Interior spaces open towards the walls, leaving the visitor alone with the raw concrete element, forced to pay attention to its firmness and protecting purpose. The contrast between eternal and ephemeral, heaviness and lightness, can be experienced on all sites. Since the walls partly conceal the water from the visitor, the removed image amplifies the sounds of roaring waves or soft ripples. Other senses than solely sight are activated.

Together, the aspects link the proposal to the theory of Critical Regionalism. Throughout the process they have supported the equilibrium between the placeless modern and the locally rooted. Three strangers become one with their environment.







Photo by Pablo Encinas Alonso

IV

Conclusion

We have immersed ourselves in a local context with a global problem as driving force. Early discovering the sensitive state of this combination, we saw it was crucial to understand the local context to approach our main question: How can architects, in a local context, support a cultural and historical continuum endangered by sea level rise? Turning to critical regionalism, we developed a method to search for yet remote answers. This method gave a defining moment; the discovery of a potential solution. A kind of solution which up until then was never imagined. In addition, the rest of our analysis had several similar moments of insight, an indication of the instrumentality of this method. One advantage of the method was that we could rely on it and find motivation during difficult stages of the process. Other benefits were the aid in structuring a group project, and the progressive delimitation it implied.

a more secondary part in the process of a feasible project, to achieve a more holistic solution. Also, the method was redefined to a smaller extent during the process, as the expected result of each phase changed during its course. We had to find a balance between our devotion to the method and occasional flexibility. The method provided a strict general framework which allowed more intuitive processes within it. Therefore, there were many results of the analysis, and not all were developed further as we entered the proposal phase. Nevertheless, they formed an important overview, influencing the project outcome. At times, the synthesis of a 'main character' and a critical regionalist 'aspect', were debated and

could yet be questioned. This since the content and material of each such intersection was defined along the way. Further, we acknowledge that realizable projects dealing with similar large-scale threats should be more strongly anchored in the local population.

Overall, the method was in itself an answer to our main question. It meant understanding and utilizing the past and the present to define the future. It meant looking at a place, and seeing its being, what it has to offer, what it is missing, to understand what we can contribute with. It meant using our professional sensitivity and personal impressions of the island, to articulate the meaning of this context. Here the outcome should, as answer to all thesis questions, also be considered beyond its physically protective quality. It is a difficult task, since the solution with a barrier against the sea emerged early and was central in the process. We mean Despite this, we expect that such a method would have that the design proposal does support a cultural and historical continuum endangered by sea level rise. It does so, not only as, but also *despite* and *beyond* being a barrier.

> While leading to an unexpected design proposal, the method at the same time linked theory, analysis and design to a good extent. Critical regionalist features identified in the various projects described by Grillner are likewise detectable in our design proposal.

> Possibly, the method could be applied in similar situations, but in a different local context, and even with a different threat. One would then exchange defined 'main characters' for those identified in the new context, while applying the same aspects: time, place and body.



V

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