

EMBODIMENT

*TERROIR - 'A SENSE OF PLACE' - FATHOMS THE SUM OF THE EFFECTS CREATED BY
THE SPECIFIC GEOGRAPHY, IDENTITY, RESOURCE, USAGE AND CLIMATE OF A CERTAIN
PLACE*

PROJECT TITLE

Terroir

- A Research Center for Seaweed

ABOUT

Terroir

The growing and the immersive

The strategic & embodied

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Preface

This report documents the exploration of an architectural and urban design master thesis developed at Architecture & design, Aalborg University.

The project takes a point of departure in a subjective motivation, fathoming theoretical, strategic and architectural considerations in relation to the design of a research center for seaweed on Samsø.

The project promotes a discussion of ideas related to planning, resources, architecture and place-thinking.

The project is structured in three physical booklets: 01 Basis: containing a theoretical paper and project strategy. 02 Embodiment: containing the architectural project and presentation. 03 Appendix: containing scaled-drawings and presentation material.

The theoretical paper and project strategy found in 01 Basis, and the architectural project contained in 02 Embodiment, are conceived as independent parts, to be read and understood as two separate entities, but reading both is recommended, as each part substantiates and informs the other, thus presenting a more holistic view on the architectural design project.



Synopsis

Introduction

On the basis of a widespread discussion about the future of peripheral areas in Denmark, the agenda of the thesis project has been to strategically, theoretically and architecturally explore a conception which explores the role of an island in the Danish landscape, reinterpreting the way we imagine coastal culture, resources and research environments.

Substantiated by research and theoretical reflections, this main part of the thesis project - Embodiment - seeks to build upon the research-based and theoretical experiences gained.

In the end, we wish to explore these realms of architecture, and spark a discussion of its role in peripheral Denmark.

Architectural project

What has been the focus of the architectural project is to explore physical conceptions of the implementation of a research center for seaweed, on the island of Samsø. The exploration aims to study the role of such an architecture in a scenic coastal context, and which qualities this might entail.

The research center itself is imagined as a place where the interrelatedness between body(place), mind(thought), spirit(atmosphere) is fostered. Creating spaces for the researcher, that place *him* in the very core of natural immersion - in close relation to the realities of place and seaweed as its physical scientific natural matter.

The spaces, in flux with the surrounding landscape, grow out of the defining quality of human beings, ultimately aspiring to create places for immersion. Thus, the institution becomes

the medium of the work, as a hybrid of home, work, community and leisure - a research complex which fosters an immersion of one's desire to express oneself, to live, to experience and to learn, rather than solely to work.

In dialogue with the narrative, material patterns and temporal changes of the landscape, the elementary formal language and facade unfolds a narrative about the relationship of the horizontal, the vast ocean and cultivation of nature, epitomizing what human endeavour aspires to accomplish.

Ultimately, the research center and the surrounding landscape is a refuge from normatives, an extensive landscape, an immersive place for focus, contemplation and tranquility - where we begin learning, understanding, cultivating, consuming and ultimately experiencing the potentials of seaweed on the island of Samsø

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Synopsis

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Reading guide

This report is an independent part of the thesis project, representing the architectural design explorations. Thus, it is not explicitly in connection with the project strategy or theoretical paper, instead, it is an embodiment of certain aspects and considerations within, merely building upon such notions.

Apart from the introductory pages which describe the intention of the architectural project, this report is comprised of 5 subsequent chapters.

00 Introduction

01 Programme

02 Place

03 Ideation

04 Materiality and detailed design

05 Critique

01 Programme sheds light on the specific demands of functionality, size, room specifications, and desired programmatic relations of the research center.

02 Place is dedicated to explaining how the chosen place is analyzed in phenomenological and pragmatic approaches: including reading the distinctiveness of the landscape, vegetation, infrastructure, orientation etc.

03 Ideation contains a documentation of selected parts of the design process, in terms of settlement in the landscape, concept development, design development, technical considerations and detailed design.

04 Materiality and detailed design summarizes a presentation of the design explorations, explanation of materials and design details through interior and exterior perspectives.

05 Reflection The final chapter concludes upon the architectural project, what the project sought out to investigate, and how it turned out. Ultimately, binding a loop between the project motivation in the *Basis* report, a reflection of thoughts and ideas of the project in relation to our future professional endeavour is introduced.

Methodology

An interdisciplinary approach

In its origin, we deem architecture as a multidisciplinary approach, as one of the fundamental aspects of architecture is to answer how and to what extent it affects *man* and society in general.

Thus, the discipline of architecture must raise and touch upon topics that reach beyond the physical border of the construct. Grasping beyond aesthetic considerations and solving functional demands in regards of redefining our physical world, we strongly believe that it must also bear a significance in our society and how we occupy it.

“The architect should be equipped with knowledge of many branches of study and varied kinds of learning, for it is by his judgment that all work done by the other arts are put to the test.”
(Vitruvius 1960)

Between thought and practice

In this project, architecture is viewed as a constant state of limbo between both positive research evidential methods, tangible measures and artistic subjective values, emotions and intuitive phenomenological considerations. This spans a quite large academic field between thought and practice which together should comprise architecture as a holistic construct that balances between subjective emotion and scientific models.

The juxtaposition of these seeming contradictions is indeed challenging, nevertheless we believe that notions of research, strategies, technique, aesthetics, matter and atmosphere should all inform the understanding and practice of a multifaceted and informed architecture.

A cross-scalar thought

Balancing between the beforementioned contradictions, the research center itself fluctuates between dualities and commonalities of the introvert and extrovert, the enclosed and the open, the private and the public, the contemplative and the fellowship. Thus, the research center seeks to grasp across different realms - between the national and regional scale of the seaweed island network, to the local scale of Samsø, the surrounding landscape, and the interrelated spaces within.

It may not be explicitly highlighted in all cases, nevertheless, the interrelatedness of these aspects remains as one of the central considerations throughout the entire report.

Introduction

AN EMBODIMENT OF THE PROJECT STRATEGY

embodiment

noun \im-ˈbä-di-mənt\

‘a tangible or visible form of an idea, quality, or feeling.’

The Oxford Dictionary defines *embodiment* essentially as a representation or expression of something in a tangible or visible form. The overall intention of this report and thus architectural project, is to explore and study an embodiment of the thoughts and ideas considered in the project strategy and the *terroir* of a chosen place on Samsø.

Based on considerations in the theoretical paper and the project strategy, the report thus revolves around architectural studies that seek to explore physical conceptions of the implementation of a research center for seaweed, on the island of Samsø. The exploration aims to study the role of such an architecture in a scenic coastal context, and which qualities this might entail.

It is now regarded as a fact that our human ancestors - the hominids - did not develop in the dry and hot Savannah, but instead in moist and humid areas, the coast and ocean. This is due to the fact that coastal areas were a source for rich essential fatty acids. Such as seaweed, which are required to form a complex nervous system and develop our brains. (Mouritsen, O. G. 2009)

The interrelatedness between this historic narrative, the considerations presented in the project strategy and the discussions in the theoretical paper - a scientific research center for seaweed, located on an island in Peripheral Denmark in close proximity to the potential seaweed network in which the center would play a key role, underline the narrative within the architectural project.

As a part of the strategic seaweed network, the role of the research center is to gather, generate, spread knowledge, while affording an experience of the physical context of seaweed and coastal culture. This being said, the research center is neither a production facility or a cultural institution. It can be portrayed as one entity within the larger context of the seaweed network - an institution for learning and experiencing seaweed, a place for immersion, a synergy of functions. It is in essence a place where research, knowledge, thoughts and ideas are exchanged within the network and exposed to the public.

Thus, the project is not an exploration of rethinking or creating the optimal research center, it is instead a exploration of creating a place for the researcher, that places *him* in the very core of natural immersion - in close connection to the natural place, seaweed and its physical scientific natural origin.



A Research Center for Seaweed

THOUGHTS ON AN INSTITUTION - A PLACE FOR IMMERSION

Commonly, a research institute is an establishment endowed for doing scientific-based research. Research institutes may specialize in basic research or may be oriented to applied research. Typologically and historically, the primary domain of a research center within natural science are comprised of laboratories for experimentation and applied trials, offices for documentation and smaller common spaces for breaks. Astonishingly, the overall model of these institutions have remained, with a few exceptions, largely unchanged throughout the twentieth century. (Jameson, P. 2000)

Focusing on the current institutes for seaweed research, these are today predominantly comprised of purely functional and technical considerations. They are located in relation to universities or campuses, commonly far away from the very matter in which research - being specifically water and seaweed in this project. Additionally, in relation to technical, administrative and security reasons, spaces for public learning, stakeholders and researchers from other interrelated fields are equally decentralized, not related or in many cases, non-existent.

Evidently, this decentralization can be traced back to the modernistic planning introduced during the 1940's, which today, rightly so, has led to an infrastructural and bureaucratic efficiency in relation to the near physical connectivity between institutions and learning environments in Denmark. (Thomsen, K. 2012)

Be as it may, regardless of what one might think of this quantification and standardization of institutional architecture, the immediate consequence has, nevertheless, been that there exists an interrelatedness between body, mind and spirit. We do indeed respond to our surroundings, whether it being natural, built or immaterial space. (Pallasmaa, J. 2005)

The institution as a place for immersion

Pallasmaa discusses the role of the architect in order to rediscover a haptic and emotional depth of architecture and a collective neglected sensitivity:

"The duty of (architectural) education is to cultivate and support the human abilities of imagination and empathy, but the prevailing values of culture today tend to discourage fantasy, suppress the senses, and petrify the boundary between the world and the self." (Pallasmaa, J. 2009, pp. 20)

That being said, this project does not intend to propose a solution that responds to Pallasmaa's view of the decrease of sensibility in the modern conditions. Neither does it generalize contemporary institutional architecture as being such. Nevertheless, as bold as the postulate might be, it serves as an inspiration to rethink the fundamentals of such institutions, and the existence of people within them.

Ultimately, the goal must be to rediscover and remember these institutions as entities which are also defined by desires, rather than sole functional and empirical factors. These desires, as defined by Kahn are: the desire to learn, the desire to meet each other, and the desire for well-being. (Kahn, L. 1979)

Already during the mid 70's, Kahn's understanding of different human institutions touches upon the very nature of what makes us human:

"We tend today to regard institutions negatively. We think of large, bureaucratic, unresponsive organizations that are more concerned with their own growth than with serving human needs." (Kahn, L. 1979 pp. 65)

For Kahn, architecture is the art whose concern is human institutions. In his view, buildings are not mere abstract forms; they are always for an institution: the house is for residence, the school building for learning, the laboratory for science - institutions for different immersions.

Inspired by Kahn's and Pallasmaa's thoughts, such institutions ought to grow out of the defining quality of human beings, ultimately aspiring to create places for bodily immersion. Thus, the institution becomes the medium of the work, as a hybrid of home, work, community and leisure - an architecture which fosters an embodiment of one's desire to express oneself, to live, to experience and to learn, rather than solely to work.

"A building can and should house the spirit of its institution, even if its immediate users have forgotten it." (Kahn, L. 1979 pp. 66)

Being in flux with nature has shown a scientific evidence of preventing stress, promoting learning environments in which immersion, contemplation and tranquility are fostered. (Hansen, K. Nielsen, T. 2005)

As the cornerstone of natural sciences is to elucidate and comprehend the rules that govern and define the natural world, nothing could make more sense than imagining a place where the interrelatedness between body(place), mind(thought), spirit(atmosphere) is fostered. Creating spaces for the researcher, that place *him* in the very core of natural immersion - in close connection to the realities of place and its physical scientific natural matter, thus, only seems logical.



Programme

DEMANDS AND DESIRES FOR ROOM PROGRAMME

CHAPTER 01

page 10-25

CONTENT INDEX

+ Introduction

+ Roomprogramme: Size and specification

+ Programmatic diagram

+ References and inspirations: Institutional architecture, Wineries

Introduction

Based on considerations from the strategy, the research center is imagined as a 'hybrid platform' in which spaces for applying, creating, communicating knowledge and experiencing seaweed are made possible. Furthermore, in relation to chapter 00, which introduces functional and desired spatial and atmospheric ideas - a room programme for the different domains of the research center are unfolded in the following chapter.

The specific demands of functionality, size and specification, and desired programmatic relations are based upon chosen typological and architectural references presented in next subsequent paragraph 'References and thoughts'.

During peak seasons when the research-spaces are sealed off, dwellings, spa, restaurant and living room can be transformed into a recreational retreat, open for tourism, weekend accommodations, gastronomy work-

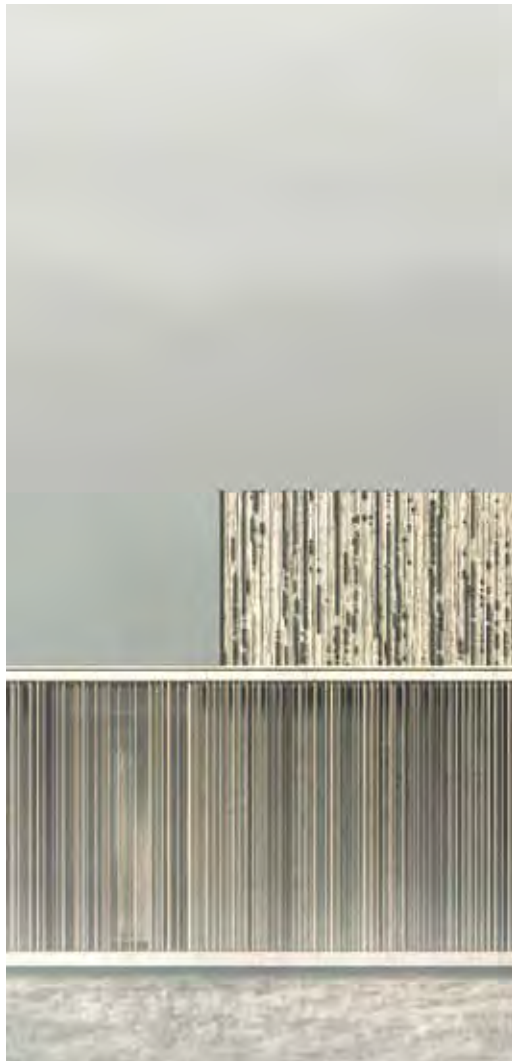
shops, cooking-classes and spa treatments. These considerations are only made on a conceptual level, and thus not further developed/unfolded in the project, as the researchers, visitors and stakeholders are the primary user group.

As a delimitation it must be said that the functional demands and specific programmatic organisation are based primarily on an interpretation of introduced references and thoughts, rather than specific figures or organisational models. Such technical specifications and requirements, inspired by *Building Type Basics for Research Laboratories* (Kliment A. S. 2008), have merely been used as point of reference and treated conceptually on an underlying level, and will therefore not be explicitly unfolded as such.

This is primarily due to the fact that this research center would be one of the first of its kind, as there are only two by our estimation, which are yet to be built. In relation to the defined time frame of

the thesis project, it must also be noted that there has been a weighting of which specific spaces and aspects of the center are focused on, and others which are merely conceptually treated.

Thus, design considerations according to indoor climate, energy consumption, structural optimization, daylight level, economy and other technical aspects of the construct realm of architecture, which definitely would have given character to the spaces, and thus inform the architectural presence, will only be developed on a conceptual level and not elaborated extensively. Nonetheless, some of these aspects are considered on an overall level in the room programme.



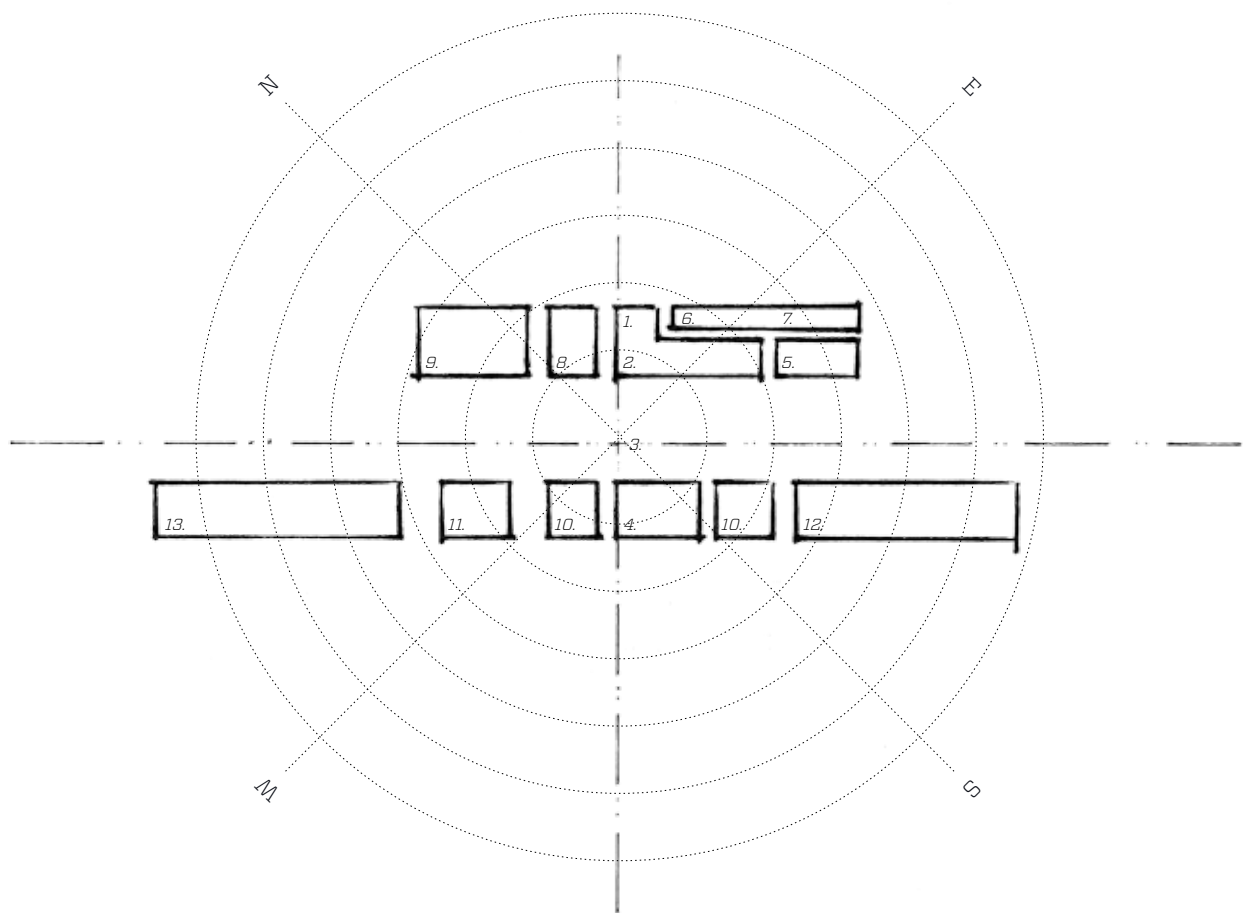
Programmatic Diagram

PROGRAMMATIC OVERVIEW

The diagram gives an insight of the functional distribution of room programme, in relation to micro-climatic daylight considerations and interrelated functional demands and programmatic desires.

In connection to the beforementioned, the programme is organized in three entities; the first representing the public and common spaces, the second encompassing the research facilities, offices and living quarters.

Lastly, hinted by an organizational axis, the last element represents the cultivation and production facilities, which permeate and connect the two adjacent wings.



1. Arrival 2. Entrance 3. Open-air cultivation 4. Indoor cultivation 5. Tastingroom/dining 6. Service and Administration 7. Livingroom/commonspace 8. Learninglab & stakeholder offices 9. Conference & Seminar 10. Research Laboratories 11. Spa 12. Researcher offices 13. Researcher dwellings

References and Inspiration

PROGRAMMATIC AND SPATIAL CONSIDERATIONS

Considerations about programme, functionality and spatial relations are presented in two categories in the following chapter. Thus, this can be read partly as the project focus and to some extent delimitation. To clarify, in relation to the project focus, the research center is primarily based on programmatic and spatial considerations, therefore the functional aspects are limited to more or less conceptual thoughts.

Due to the fact that this research center would be the one of the first of its kind, it has been a challenge to visit, make case-studies or even find reference projects of such kind, as they simply are yet to be built. Although a few references of currently established seaweed production facilities in Holland and Ireland can be found, they are predominantly comprised of purely functional and technical considerations. While the research facilities are commonly decentralized and located in universities or campuses far away from the seaweed and the place it is cultivated, public learning facilities, spaces for stakeholders and researchers from other fields (in the specific case of this project; gastronomy, bio-medicine, material innovation etc.) are equally decentralized or non-existent.

Although these contemporary research facilities for seaweed, and other built institutions are used as inspiration for learning environments and the technical capacity of such institutions, it must be said that this project seeks to foster an alternative to mono-functional institutions - as touched upon in chapter 00. In the scope of the project, it was therefore deemed more fruitful to use such cases simply as references to inform specific aspects of the project, rather than elevating these as an architectural approach or method in contriving the research center.

Inspiration for the abovementioned requirements and desires are represented in two categories, one revolving around a *traditional* research institute - based on Louis Kahn's, Salk Institute for Biological Studies, and the other based on references from the world of viticulture - more specifically wineries.



fig. 01

Institutional Architecture

LEARNING FROM SALK INSTITUTE

Early labs, such as Thomas Edison's facility in Fort Myers, Florida, were simple work areas, with basic case-work and simple operational procedures. Technology was limited, and there was little equipment to support the research.

The first major shift in laboratory planning and architecture in the 1960s, with the development of interstitial space at the Salk Institute in La Jolla, California. In cooperation with Jonas Salk, Louis Kahn would lead the effort to create one of the first laboratory facilities in the world, that would shift the traditional understanding of a research institute, which remained unchanged for about a century. (Kliment A. S. 2008)

His overall thoughts were based on the following key principles; the institute had to be a 'social institution' fostering

interaction and team-based research as well as individual. In relation, an appropriate balance between open teamwork labs, and secluded individual labs had to be achieved. And lastly, flexibility for personal and technical changeability was factored.

Despite conceptions of scientists toiling in isolation, he portrayed institutions as intensely social spaces. Kahn believed that exercising science would function best if it was supported by spaces that fostered both structured and informal interaction, flexible use of space, and sharing of resources.

"I did not follow the dictates of the scientists, who said that they are so dedicated to what they are doing that when lunchtime comes all they do is clear away the test tubes from the benches and eat their lunch on these benches... I separated the studies from the labo-

ratory and placed them over gardens. The garden became outdoor spaces where one can talk. Now one need not spend all the time in the laboratories."
Kahn, L. in (Ronner, H. 1987)

Clearly, Kahn's intention was to establish spaces for the exchange of ideas, social interaction and community, as well as work spaces for mutual and individual contemplation. Thus, he separated the laboratories, offices and common spaces and treated them as different realms within the same entity. The offices would foster space for individual thought, while in the predominantly open laboratories the researchers would share the room, equipment and bench space.

This way, Kahn's intention was to embrace different realms of human desires, through the appropriation of spaces which could support such acts.



fig. 02



fig. 03



fig. 04

Wineries

LEARNING FROM VITICULTURE

During the last decade, the world of wine has undergone a profound transformation. The innovation of new oenological techniques, the globalization of viticulture and the international wine market is more than ever growing into luxury and mass-market segments.

During the last 5-10 years, multiple new wine yards have sprouted in the vast growing wine-districts such as the Bordeaux region. Represented by architects such as Frank O. Gehry, Renzo Piano, Alvaro Siza, Zaha Hadid, Steven Holl and Mario Botta, these projects testify to the particular challenge and fascination inherent in what is, in fact, purely functional architecture. (Woscheck HG, Duhme D, Friederichs K 2012)

In the purely functional process of making wine - a very contextual conception - the architecture must adapt,

support and enhance complex processes such as: maceration, pressing, fermentation and aging, whilst aspiring to the recreational and functional needs of workers, researchers and tourists.

As the term viticulture denotes - the science, study and production of grapes are the predominant factors of its architecture.

Thus, the conception and livelihood of these projects are to a large extent influenced by, the place and its *terroir*; the precise production techniques, laboratories and facilities that are required, and the unusual pairing of recreational and tourist based programme.

This unique interpretation of place, program, function and lastly architecture, in many ways touches upon sim-

ilar themes of the thoughts in relation to the ideological basis of the research center. These projects have the ability to inspire an unique specification of program, the design process and perspectives upon the role of the narrative to architectural quality in relation to the place.

In the following paragraph, a selection of these projects substantiate references and thoughts of functional, spatial and atmospheric considerations.

For that reason, it is important to underline that these references are not to be understood as a comprehensive investigation of architectural quality in general, or that the project completely resides on references of wine architecture in general, but are instead selected to visualize and inspire the room programme and later on; the design process.

Cantina Podernuovo

ALVISI KIRIMOTO + PARTNERS, SIENA, SOUTHERN TUSCANY, ITALY



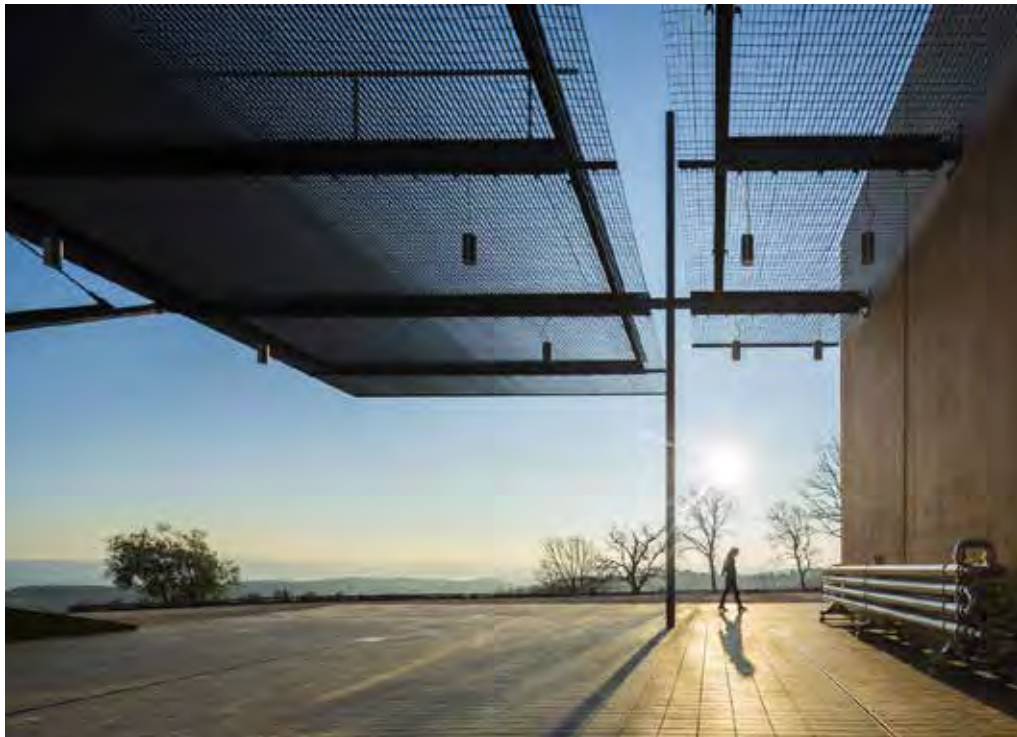
The building is conceived with production in mind, following strict requirements of winery-design; however, it still finds inspiration in the landscape.

fig. 05

fig. 06

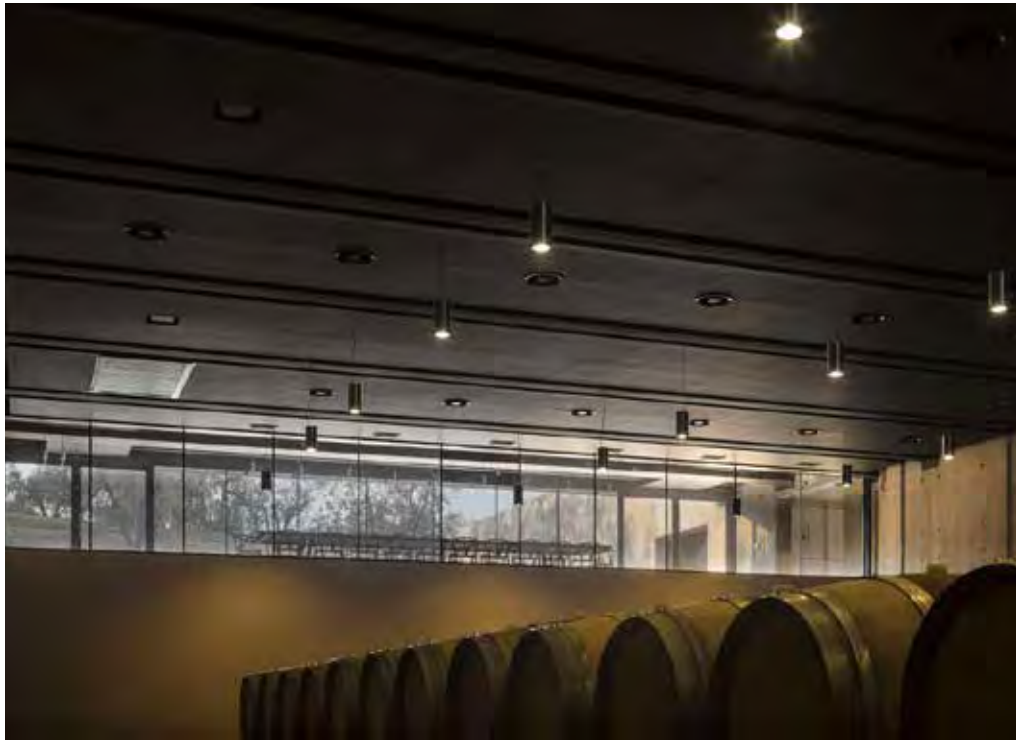


A sequence of four concrete walls in a clay-like tone, cleave the landscape according to the arrangement that follows the maximum slope of the hill.



The project was developed to maximize functionality and optimize distribution. Punctuated by the presence of four parallel concrete walls, the main view culminates in the vineyards.

fig. 07



Partially embedded in the terrain, the spaces dedicated to production maintain required temperature and humidity levels.

fig. 08



In every space in the winery, it is possible to look out towards the Tuscan hills.

fig. 09



Interrelated spatial exchanges are fostered, as seen in the dining area with a direct overview of the storage space.

fig. 10

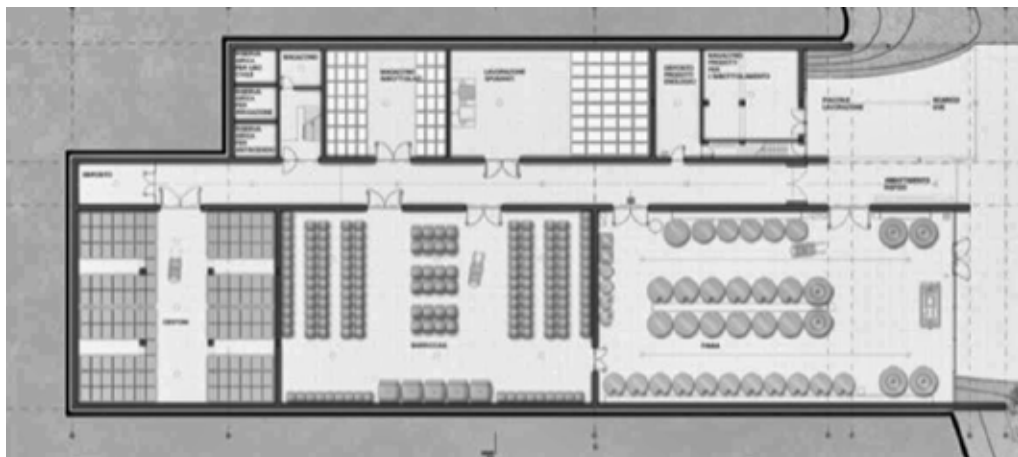


fig. 11

L'and Vineyards Winery and Hotel

PROMONTORIO & STUDIO MK27, PORTUGAL



The winery seeks to combine the rural experience of wine and olive oil production, with the amenities of a recreational and leisure based affordnces.

fig. 12

fig. 13



The building functions as a winery, where guests experience the whole winemaking process, from grapes selection, crushing, fermentation and pressing, to barrel aging, blending, filtering and bottling.



In addition, the programme includes reception, clubhouse, restaurant, spa with indoor pool, and guesthouse suites.

fig. 14

Place

LILLEØR

CHAPTER 02
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CONTENT INDEX

+ Introduction

+ Choice of Site

+ Coastal Culture

+ Traditions & Heritage

+ Arrival & Immersion

+ Layering

Introduction

In the following chapter, emphasis is put on gaining a historic-cultural perspective on the coastal culture, and how this is interrelated in connection with reading the site and the research center. Furthermore, the aim is to uncover the significance of the specific place - the chosen building site. The intention of the site analysis is to shed light on both pragmatic and phenomenological considerations, ultimately showing how Lilleør is portrayed in relation to the different facets of the project.

In order to understand the local proximity of Lilleør, we believe sensitive approach should implore an intimate, in-detail and atmospheric rhetoric, constructing a lens through which it becomes possible to grasp the various facets of a context in a smaller scale.

Beyond the notion of statistics and research, this ultimately requires an immersion of one self, in which focus is put on the cognitive, existential and sensual comprehension of the place.

This phenomenological approach encompasses all things that occur or take place, fathoming both immaterial and material substance that together coalesce to form the predominant character and atmosphere of the environment. This contains the potential of revealing which local, natural and cultural characteristics a place can give rise to.

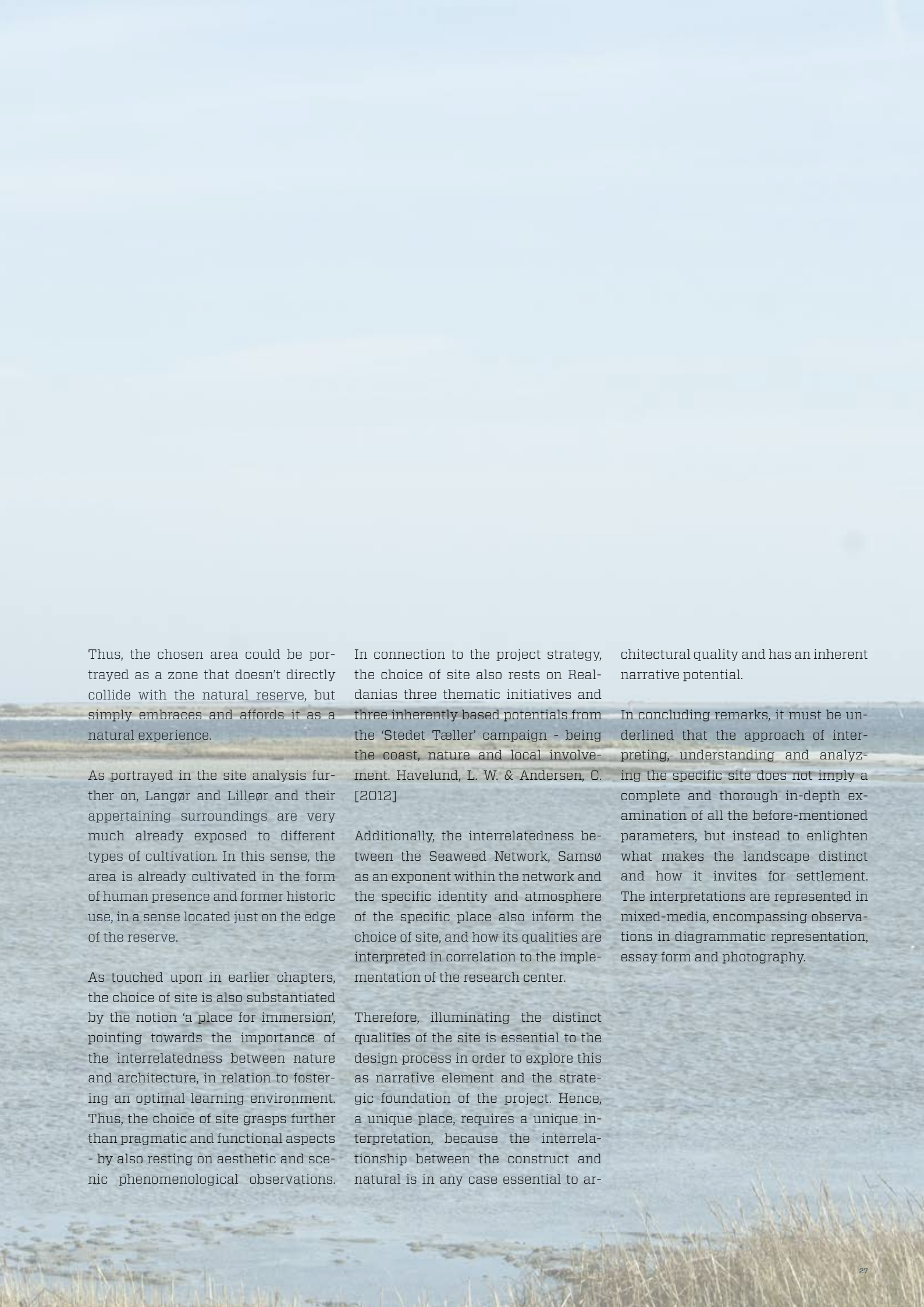
Implementing a pragmatic approach in order to structure and make the interpretations and readings tangible, will also be a key factor towards unearthing the architectural concept.

On the basis of the considerations from the building program and the over-

all thoughts on the research center, the analysis is furthermore implicitly based on how the site ought to be read and treated according to the distinct character of the place and how the research center can adapt to these conceptions.

Choice of site

Stavns Fjord - the archipelago in close relation to Langør and Lilleør, is in fact a wildlife reserve. In correlation to the discussion about Peripheral Denmark, and building on areas that are in such close proximity to a preserved natural landscape, this place - among others in Denmark - could be perceived as a zone in-between the preserved natural reserve and the coastal cultural landscape.



Thus, the chosen area could be portrayed as a zone that doesn't directly collide with the natural reserve, but simply embraces and affords it as a natural experience.

As portrayed in the site analysis further on, Langør and Lilleør and their appertaining surroundings are very much already exposed to different types of cultivation. In this sense, the area is already cultivated in the form of human presence and former historic use, in a sense located just on the edge of the reserve.

As touched upon in earlier chapters, the choice of site is also substantiated by the notion 'a place for immersion', pointing towards the importance of the interrelatedness between nature and architecture, in relation to fostering an optimal learning environment. Thus, the choice of site grasps further than pragmatic and functional aspects - by also resting on aesthetic and scenic phenomenological observations.

In connection to the project strategy, the choice of site also rests on Real-danias three thematic initiatives and three inherently based potentials from the 'Stedet Tæller' campaign - being the coast, nature and local involvement. Havelund, L. W. & Andersen, C. [2012]

Additionally, the interrelatedness between the Seaweed Network, Samsø as an exponent within the network and the specific identity and atmosphere of the specific place also inform the choice of site, and how its qualities are interpreted in correlation to the implementation of the research center.

Therefore, illuminating the distinct qualities of the site is essential to the design process in order to explore this as narrative element and the strategic foundation of the project. Hence, a unique place, requires a unique interpretation, because the interrelationship between the construct and natural is in any case essential to ar-

chitectural quality and has an inherent narrative potential.

In concluding remarks, it must be underlined that the approach of interpreting, understanding and analyzing the specific site does not imply a complete and thorough in-depth examination of all the before-mentioned parameters, but instead to enlighten what makes the landscape distinct and how it invites for settlement. The interpretations are represented in mixed-media, encompassing observations in diagrammatic representation, essay form and photography.

Coastal Culture

THE LIVELIHOOD OF COASTAL AREAS

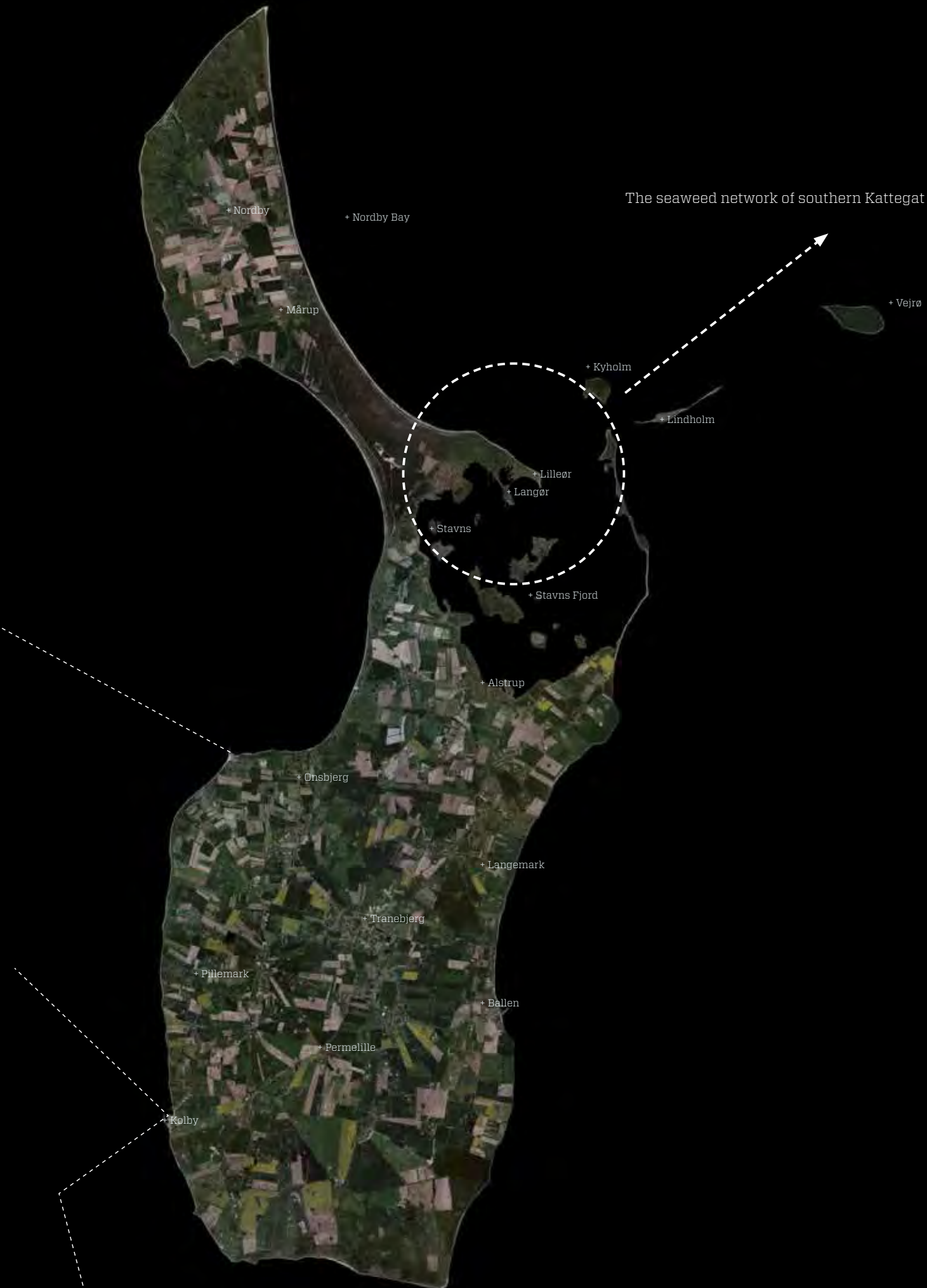
Throughout hundreds of years, the coast has fostered living conditions for people, having a fundamental impact in their livelihood.

The notion of coastal culture refers to human life, human settlement and exploitation of coastal and marine resources. (Mortensøn, O. 2002) With its long coastline and numerous islands and islets, Samsø can be said to be greatly influenced by the coastal culture. Coastal culture encompasses the activities and physical relics which have their livelihoods in and around the coast, being; fishing villages, ports, pontoon bridges, houses and holiday homes etc. Thus, it can be said that life on Samsø and more specifically around Langør is largely contingent upon the presence of the sea and its coast. (Mortensøn, O. 2002)

In relation to the recent years' changes in historic traditional industries, fathoming; fishing, shipping, shipbuilding, these cultures are decline in a downward spiral, and the seas slowly becoming emptied of their original use and activities. This ultimately threatens the remnant of the coastal culture, often also underlined by new recreational use of shorelines, which are in great danger of disappearing or becoming forgotten in relation to their abovementioned historic and traditional use. (Christensen, M. S. & Guldberg, M. 2004)

In the smaller towns such as Langør, who have traditionally existed in connection to fishing and shipping, labor supply is now dramatically decreasing, resulting in low growth and the difficulty of finding a new commercial and industrial basis. When the traditional activities disappear without new activities to continue and remain the cultural line, the coastal cultural become in even greater danger being forgotten or washed out.

Seeking to maintain these cultural entities, several initiatives are attempting to preserve such environments. Although many of these projects have succeeded, it must be underlined that as a result, some risk of becoming emptied of their original content and traditional use, becoming left as a kind of museum relic of a bygone era. In this respect, we must be wary of the possibility of these geographies losing their authenticity and the qualities that initially made the coastal culture worthy of preservation.



Traditions & Heritage

CULTURAL, SOCIAL AND PHYSICAL INTERDEPENDENCE

The small islands are to find themselves in a downward spiral, fading out. The population peaked years ago, and the traditional way of life is threatened, fisheries are in a serious decline and hampered by regulations from the EU, while agricultural restructuring has led to inactivity amongst farmers, as more soil is required per farmer, in order to keep up the with the competitive agricultural market. (Kristeligt Dagblad 2013)

Grocery stores, schools, dairy's etc. used to be a commonality on the islands, but now most of them are closed and out of business. Therefore, today, the population is much more dependent on the ferry service in order to work and stay connected to the mainland and larger cities. As ferry routes and timetables usually are decided on a municipal level on the mainland, because of economical challenges, the islanders livelihood are largely affected from top-down political decision. (Christensen, M S. & Guldberg, M, 2004)

Life on the islands is and has always been characterized by the vagaries of the weather and exposure to the sea. It has often happened that several of the smaller islands have experienced floods so severe that several houses were washed away, which especially for the smallest islands means that dikes and their maintenance play a crucial role in relation to erosion.

The dikes were traditionally constructed using soil and seaweed, and later reinforced with boulders. The islands have an abundance of seaweed, as the salty shallow water allows sunlight to easily shine through it's surface and provide excellent growing conditions. Historically, the islands have also used seaweed for roofing, insulation and as a food resource, additionally also as a fertilizer for agricultural purposes. (Christensen, M S. & Guldberg, M, 2004)

The climate on the islands is mild, embracing a diverse plant and animal life. The many sunshine hours and high salinity and minerals contained in the water, makes the soil and the water exceptionally suitable for agriculture.

Apart from the marshes and beaches, the vast majority of the Danish islands' areas have always been cultivated for agricultural purpose. The building-development is usually concentrated in single clusters in smaller towns near infrastructural nodes, apart from a few relocated farms and houses.



In addition to the beforementioned visible and tangible aspects of the coastal culture; the intangible and invisible aspects are not to be forgotten, as they also very much define the identity of these islands; through which tales, traditions, customs, heritage and knowledge make the physical environment a living and experiential entity.

In contrast to the material aspects of these cultures, which may be physically standing as a reminiscent after expired use; the immaterial aspects risk being forgotten - simply vanishing, when the livelihood of their processes and activities cease to exist. Hence, a vivid environment and active use in which patterns of the islands' traditional and historical heritage is fostered, can be crucial in keeping the cultural environment with all that it implies intact. (Christensen, M S. & Guldberg, M, 2004)

Historically speaking, the coasts have provided food and work for large segments of the islands' populations through cultivation, agriculture and active use of its landscape. Thus, the notion of the open coast as a purely scenic and recreational notion was firstly introduced in the second half of the 20th century, being portrayed valuable as a purely natural construct. At the turn of the millennium, the coast was seen as nature that should not be exploited, but rather safeguarded from development and preserved unspoiled for future generations - c.f. the parliaments coastal law. In this regard, the coast was viewed and thus became a valuable landscape and treasured form of landscape, affording the opportunity to experience natural phenomena at close range. (Byskov, S. 2007)

The coastline is in constant flux , and stresses that the encounter between land and sea, between culture and nature; fosters a dynamic landscape in which tradition and innovation elevate each other.

These two philosophies, which are also touched upon in a discussion in the project paper, are central to how the Danish view on nature and the coastal landscape drastically shifted during the 20th century. This was and is very much today represented by on one hand the possibilities of economic touristic, cultural activity and use and on the other; the preservation and protection of our greatest natural resource.

Thus, the cultural and natural history of the coastal landscape ought to be processed and interpreted as a holistic comprised notion - each dimensions which have always influenced and been a fundamental interrelated livelihood. Depending on the focus, the coast can thus be considered as a culturally influenced nature or culture with a high content of nature.



Arrival & Immersion

PHENOMENOLOGICAL EXPERIENTIAL THOUGHTS

Reached either from the sea by boat, or via the single narrow paved trail from the main road that connects the city and meadow with the Island of Samsø, the overall area forms a part of the island's eastern coast, while at the same time defining the nature reserve of Stavns Fjord. The curved shape of Lilleør shelters both the natural reserve and the town, slowing down the erosion of both from the intense forces of the Belt Sea and Kattegat.

Arriving by the narrow paved trail, passing the church on the hill, and the nature school as the landscape dips, Langør and Lilleør appear as horizontal entities defined by the edge of the coast and the atmospheric natural surroundings. The horizon is ever present and dominant, as the waters connect the inhabited town and the open natural meadow, evoking feelings of nature that is so vast, one temporarily is lost in it.

The sublime-like backdrop, constituted by the belt sea and Stavns Fjord archipelago, defines an overwhelming panoramic boundlessness, which envelopes and engulfs the landscape in a variety of scales of water.

Delving further onto the site - towards Lilleør - first a small car park appears, then a rocky path that follows the curvature of a shallow cove, in which birds are watering. Continuing, a small trail appears, hinting an entrance to the meadow where people have been walking. Wandering across the landscape, a network of small streams and puddles corrode the site, breaking through the soil around the wanderer. The landscape is at once and constantly fully present - truly calling for covering vast distances, around, by and through grass and water.

Facing the cove and the town, establishes a tangible, sensitive and intimate atmosphere defined by the shallow, protected and calm waters and appertaining landscape.

The coast fluctuates and is ever present as it varies hierarchically from the smallest and most sensitive waters of the cove, to the mottled Stavns Fjord and finally the vast and sublime sea.



Arriving to Langør, a coastal settlement in peripheral Denmark, merely connected by a narrow paved trail.



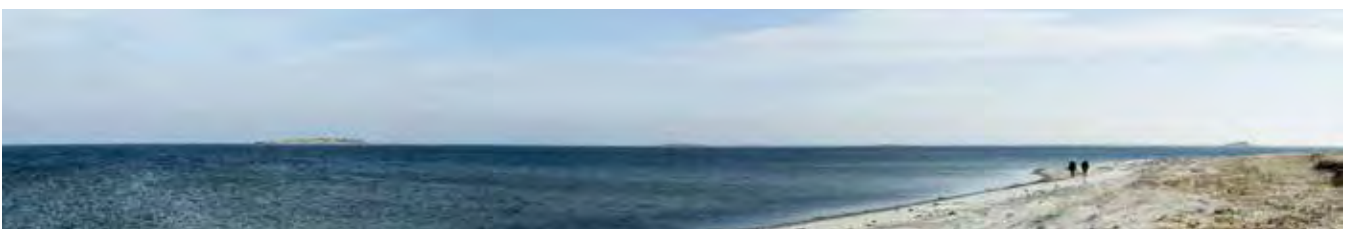
The sublime and horizontal impression of the landscape, defined by the extensive vastness of Kattegat, only temporarily disrupted by vertical entities such as; a single thatched house, an overgrown fortress and a few tall bushes.



A sensitive and intimate atmosphere appears near the cove.



The houses of Langør rising in the foreground of Stavns Fjord, inscribed into the horizon, gives a soothing sense of an inhabited landscape.



An extensive view opens towards the sea to Kattegat, through Besser Rev, evoking feelings of nature that is so vast and exposed, one becomes temporarily lost within it.



A salty moor, an extensive heath and a wavy feild of tall grass comprise a diverse range of natural habitats, differentiating in scale.



Portraying the temporal erosion of the landscape - emphasizing the immense presence and emergence of water.

fig. 15



Varied emergence of water and coastal presence.



A view from the cove towards the open sea captures the coastal fluctuation and an atmospheric shift between the intimate and vast



Natural and man-made imprints on the landscape



Water, seaweed, sand, and tall grass are the predominant visible materials, underlining the temporal patterns of the landscape.



The town seems engulfed by tall grass, rooting and anchoring its houses to the ground



A single thatched house inhabits Lilleør, seemingly etched into the hills and ground, because of its straw-thatched roof



A historical footprint of a former military stronghold, reminiscent of the prior usage of the site

Layering

A PRAGMATIC INTERPRETATION OF THE SITE

The landscape is the earliest fundamental factor of architecture, whether it is embraced, contrasted or merely changed. Either way architecture in essence always ought relate to the place and its construct (Norberg-Schulz, C. 1991).

In addition to interpreting the fluctuating phenomenological observations, the pragmatic mappings depict the place as a site, seeking to uncover tangible infrastructural, scientific and physical parameters.

Unearthing the significance of the landscape and how its qualities are interpreted in correlation to the research center, a pragmatic approach is implemented in order to extract tangible and implementable patterns towards informing the architectural concept.



Movement



Program & elements



Coastal edges defining the boundary of Lilleør



Vantagepoints representing nodalpoints within the landscape



Microclimate



Putative waterlevel in approximately 100 years, showing the time-related transformations of the landscape

Ideation

DESIGN PROCESS UNFOLDED

CHAPTER 03

page 48-85

CONTENT INDEX

+ Introduction

+ Concept development: Concept & Settlement

+ Concept development: Proportional Vocabulary

+ Concept development: Plan, Proportions and Ideas

+ Concept development: Spatial Relations

+ Design development: Thoughts on Exterior Expression

+ Design development: Water, landscape and Construct

Introduction

The following chapter unfolds the considerations and thoughts in relation to the physical interpretation and inspiration - the embodiment - of the strategy, program, and site analysis.

Thus, it is important to emphasize, that embodiment, as a terminology within the realm of this project, is not to be confused with a direct physical translation of the above-mentioned aspects. The embodiment serves as a driver for the design-process, and can be understood as an inquiry to: 'how architecture is portrayed in the place, and how place is portrayed through the architecture'.

The design-processes will be addressed through mixed-media material, fluctuating from text, reference projects, diagrams, photographs and sketches. Accordingly, as an inspiration, the thoughts of Peter Zumthor, Juhani Pallasmaa and Louis Kahn

will inform and substantiate aesthetic, functional, material and atmospheric considerations in relation to the design.

The design process is divided into two overall paragraphs, which in unison represent the design throughout different aspects.

The first chapter 'Concept development' firstly addresses the settlement and insertion of the building according to how the qualities of the place are read in chapter 02, and the programme in chapter 01.

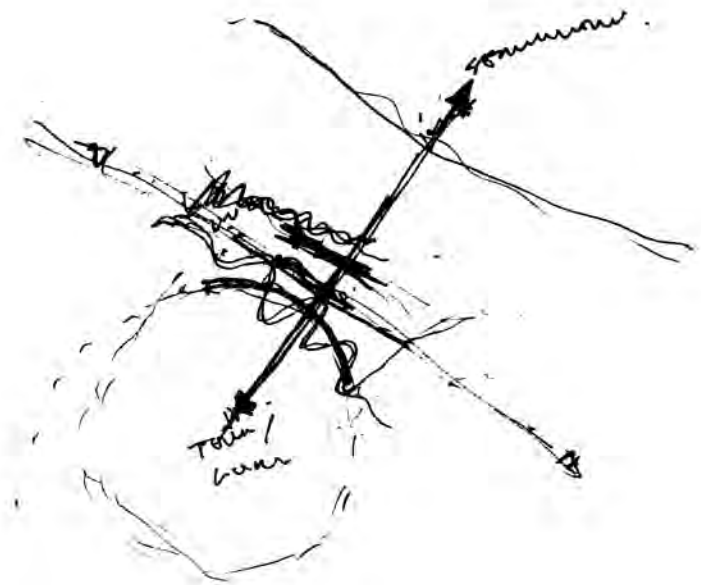
Secondly, the spatial interrelation of certain chosen spaces within the research center will be uncovered, revealing the overall thoughts about how the place is perceived through the building, and what informs the overall proportions, composition and orientation.

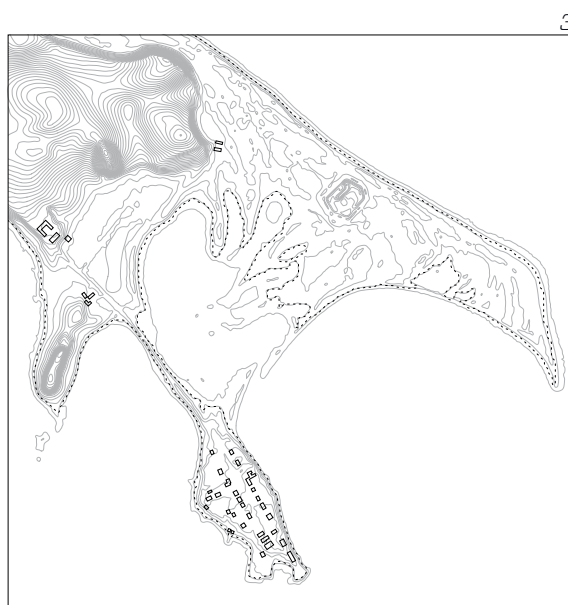
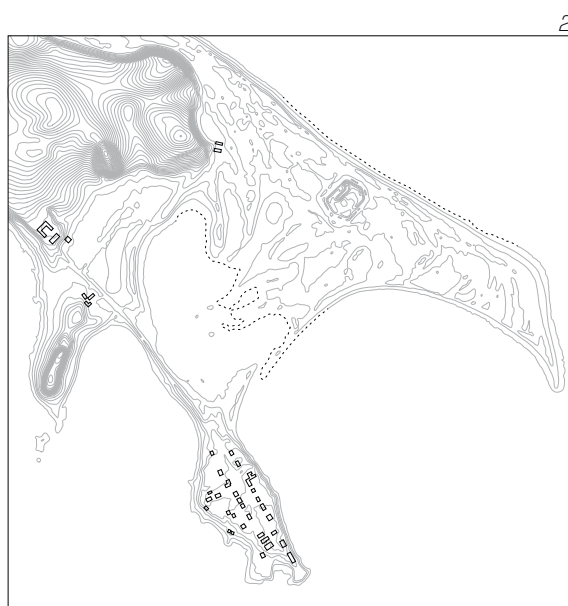
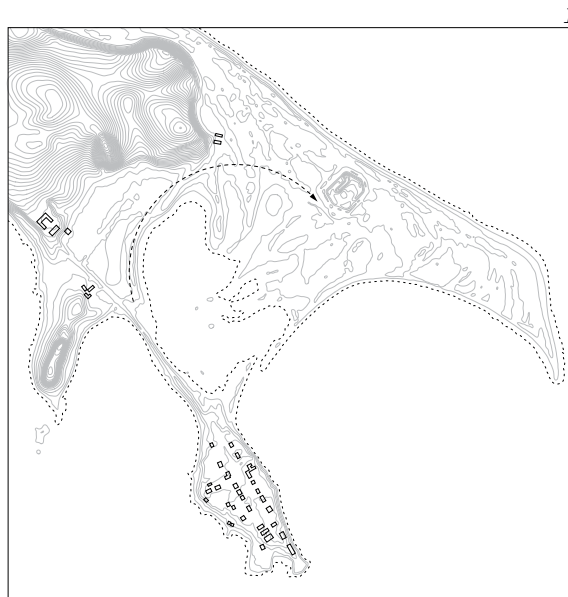
The second chapter 'Design develop-

ment', delves further into detail with the predominant aspects of the design. The chapter is initiated by shedding light on the exterior architectural expression and hierarchy, and how the building is read in accordance to the landscape.

Thereafter, studies on the relationship between water, landscape and building are explored, describing considerations of position, height, interior/exterior transitions in relation to the temporal hydrological erosions of the landscape, and the emergence of water.

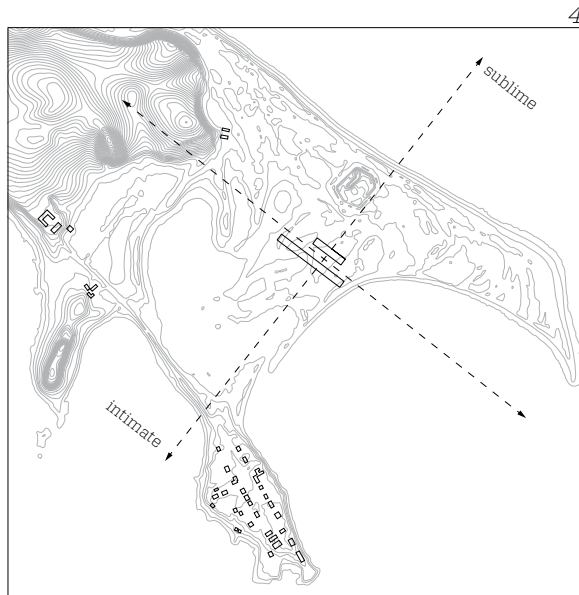
The final paragraph 'Materiality and detailed design' addresses material considerations in relation to the scale of the body and the hand. Emphasis is put on the interplay between place, space, function, tactility, shadow and light and how their interrelatedness are narrated and captured through detailed design.



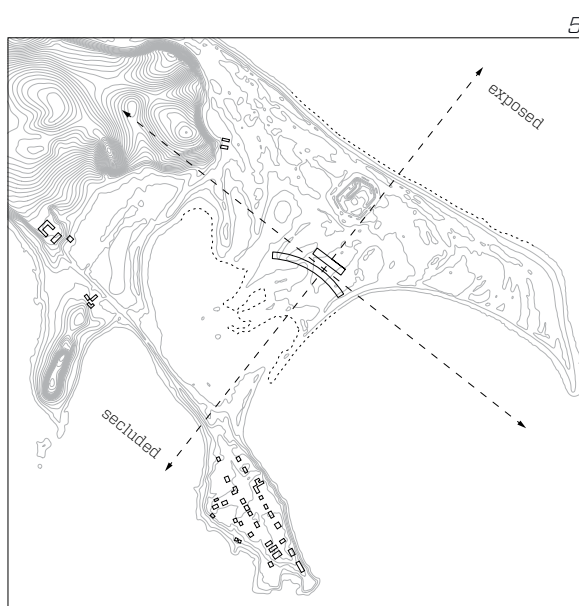


The landscape in conceptual terms

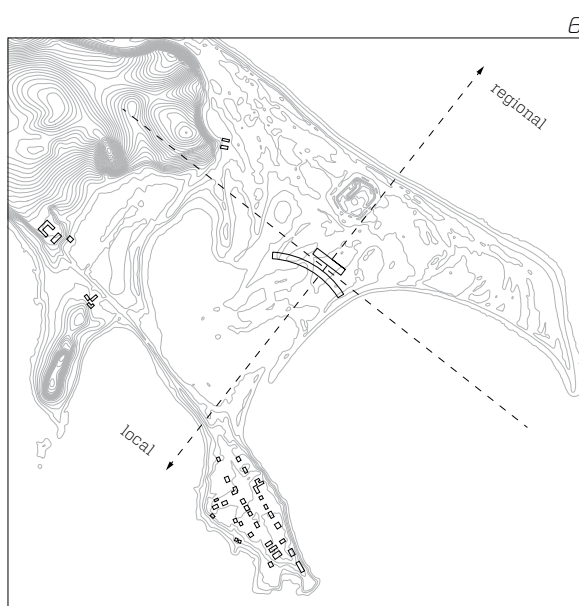
- (1) Experienced coastal edges, main arriving path (2) The exposed sublime sea & the intimate tangible cove (3) Temporal water erosions reshaping the landscape



In correlation to the reading of the landscape, an axis is introduced which outlines the two predominant experiential realms of the site - the sublime experience of the vast and extensive sea, and the intimate atmospheres of the tangible and secluded cove.



Entering in dialogue with the cove and the sea, the conceptual settlement is informed by the interrelated relationship between landscape and construct, ultimately informing the orientation of public and private programme. The placement of the axis is also informed by the current use and movement patterns throughout the landscape.



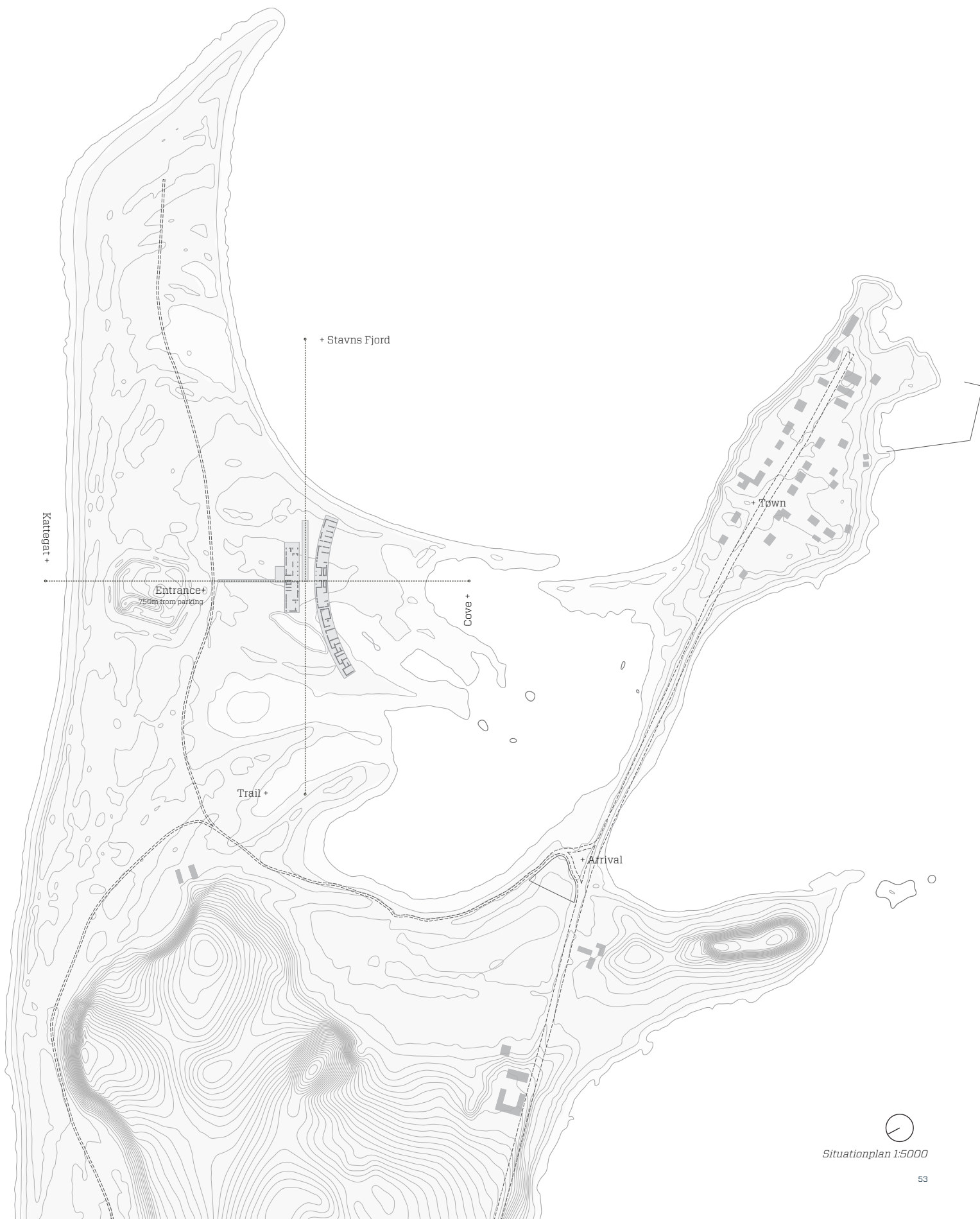
Balancing between the beforementioned contradictions, the research center itself fluctuates between dualities of the introvert and extrovert, the enclosed and the open, the private and the public, the contemplative and the fellowship. Conceptually represented by the axes, the research center seeks to grasp across scales - between the national and regional scale of the seaweed island network, to the local scale of Samsø, the surrounding landscape, interrelated spaces and cultivation within.

Settlement according to the landscape, programme & strategy

- (4) Landscape relation and orientation (5) Conceptual settlement according to the programme and landscape (6) Relation between building, place and regional seaweed network



fig. 16





Proportional Vocabulary

VERTICALITY AND HORIZONTALITY

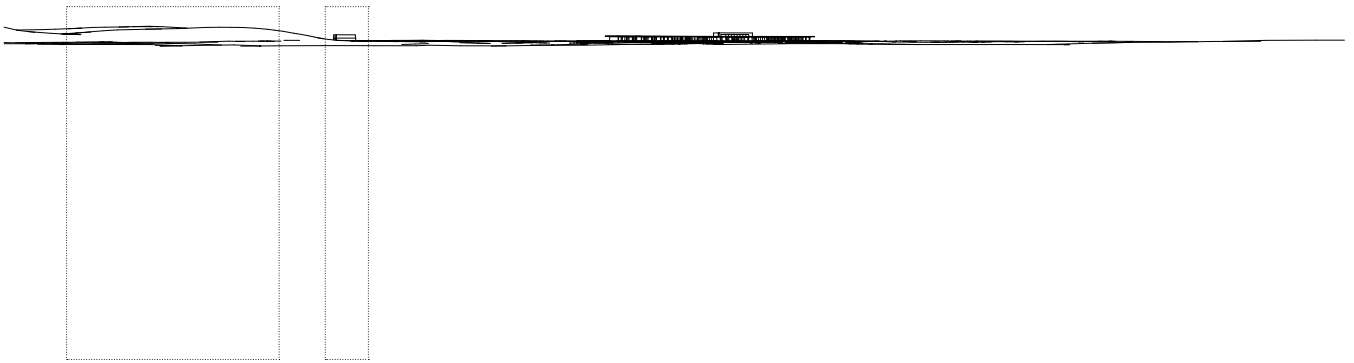
Inspired by the phenomenological readings of the site, the overall language of form is inscribed into the vastness of the landscape, and the single, but nonetheless very present, vertical entities.

“Whereas the beautiful is limited, the sublime is limitless, so that the mind in the presence of the sublime, attempting to imagine what it cannot, has pain in the failure but pleasure in contemplating the immensity of the attempt” (Kant, I 1781)

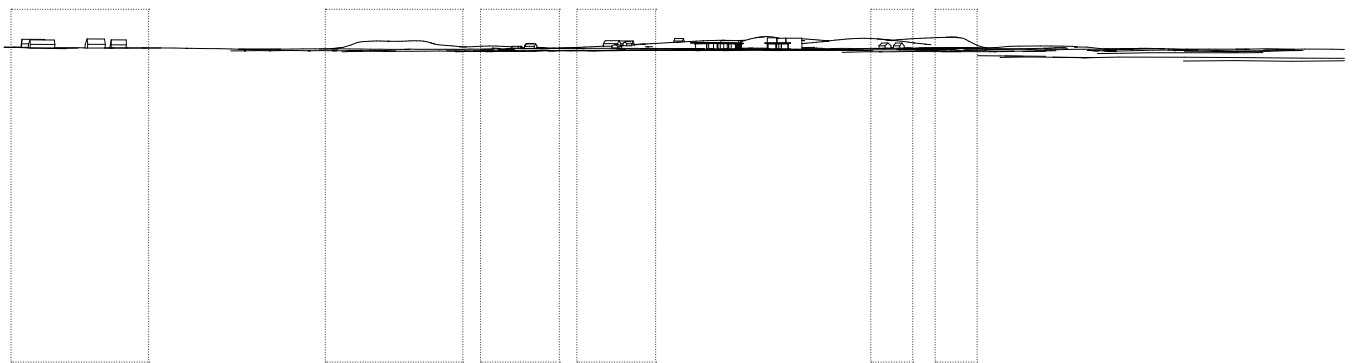
Kant identified the notion of ‘the sublime’, which encompasses encounters with nature that exceed our ability to grasp it – overwhelming our senses and comprehension to the point where it becomes incomprehensible. For Kant, the sublime is characterized by boundlessness and formlessness and evokes feelings through experiences of nature that is so vast; we in a sense are temporarily lost within it.

Not to be confused with an explicit method within the scope of the design process, nor the attempt to directly contain the sublime through form, these aesthetic thoughts simply serve as an abstraction - an intellectual inspiration in the attempt to grasp and relate to the proportional atmosphere of Langør, and Lilleør.

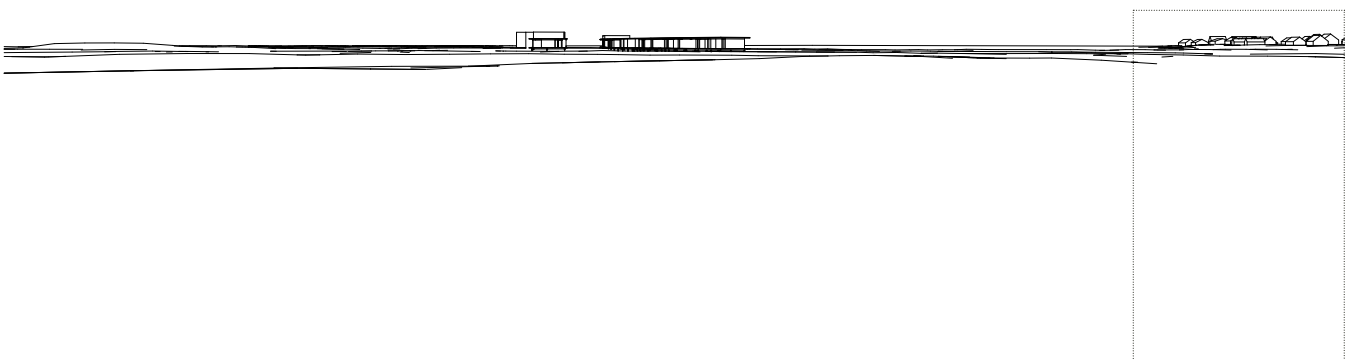
Thus, the aim has been to interpret and create dialogue between the site’s proportional vocabulary in relation to the variability of the vertical and horizontal, fostering a relational exchange between landscape and the construct.



Portrayed from Langørevej, towards north-east, the construct is portrayed as almost floating in relation to horizontal landscape, while vertically creating a dialogue with the private dwelling and the agricultural field



Captured from the tongue, viewed towards west, the construct, in contrast, appears slim, in vertical affinity with the surrounding built and natural elements, inscribed as two points within the landscape



Seen from west, viewing towards Stavns Fjord and Kattegat beyond, the stark contrast between the vastness of the horizontal landscape and the vertical points within the landscape are predominantly present, and ever so anchored by the horizon.





Plan, Proportions and Ideas

DIGRESSIONS ON THE ROLE OF THE PLAN

Considerations in regards of the plan, and thus the overall structuring of programme and spaces are based on both functional, technical requirements and spatial thoughts. The following chapter focuses on the spatial considerations, and how these inform the overall idea of the plan and its role. Although the technical specifications will not be explicitly unfolded as touched upon in chapter 01, these have been introduced as conceptual principles in accommodating the technical demands.

Fundamentally, specific spaces within research institutions; laboratories, preservation chambers, cultivation spaces etc. can be perceived as *dark programme* - enclosed and primarily sealed off in relation to functional and technical demands. (Kliment A. S. 2008)

The Raumplan - also known as the spatial plan - is based on the principle of the close relationship between structure and room, and the interrelatedness of these. This method places great emphasis on the interconnectedness between individual rooms and larger common spaces - between single spaces for the individual and clusters for the community. (Risselada, M. 1988)

The method is largely introduced by Adolf Loos, who states:

"My architecture is not conceived by drawings, but by spaces. I do not draw plans, facades or sections... For me, the ground floor, first floor do not exist... There are only interconnected continual spaces, rooms, halls, terraces..." Loos, A. in (Kleinman, K. 1997 pp.21)

Juxtaposing these considerations to Kahn's thoughts of the *plan* are intriguing and on some levels substantiate each other:

"I think that a plan is a society of rooms. A real plan is one in which rooms have spoken to each other. When you see a plan, you can say that it is the structure of spaces in their light." (Kahn, L. 2008 pp.36)

In continuation of these considerations, fostering a relational exchange between landscape, construct and the internal spaces, in many ways stipulates and substantiates the role of the research center - as an architecture that seeks to create interrelation exchanges between the surrounding landscape, and the interrelated spaces within the research center.



(1) Arrival at the central tower space and cultivation area, on the highest peak on the landscape (2) On one side of the public wing, offices for stakeholders, a public learning lab and (3) spaces for conferences and seminars are exposed to the public, facing the cultivation area. (4) Technical spaces, administration, reception and the common spaces; livingroom, tasting area and dining extend towards Stavns Fjord and the extensive sea. (5)(6) In close connection to the cultivation area, both laboratory branches are located, distanced from the public wing. (6) Spanned across two mounds, the offices facing the cove, extend towards Stavns Fjord and ensure spaces for contemplation and focus. (8) Spanned between two mounds, the spa area is physically detached from the remainder of the programme, affording spaces for complete relaxation, before one reaches the accommodations (9), located in the periphery of the complex, ensuring spaces for seclusion, intimacy and tranquility.

Overall, the programme is split up into three domains - the public wing, the cultivation area and the research wing. This is done in order to ensure a proper working environment and private sphere, while support functional and public requirements and affording visual and physical exchanges between the wings.

The programme is organized around an *elevation* in the landscape, which combines and connects specific parts of the programme. In a somewhat serial composition, the programme is conceived in clusters along the narrow wings, thus being separated into entities, unified by connecting hallways and adjacent juxtaposed spaces. The

elongated and narrow wings allows for double-lit spaces while ensuring a sensitive separation of functions into different domains within the same entity. Thus, each cluster of programme inspires different use, and gains different qualitative relations to the landscape.

The public domain of the research center is introduced as an orthogonal element which relates to the coastal horizon of Kattegat and existing flow-patterns on the site. Thus, the public program is appertained to the exposed and public part of the site.

The research ward is conceived as an arc which in a subtle way relates to the

PROGRAMME AND COHERENCE

delicate coast and its intimate scale. The overall shape stretches out onto the meadow, embracing the landscape whilst orienting the research spaces towards the intimate cove and the city of Langør. Considering the secluded and contemplative nature of the programme within this wing, the immersive potentials of the cove and the surrounding landscape are embraced in a soft disposition.

The cultivation area is introduced as a central element which opens and saturates the two wings, permeating spatial relations in between, while creating a strong connection towards the sea.



Drawn from the site analysis in the initial chapters, which touched upon of how the landscape invited for covering great distances could become essential to the design and the experience of the place.

The introduction of the elongated plan seeks to foster such an idea, inspiring a new way of moving across the landscape, informed by shifts in topography and landscape elements.

Externally, a single orthogonal platform extends into the landscape, inviting the visitor towards the heart of the complex, through which the individual is exposed to the matter of seaweed,

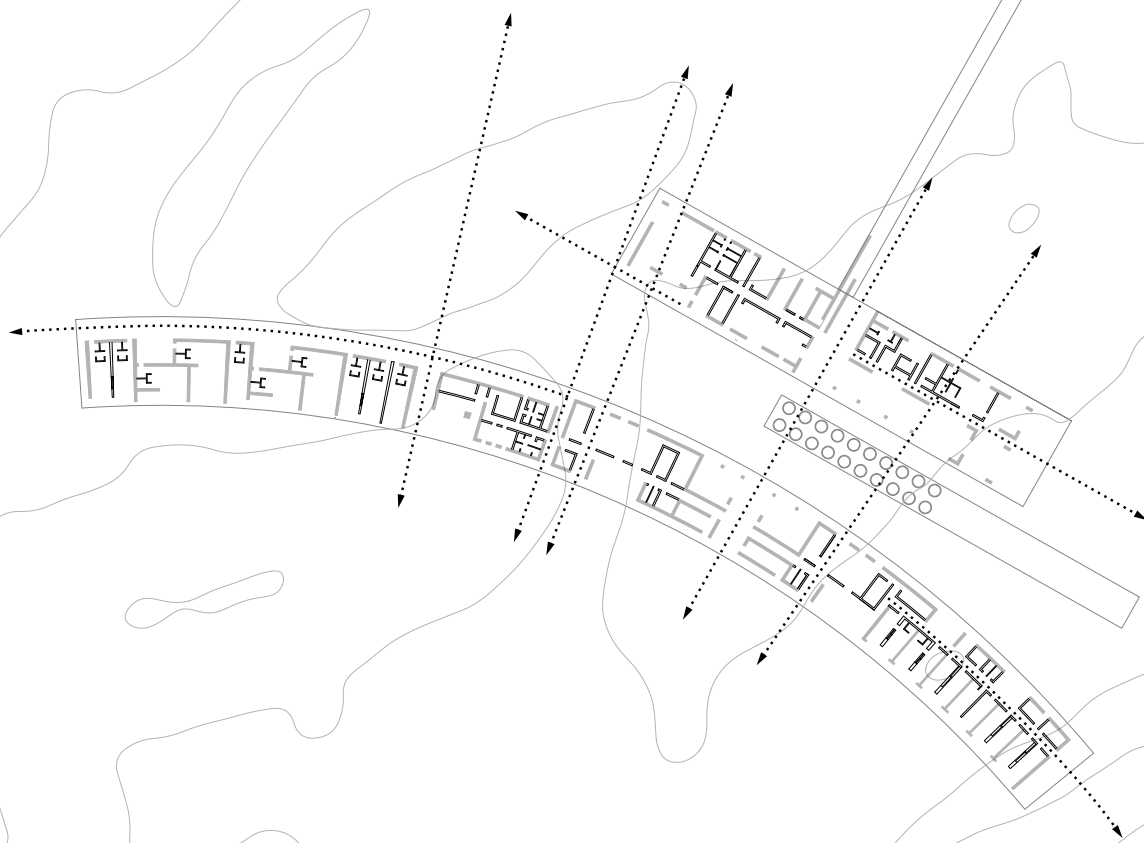
and how it is treated. The cultivation area inspires fluctuating movement between the two wings, and finally orients the individual out towards the open sea - into the landscape.

Internally, the plan aspires to centralize movement around a single hallway in each wing, through which all functions are interrelated. This ensures a desired separation of functions, while fostering intimate social and spatial exchanges. As specific parts of the programme within this wing call for a sense of enclosure, the arced hallway and its adjoining spaces are thus never immediately revealed - inspiring for a experiential movement through the

MOVEMENT AND SPATIAL RELATIONS

building, while upholding a relative scale and focused atmosphere.

However, in the public wing, where transparency and exposure is a central premise for movement in between spaces, the hallway is shorter and orthogonal, affording a more transparent exchange between the spatial relations.



"We come to see not the work, but the world according to the work." Merleau-Ponty in (Pallasmaa, J. 2014)

Suggested by Merleau-Ponty, the inspiration of this simple yet powerful proclamation informs the experiential role of the structured plan and its' spaces. Oriented in relation to the landscape, the structuring of space seeks to capture vivid vignettes of the surrounding nature and interrelated spaces.

The composition of structure presents a rhythm between light and shadow, a vertical vignette and it's framing of the horizontal landscape.

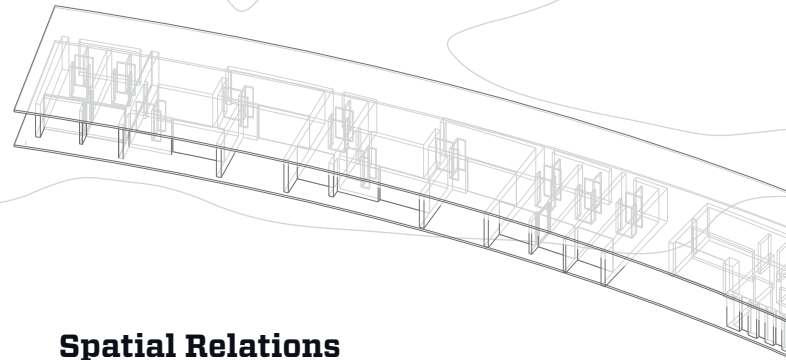
In deliberately chosen places, where the landscape shifts in height or character, the structure is removed, allowing light to penetrate the building envelope and thus translate a shift from one domain of the research center to another. The constant interplay between; light and shadow, vista and enclosure, open and intimate, inspires different gazes and interpretations of the landscape around the construct.

In some spaces the view is presented as a sudden surprise behind a wall, in other situations it is an approaching focal point at the end of a hallway. Thus, the composition of the structure informs how light and shadow

permeate the hallway spaces, emphasizing spatial differences, for example between an open terrace and an enclosed preservation chamber.

The perpendicular cross-subdivisions seek to encapsulate and define the different clusters of spaces and their interrelatedness along the stretched and narrow wings. The role of the longitudinal hallways, which run parallel with the overall shape and facade of each respective wing, is to create a relationship between the experience of the construct within the landscape, and the landscape portrayed through the construct, and the interplay in between.

VIEWS, LIGHT AND SHADOW



Spatial Relations

INTERRELATION SPATIAL EXCHANGES

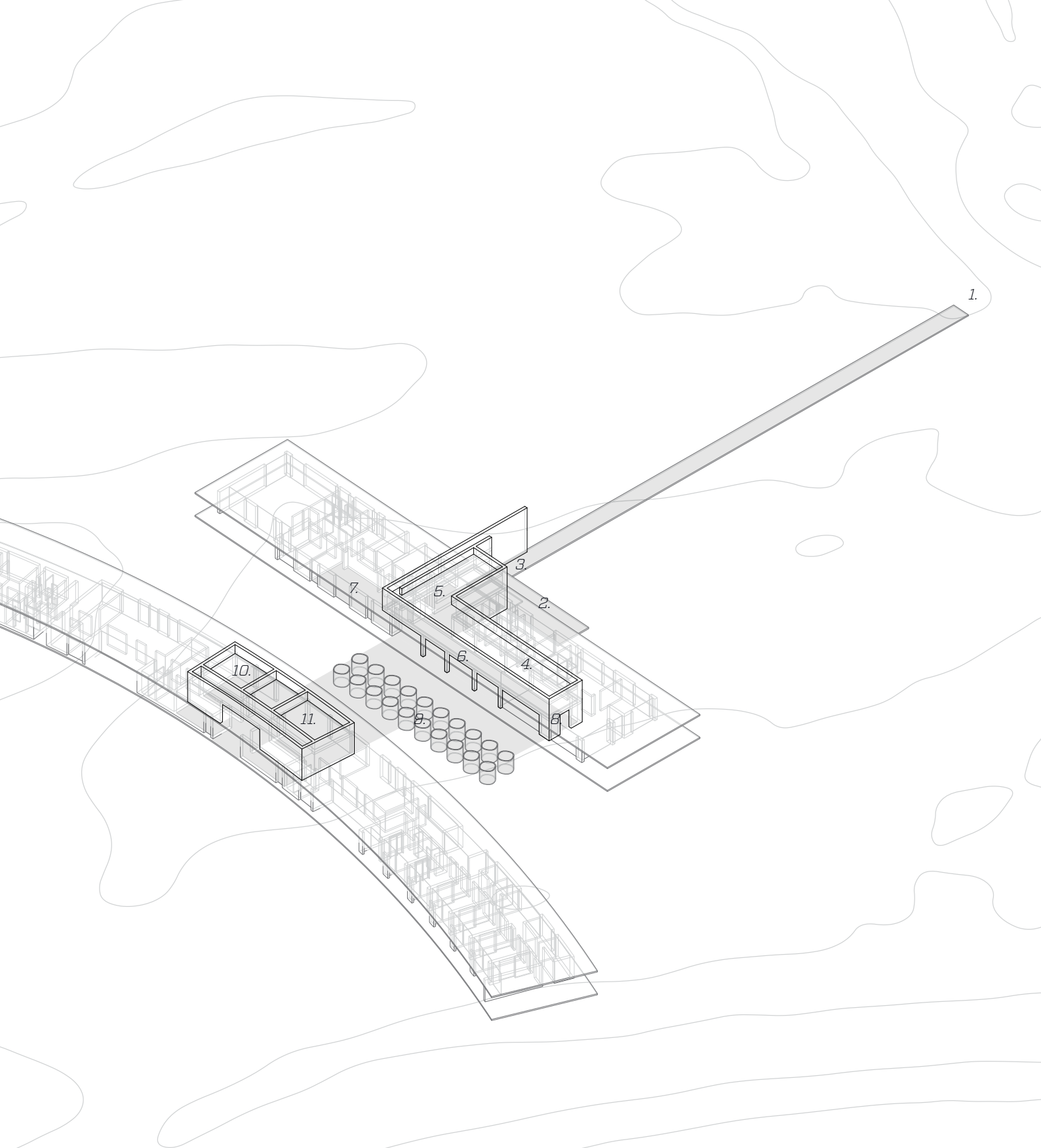
Studying the spaces within the research center, and how these relate to the landscape, and other adjacent spaces, has been a fundamental way of defining their proportion, orientation and juxtaposition.

As one out of many studies, the considerations of the cultivation area will be briefly explained, portraying the overall approach to studies of spatial configurations within the project.

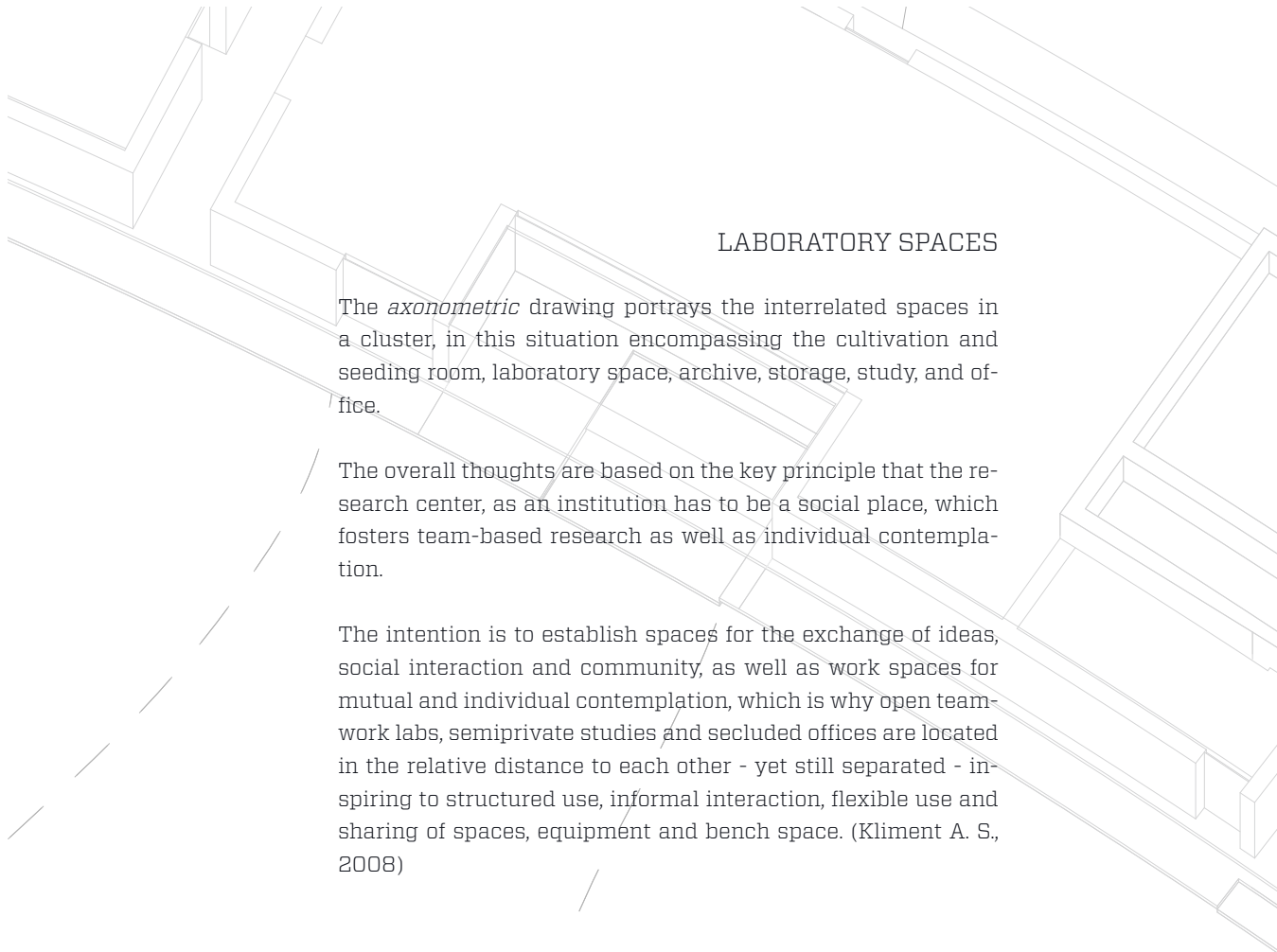
In the intersection between the two wings, the cultivation area anchors a centrality with the plan and the project. This zone represents the natural place of gathering, the primary entrance, to the complex, the zone in which most exchanges and frictions between the seaweed network and the research center, between water, landscape and construct, the natural and the cultivated, the researchers and the public occur.

The cultivation zone saturates and connects the two wings, telling of an integral part of the cultivation of nature and the research center. In this void, a semi-outdoor space is created in which the landscape, seaweed, research, production, learning and social gatherings coalesce in unison.

Thus, the aim has been to create a spatial and programmatic dialogue between the variety of adjacent spaces within and around the cultivation area- ranging from common spaces, learning labs to production facilities, fostering relational exchanges across these.



- 1. Arrival
- 2. Delivery
- 3. Entrance
- 4. Viewing deck
- 5. Seaweed drying tower
- 6. Bio-fuel facility
- 7. Learning lab
- 8. Atelier & tastingroom
- 9. Cultivation tanks
- 10. Fish feed production
- 11. Nursery and seedingroom

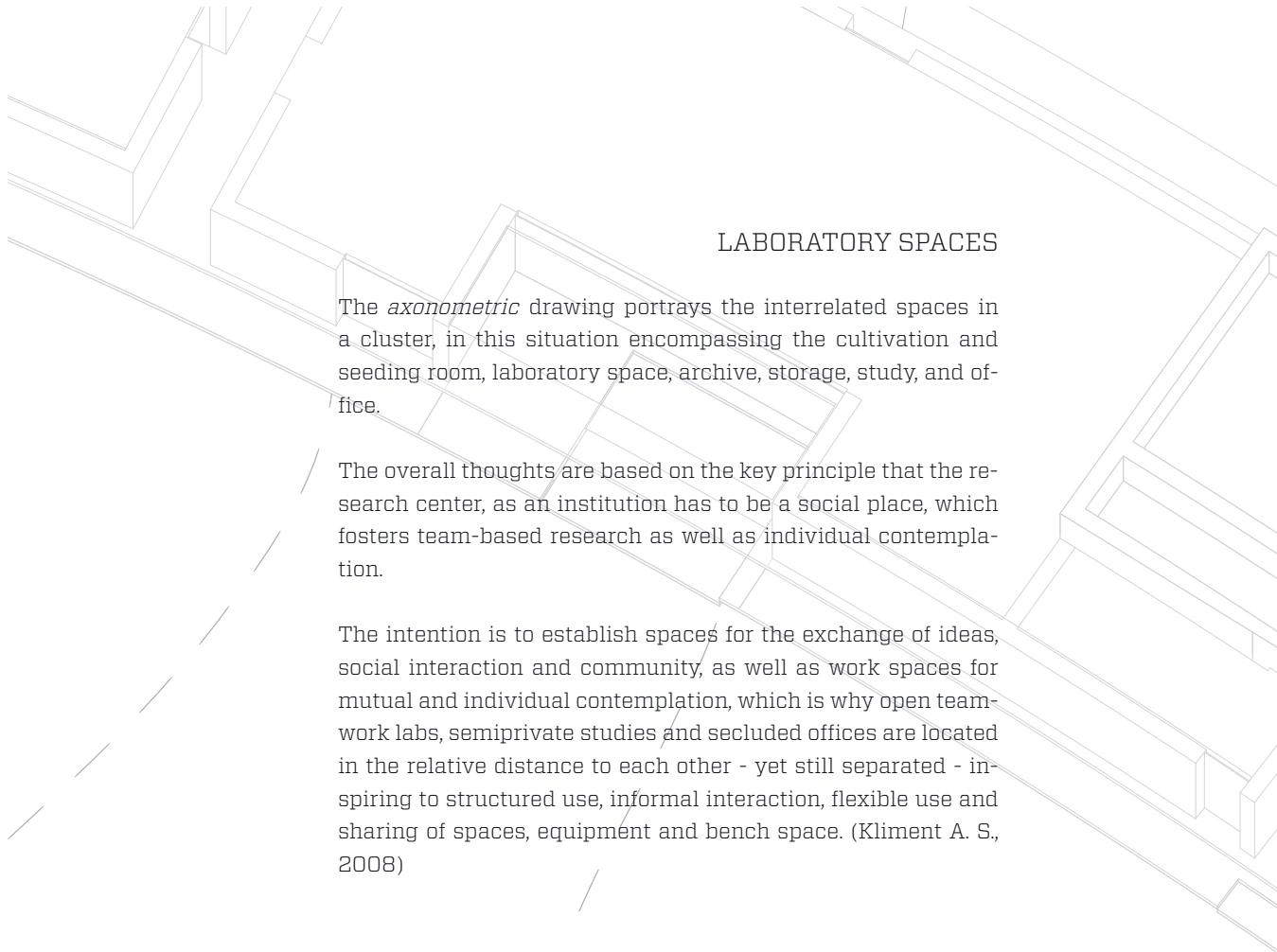


LABORATORY SPACES

The *axonometric* drawing portrays the interrelated spaces in a cluster, in this situation encompassing the cultivation and seeding room, laboratory space, archive, storage, study, and office.

The overall thoughts are based on the key principle that the research center, as an institution has to be a social place, which fosters team-based research as well as individual contemplation.

The intention is to establish spaces for the exchange of ideas, social interaction and community, as well as work spaces for mutual and individual contemplation, which is why open team-work labs, semiprivate studies and secluded offices are located in the relative distance to each other - yet still separated - inspiring to structured use, informal interaction, flexible use and sharing of spaces, equipment and bench space. (Kliment A. S., 2008)

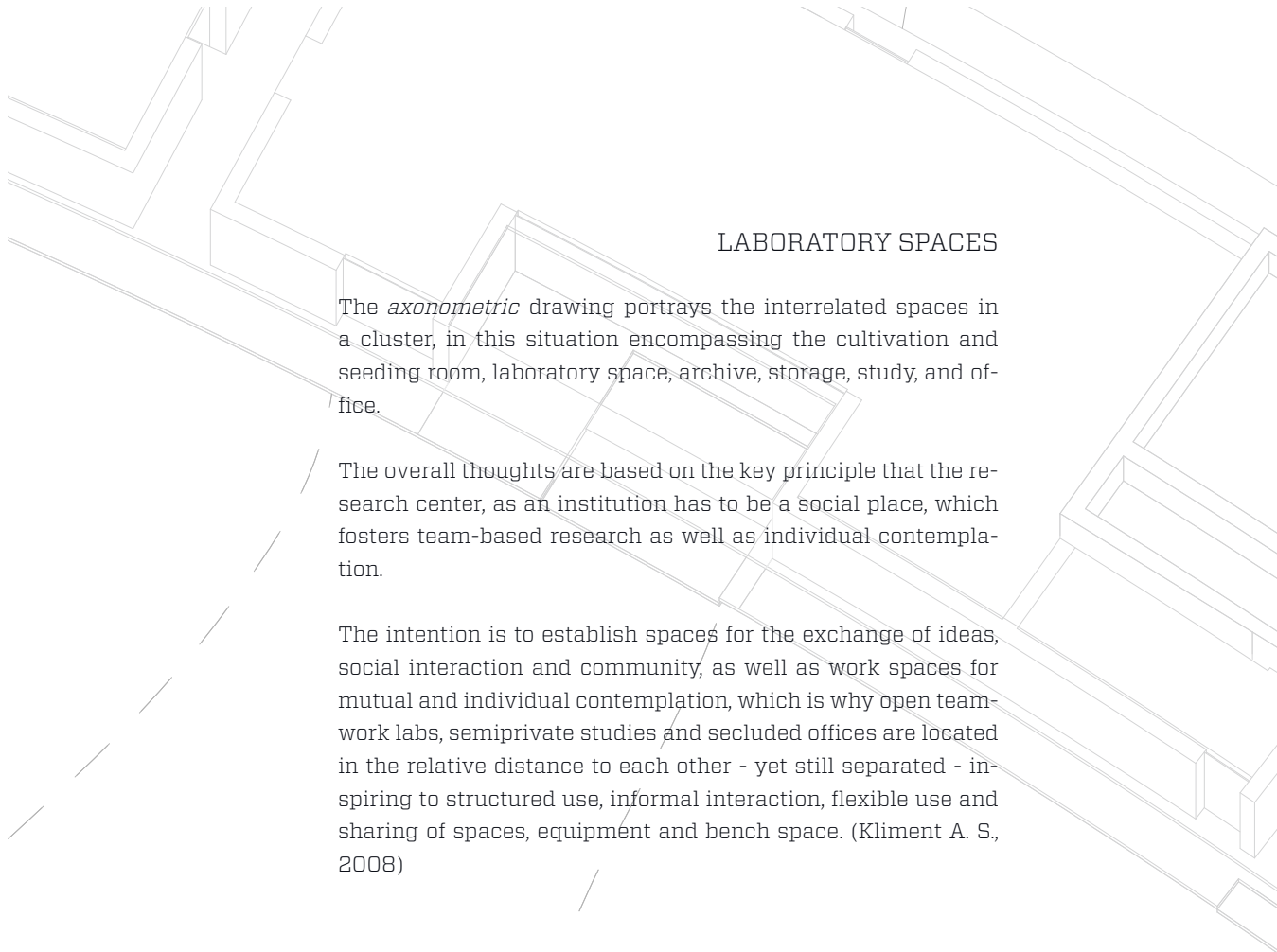


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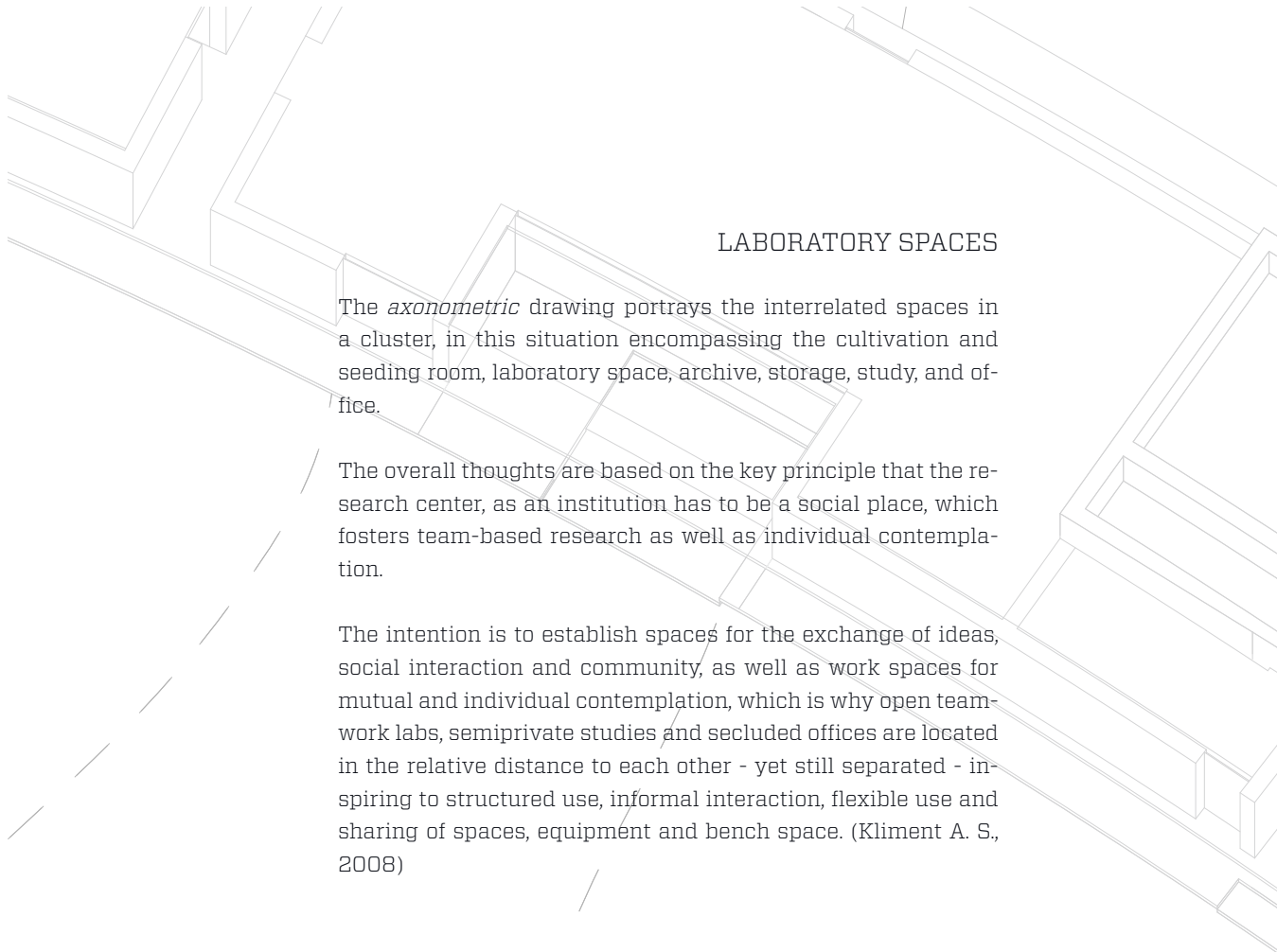


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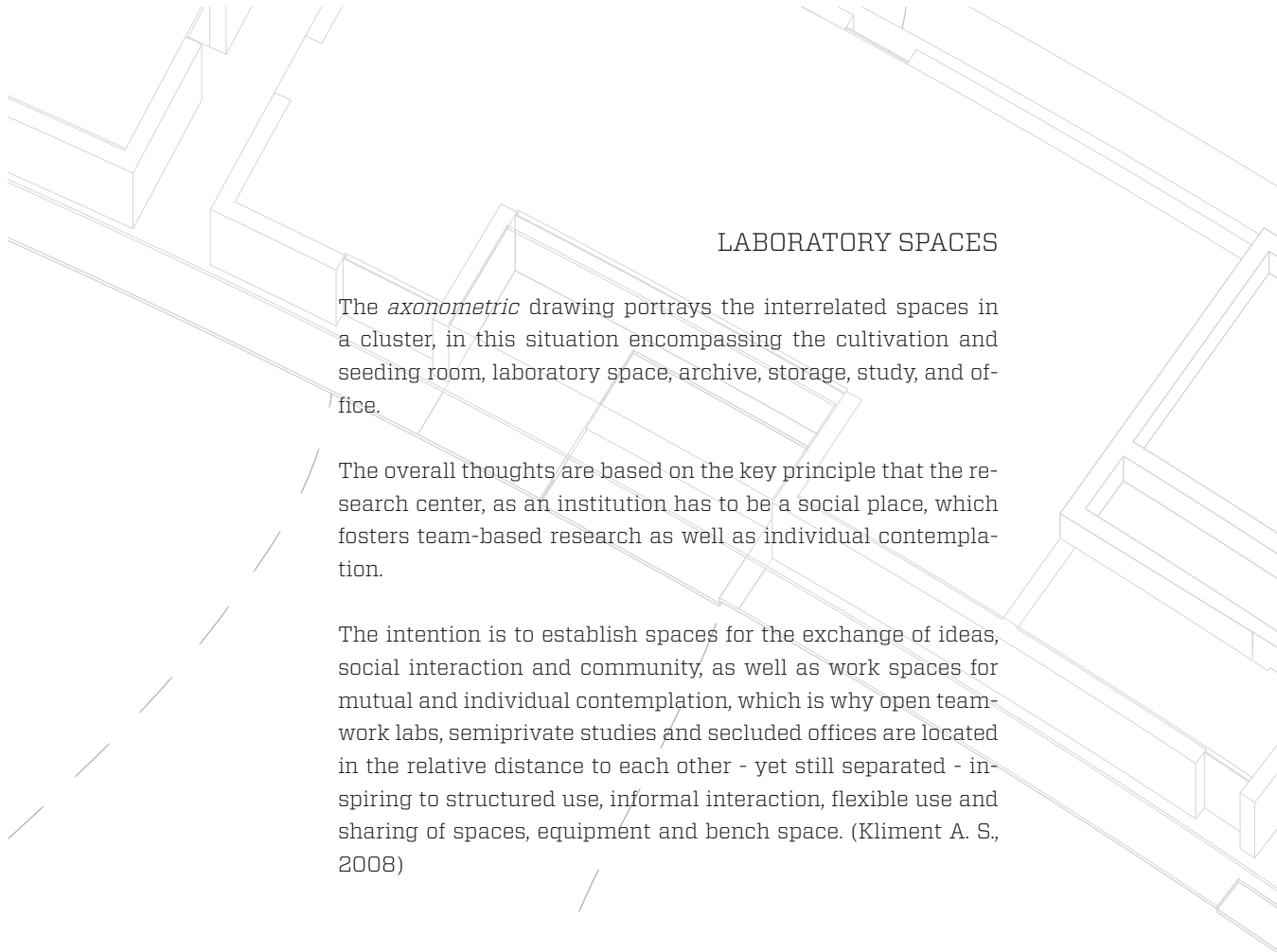
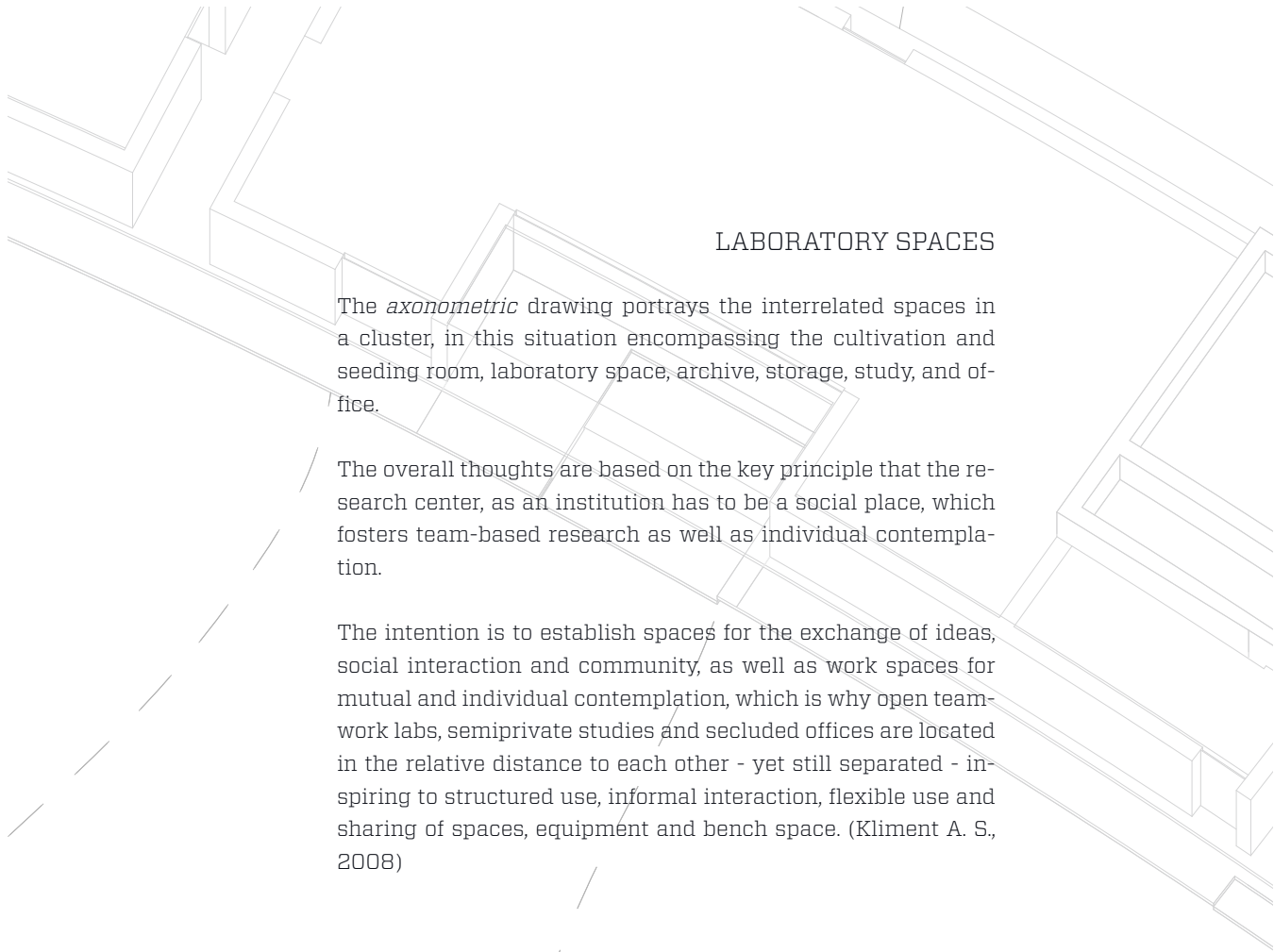


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The overall thoughts are based on the key principle that the research center, as an institution has to be a social place, which fosters team-based research as well as individual contemplation.

The intention is to establish spaces for the exchange of ideas, social interaction and community, as well as work spaces for mutual and individual contemplation, which is why open team-work labs, semiprivate studies and secluded offices are located in the relative distance to each other - yet still separated - inspiring to structured use, informal interaction, flexible use and sharing of spaces, equipment and bench space. (Kliment A. S., 2008)

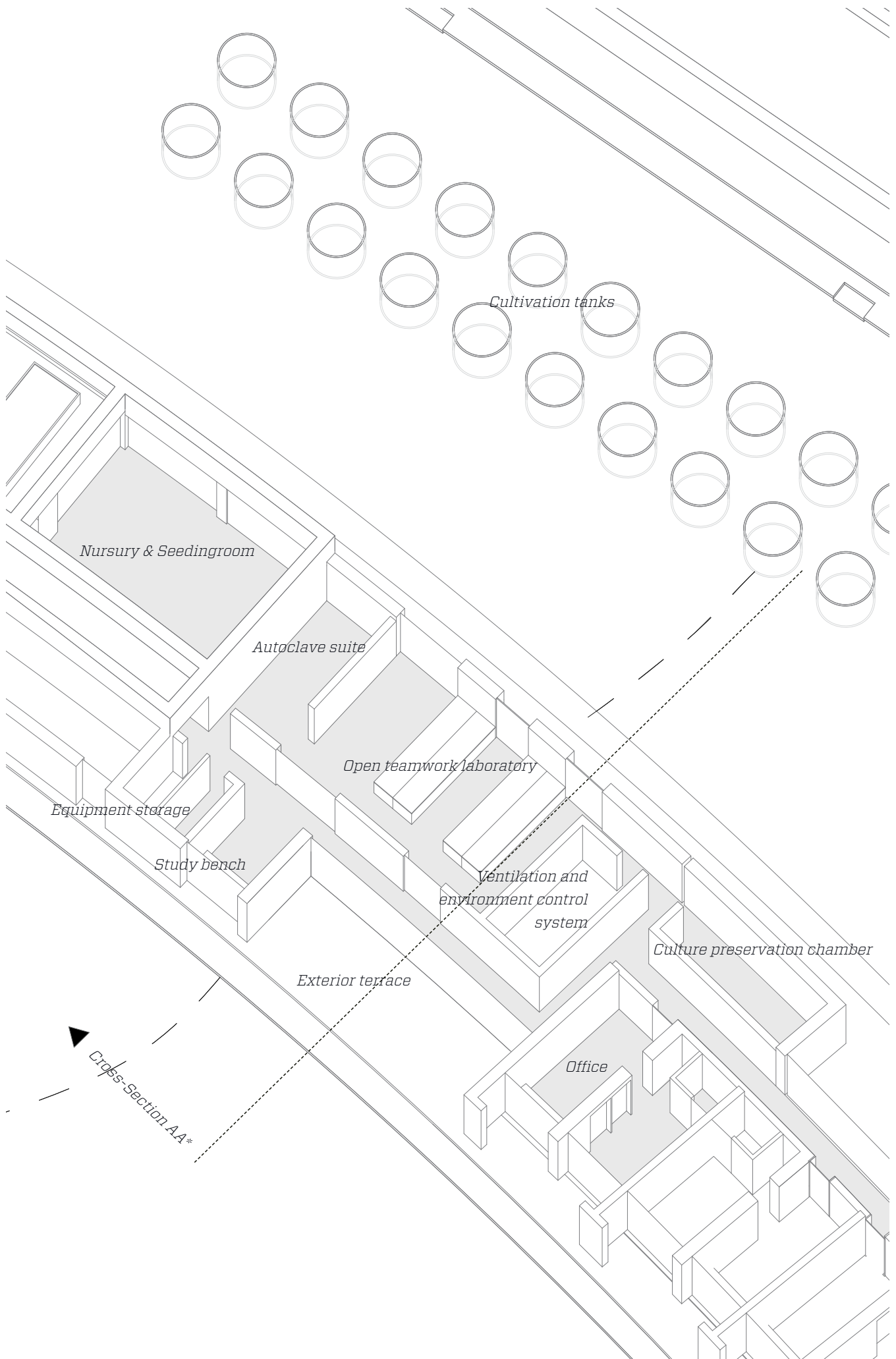


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Thoughts on Exterior Expression

CONSIDERATIONS ABOUT FACADE AND METAPHORS

At Lilleør, the horizon is predominantly present, capturing the essence of the vastness and horizontal of the open meadow. The inherent premise of Lilleør's landscape inspires vast movements across and around the landscape, along the coast in the attempt to understand the sublime. The naked and exposed landscape is visually comprised of water and tall grass, the latter temporarily fluctuating with the wind, constantly in flux.

Relating to such a powerful natural imagery and ultimately trying to interpret and capture its metaphoric essence, requires more than a formal apprehension - it calls for metaphoric considerations.

"The visual metaphor contains in itself not merely the image of space, but also a hypostasis of it in which perception is interwoven, mostly codified as mental associations, vague sensations or memories, in an instant act of poetic montage." (Tarkovsky, A. 2012)

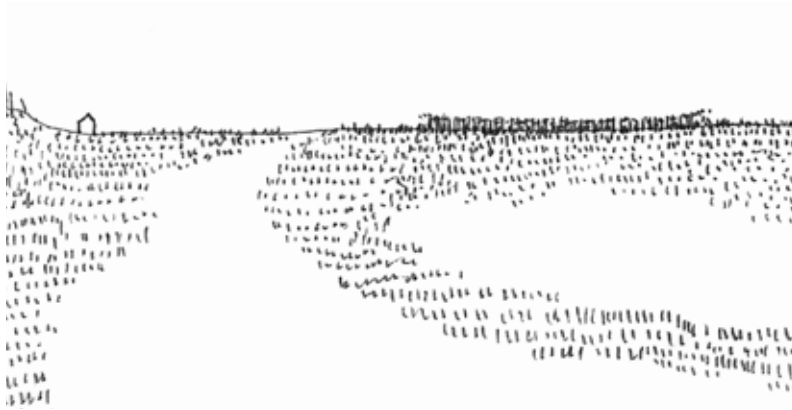
Responding to the narrative, materiality and temporal change of the landscape, gives rise to an exterior expression of the building that inspires movement and astonishment, an architecture that initiates behavior, inquiry and wonder, as the sublimity of the site does.

"Architecture initiates, directs and organizes behavior and movement. A building is not an end in itself; it frames, articulates, structures, gives significance, relates, separates and unites, facilitates and prohibits." (Pallasmaa, J. 2005 pp. 43)

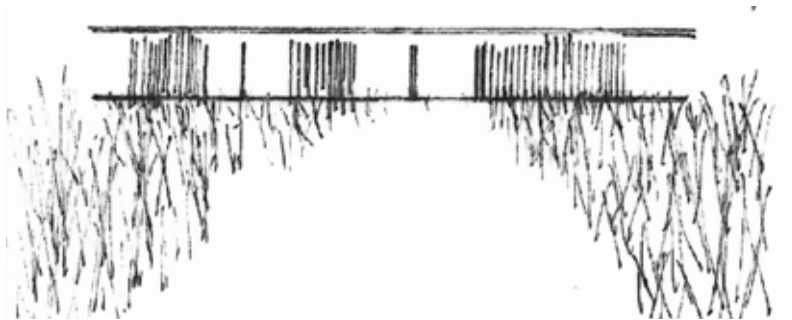
In line of the above thoughts, the building must be encountered, approached, confronted, related to one's body and finally moved through. Thus, the reading of the building must evoke similar feelings, as what one is confronted with in experiencing the landscape; sublime wonder, temporal and the immediately intangible. - in other words: in constant dialogue and interaction with the environment.



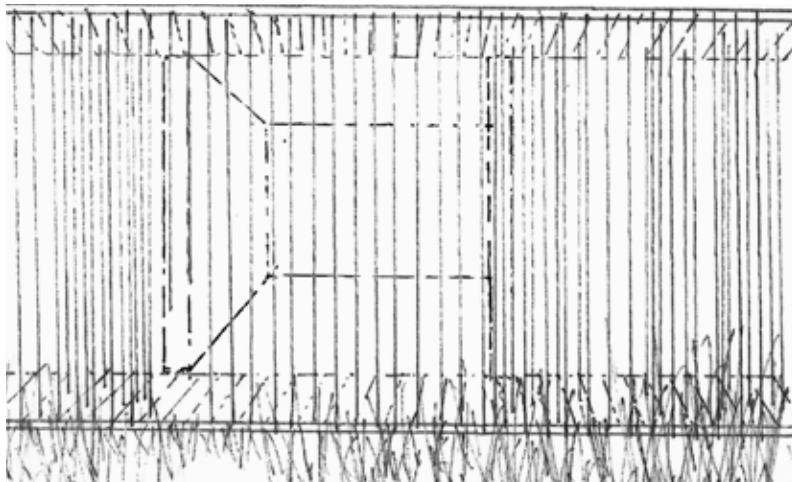
metaphor: tall grass in the wind - temporal fluctuation



1. Approaching,



2. Arriving



3. Revealing



metaphor: grass in still weather: temporal stagnation



A SKIN, A CLIMATIC ENVELOPE, A PERMEABLE SCREEN OF PRIVACY

"Authentic architectural experiences consist then, for instance, of approaching or confronting a building, rather than the formal apprehension of a facade; of the act of entering and not simply the visual design of the door; of looking in or out through a window, rather than the window itself as a material object. Architectural space is lived space rather than physical space, and lived space always transcends geometry and measurability." (Pallasmaa, J. 2005 pp.48)

Inspired by the predominant tall grass, the idea was to create a facade which could support functional requirements while at the same time softening and rooting the building to the landscape. In pure exterior and aesthetic considerations, the facade is understood as an undulating skin, that when portrayed from the outside, the verticality of the tall grass, go in dialogue with the linearity of the sticks, as if they merged into one another.

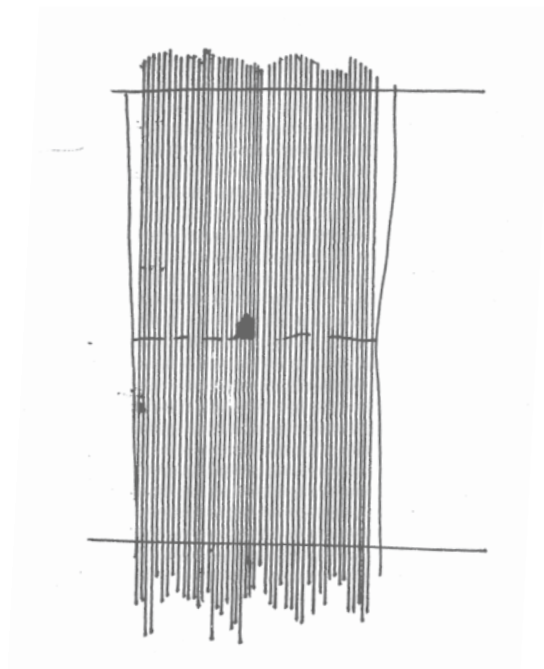
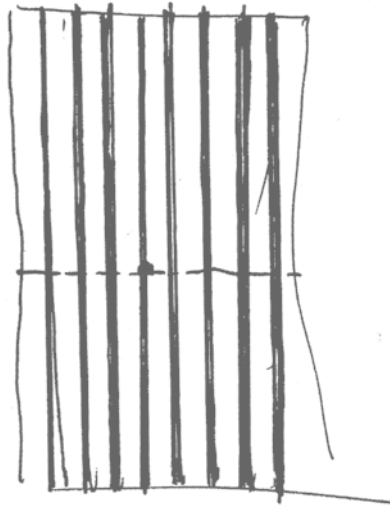
In regard to functional and practical demands when designing laboratory- and learning spaces, the aim was to create a facade that could both completely screen off and filter light in respect of the functionality of specific spaces, but at the same time have a certain amount of transparency in order to create vignettes of the landscape. Furthermore, the shadows casted by the sticks, were to create undulating ripple effects on the exterior and interior slabs, floor and walls, modulating the interplay between light, shadow and solid material over the course of the day - without causing sharp drop shadows on working surfaces, tables, laboratory equipment.

Additionally, responding to the large glass surface area's of the building, studies were made of how the sticks could function in relation to a double-facade, allowing the air to flow through their porous physical envelope, and exit through a small opening in the roof slab, thus cooling down the interior wall and glass-facade. Focusing on relations and dualities

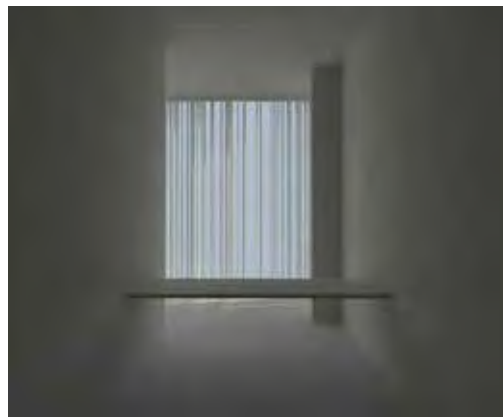
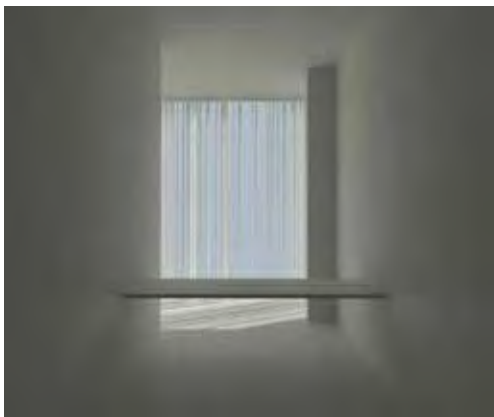
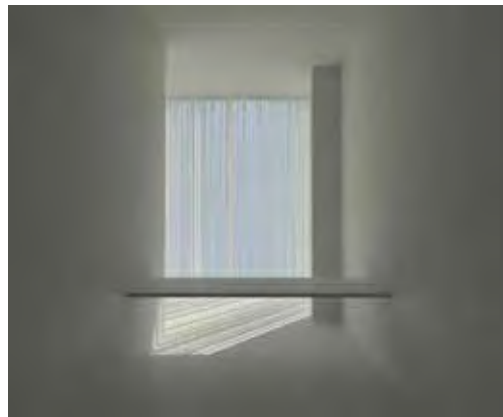
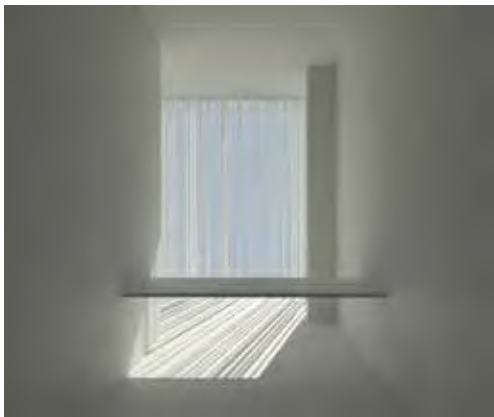
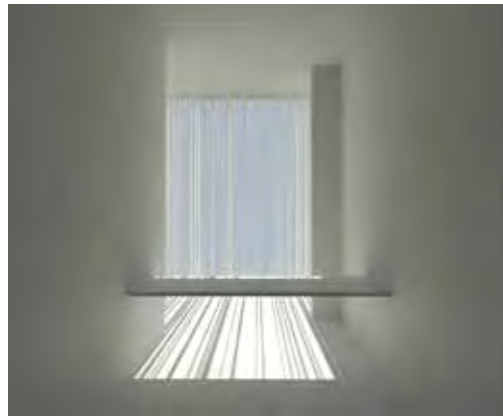
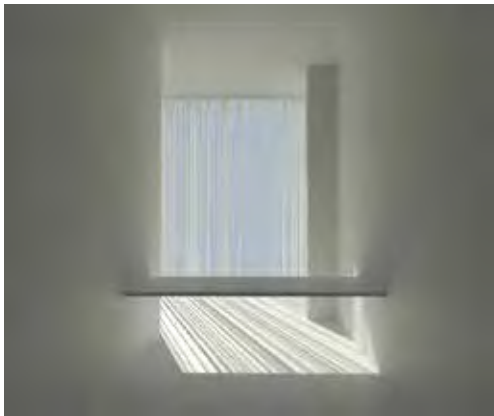
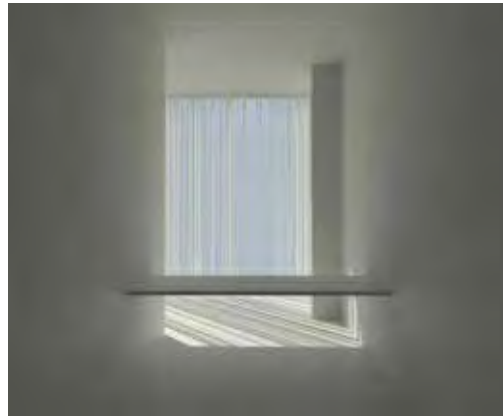
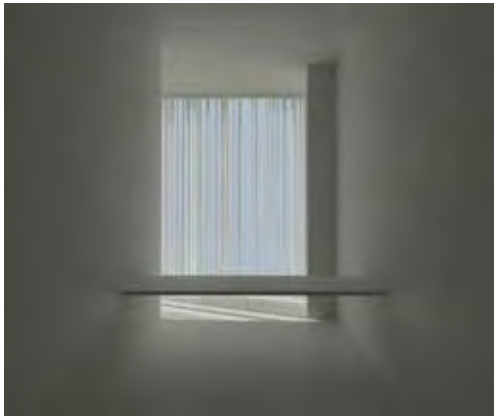
between being private and exposed, contemplative and open, individual and part of a fellowship, explorations of how the skin could create a soft differentiation between these realms were also prioritized. The relation between composition, density, size and the distance between the skin and where interior space begins informs and substantiates such considerations in the design.

In order to ensure a synergy between functionality, practicality and aesthetic pleasure, different type of studies were implemented, including; explorations in section and plan, daylight simulations from the exterior and interior, and geometric studies of thickness, form density, pattern and composition.

Thus, the exterior facade can be regarded as an element that affords gestures as an aesthetic skin, climatic envelope and a permeated filter of privacy - ultimately grasping beyond the traditional definition of a facade as a principal front of a building, simply confining interior and exterior.







Water, Landscape and Construct

CREATING A DIALOGUE BETWEEN THREE ELEMENTS

As touched upon in virtually all aspects of the project, water is what defines, informs, structures, orients and inspires the vast majority of thoughts and considerations.

In extension to working with water as a purely resource-based quantity in the project strategy, it comes quite natural to study water as an integral element within the project.

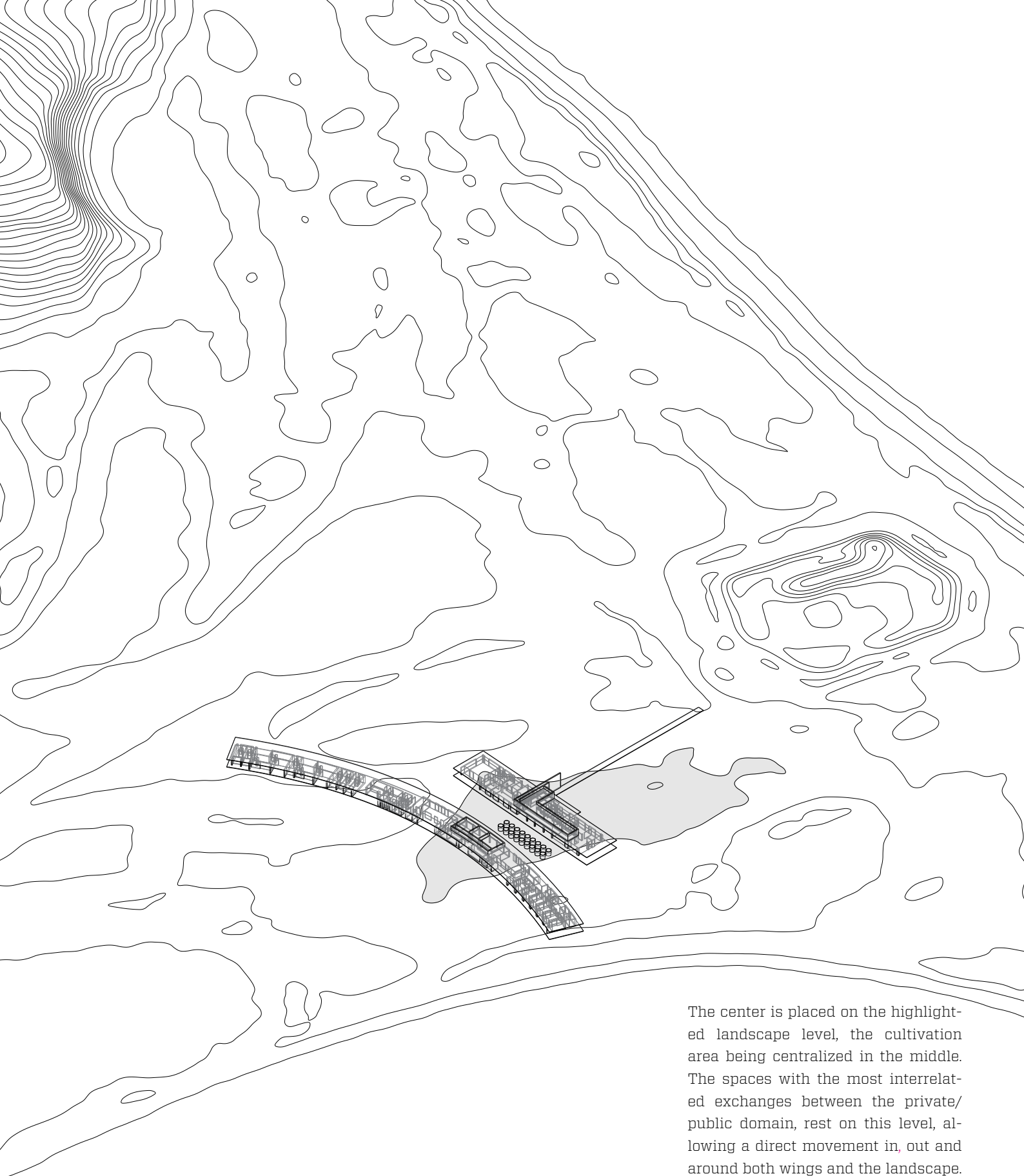
"I simply think that water is the image of time. ...Water equals time and provides beauty with its double." (Brodsky, J. 1993)

As Brodsky poetically fabulated about the ever present waters in Venice, he simultaneously touched upon central themes within architecture namely the relation between time and space. Without initiating a discussion about space/time, it is evidently interesting to consider water as an element that evokes a sensitized experience of duration within this project - of what once was wet and moving, suddenly becomes dry and non-existing.

By implementing water features and visually framing the temporal changeability of the natural present water in the landscape, the goal is to underline the relationship between the interior and exterior of the building, as perceived through human sensory experiences. Thus, the architecture seeks to inspire an interaction between water, construct and the individual.

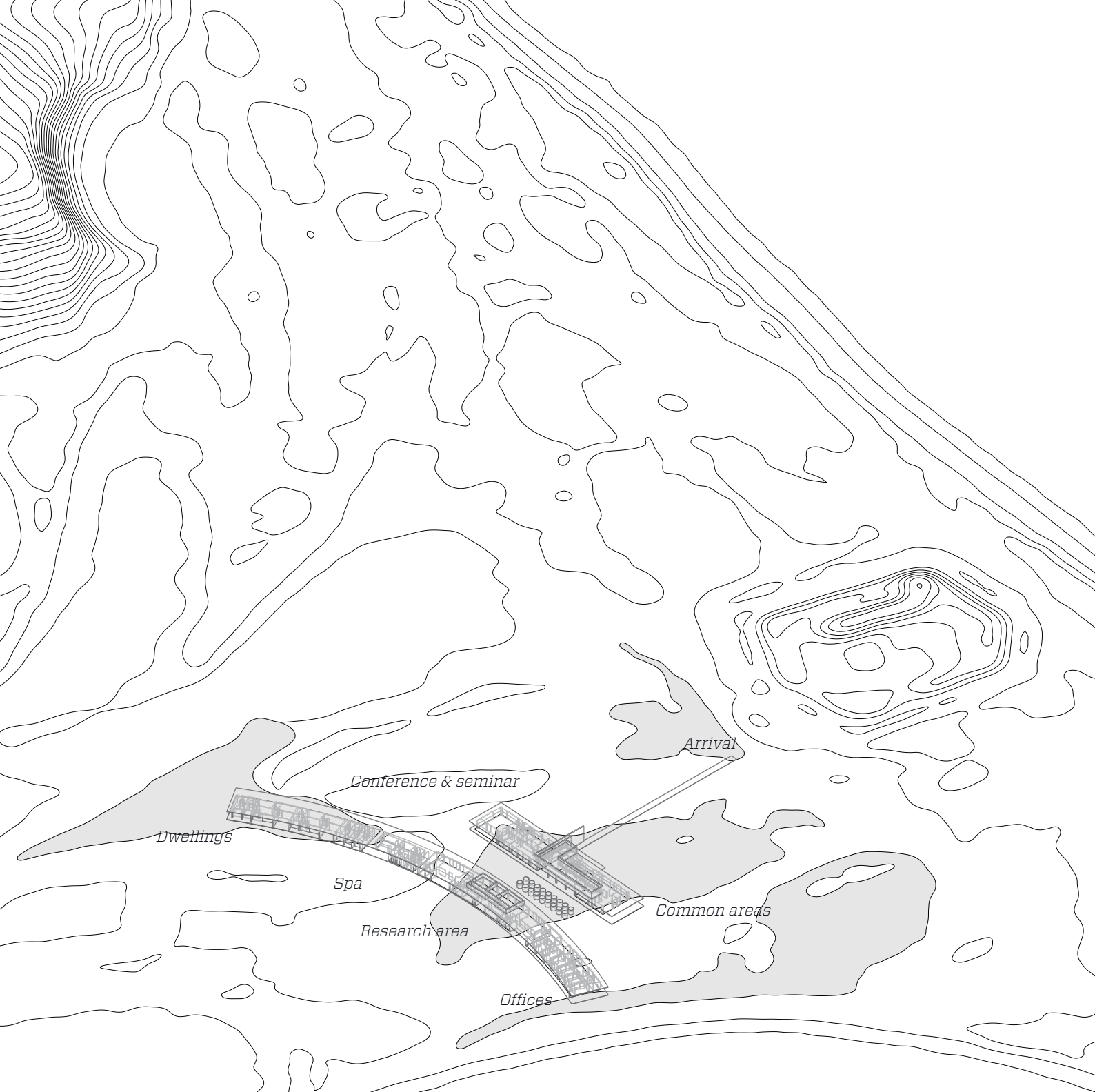
As an extension of the site analysis, the exact position of the building very much relates to the underlying topography, in accordance to which parts of the programme are in direct-level access with the landscape, and which domains that should be floating above the terrain. These considerations rest on the encounter between water, landscape and construct, as the interchangeable levels of water, whether being caused by floods, tides or global sea level changes play a fundamental role in how the landscape and building is approached, perceived, used and experienced.

Within this span of thoughts, the presence water, how the landscape is transformed accordingly, and how the construct relates to these notions have been explored.



The center is placed on the highlighted landscape level, the cultivation area being centralized in the middle. The spaces with the most interrelated exchanges between the private/public domain, rest on this level, allowing a direct movement in, out and around both wings and the landscape.

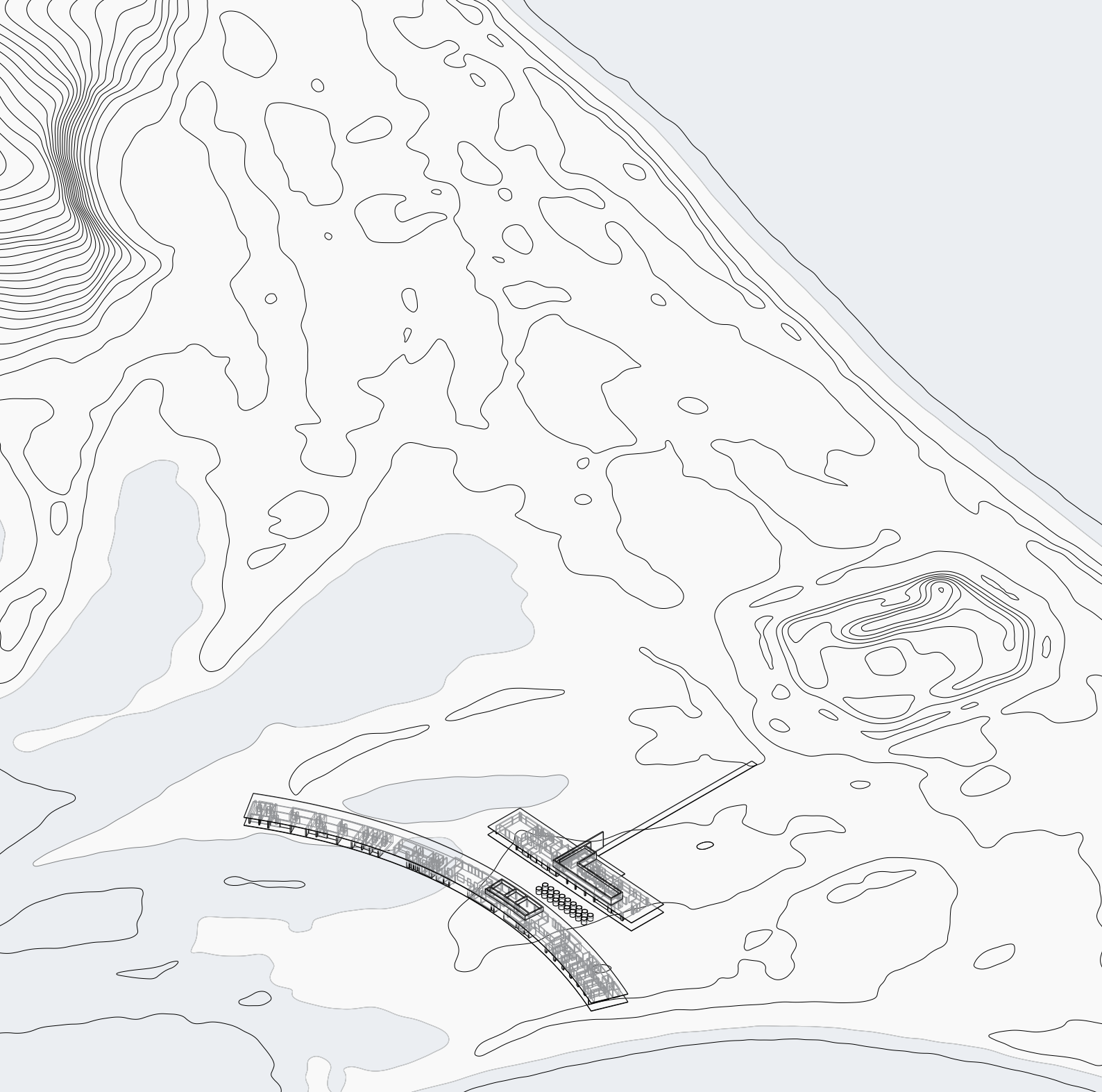
This part of the landscape thus saturates and connects the two wings. On this level, a space is defined, fathoming both outdoor, semi-outdoor and closed spaces is in which the landscape, seaweed, research, production, learning and social gatherings coalesce in unison.



Spanned across four peaks on the landscape, the topography and programme enter in a dialogue, underlining spatial and programmatic shifts. The dwellings are placed furthest away from the complex, on their own island as a place to dwell. The spa branches out towards the research area, as an escape from normatives. The research area is where the focused work occurs, in close connection to the cultivation area and the public wing.

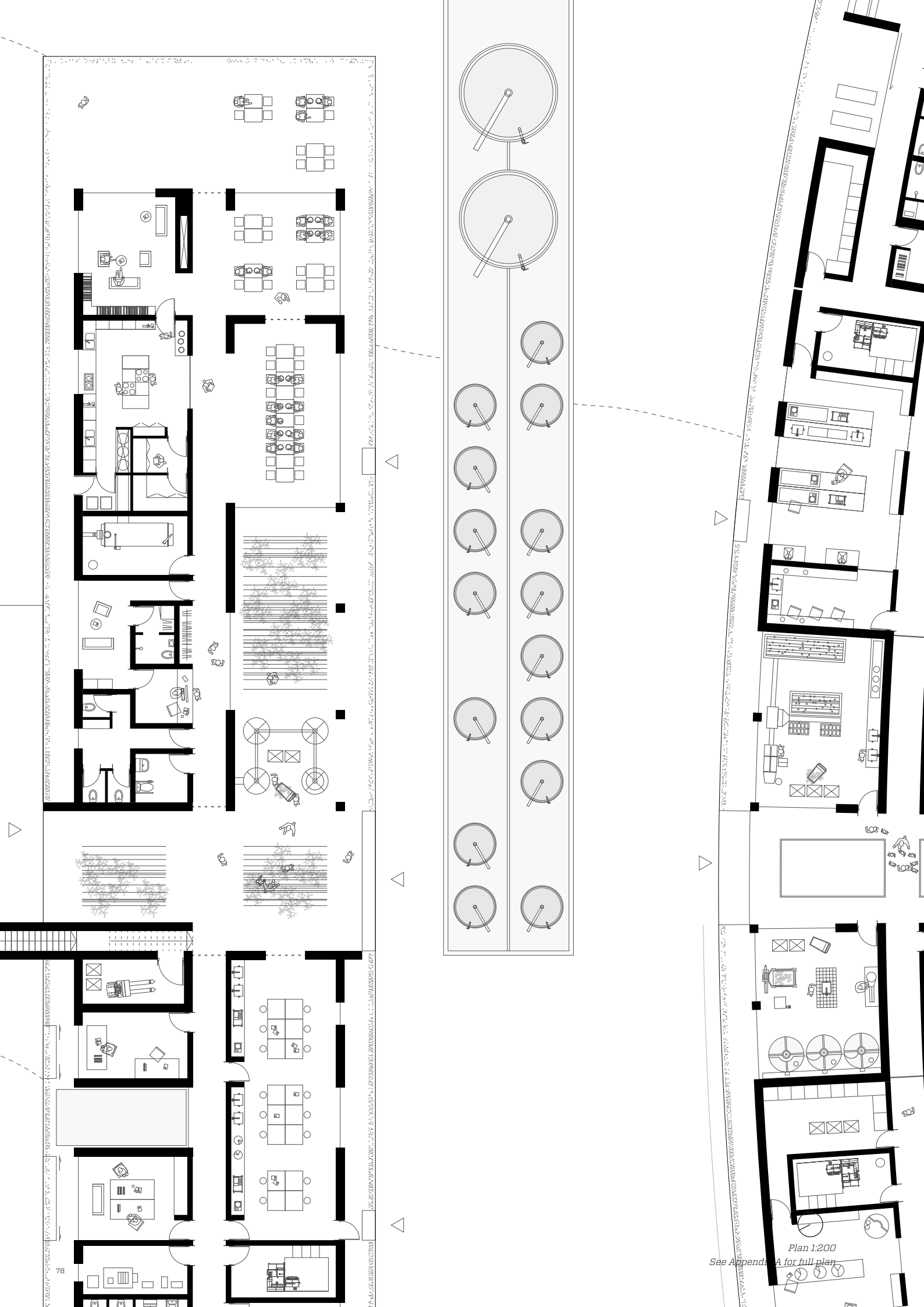
Lastly, extending further into the landscape towards the water, lifted above ground, the researchers offices are a place for contemplation and focus.

The programme in the public wing is focused around the central arrival area, encompassing the conference and seminar space extending out towards the landscape, and the common areas towards the open sea.



Depicting a possible future in 100 years, or during massive floods of +800mm, the erosion of water would flood and engulf large parts of the shallow landscape. In connection with the prior paragraph, the water would underline the spatial transitions from one cluster of programme to the other.

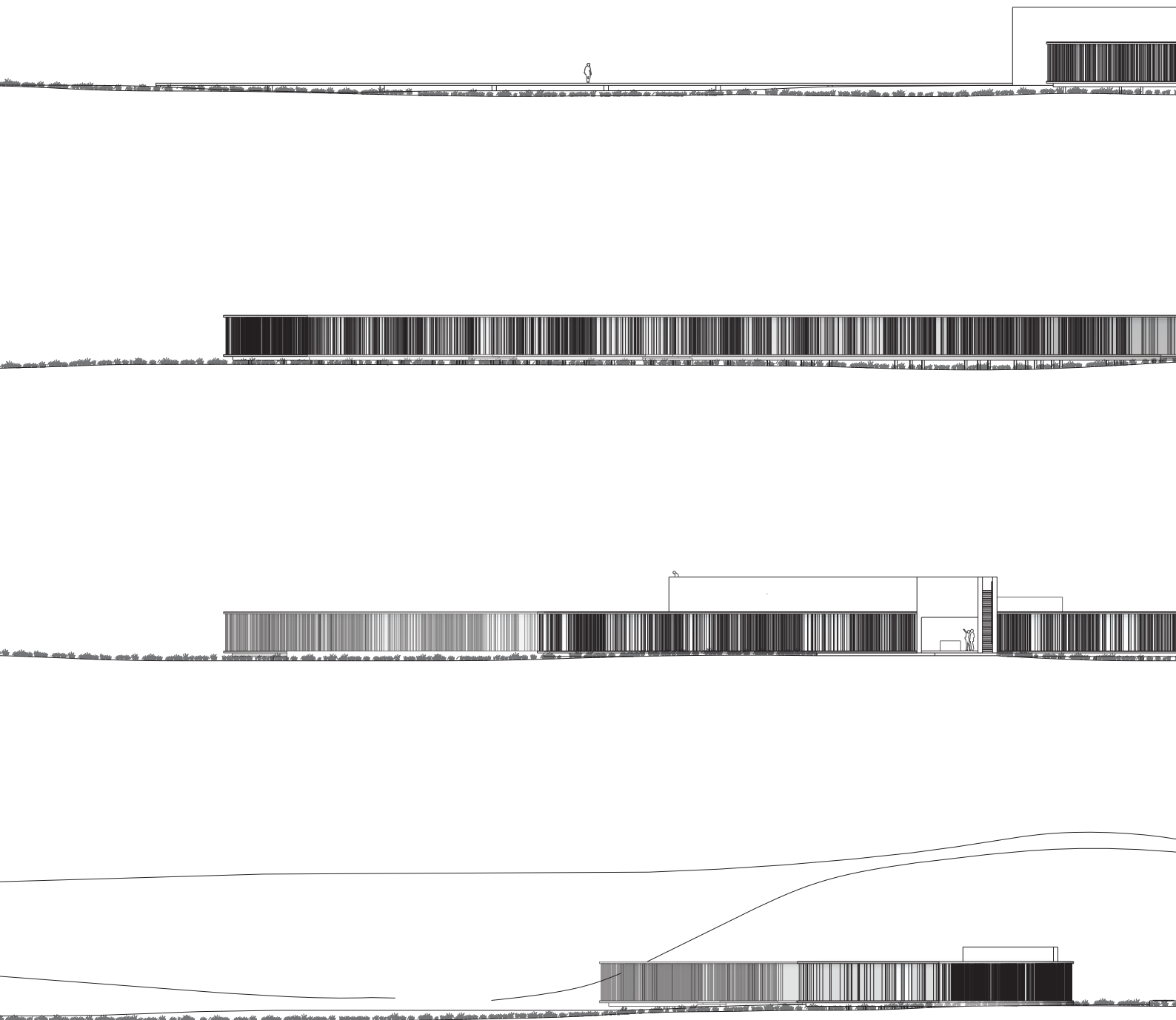
Thus, the dwellings and spa area are also placed in close relation to the shallow parts of the site, fostering the idea of water and construct meeting in unison.



Plan 1:200

See Appendix A for full plan





Based on studies in section/elevation in correlation to the plan residing programme, the building floor-slab is positioned +1860mm above sealevel, fostering an exchanging relationship in which landscape, construct and water interrelate and coalesce.

This is based on considerations about the relationship between horizontality and verticality, between landscape and construct and water and ultimately how these interrelate aesthetically and functionally.

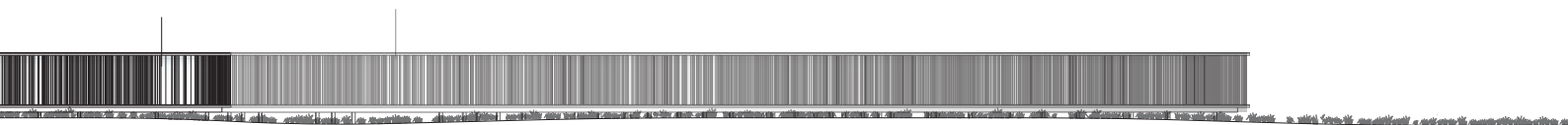
In a contrasting supposition between the natural and the construct, the chosen height-position seeks to portray the landscape as undulating, moving, living, temporal in contrast to the sharp and static motif of the floating solid matter.



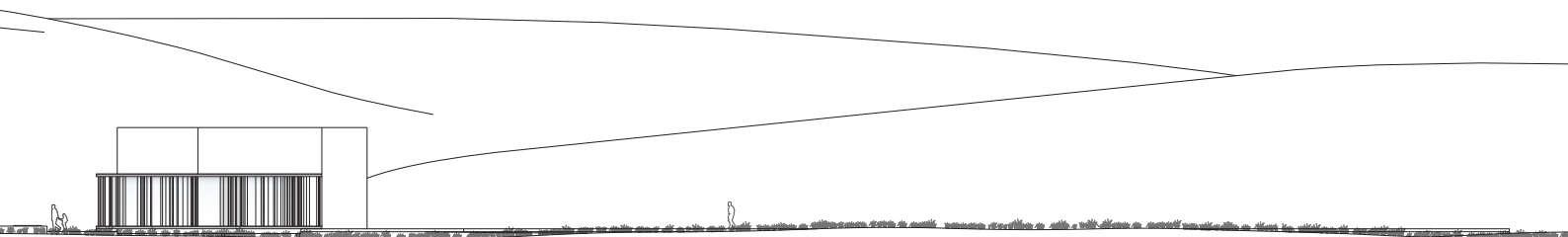
Elevation - West



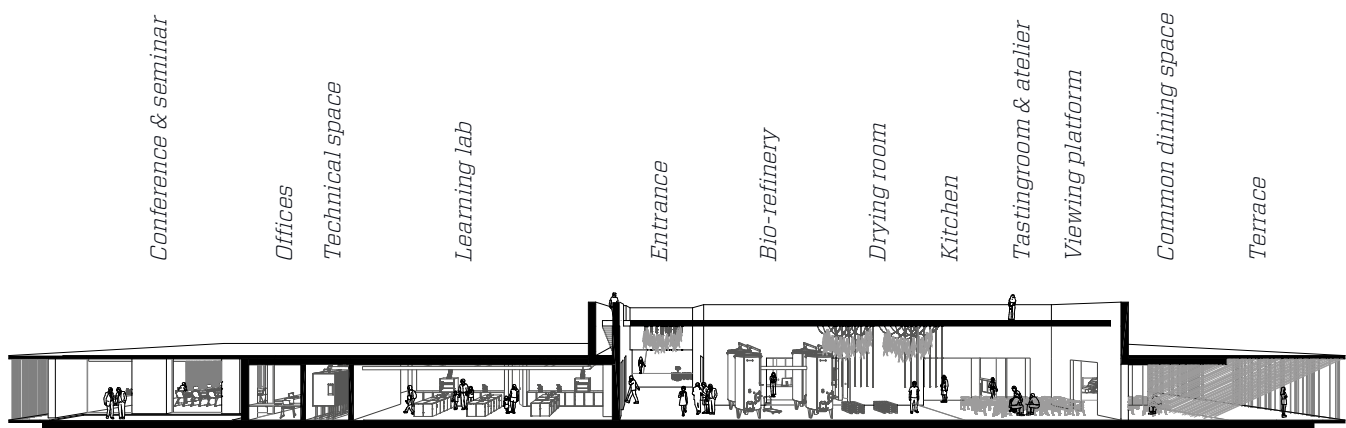
Elevation - South



Elevation - North



Elevation - East



Perspective section

The tower space spans a double-height room, in which seaweed is dried, combusted in the bio-refinery, explored in the research lab, explained and communicated in the seminar and conference spaces, cooked and experimented and cooked in the kitchen and consumed in the tasting area and atelier.

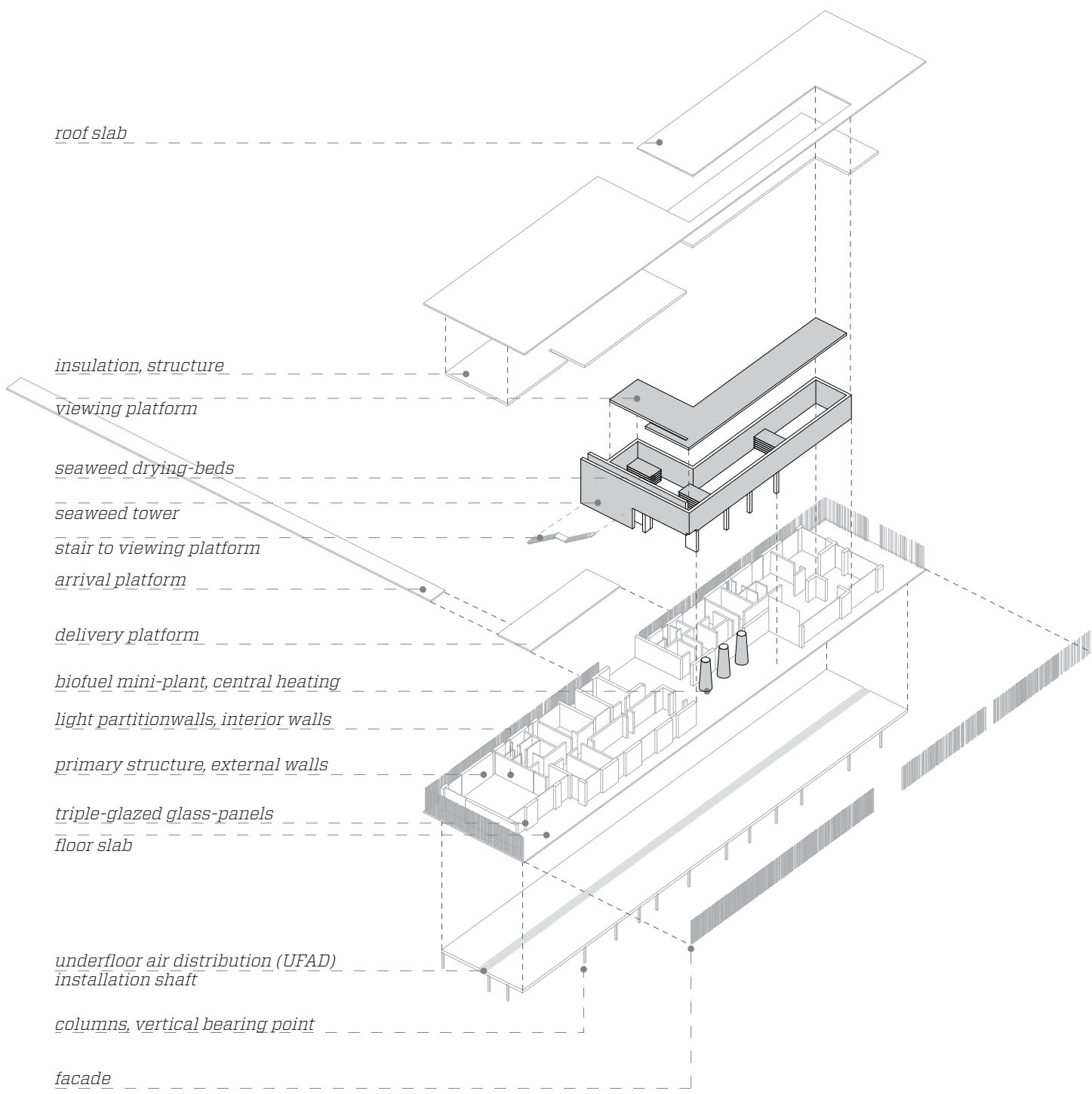
Thus, the entire space represents a unifying focalpoint, which saturates

and connects the various programme and spaces across - a physical element that distinguishes itself in the landscape, establishing a hierarchy of scale and orientation within the research center.

Elements and their relationship

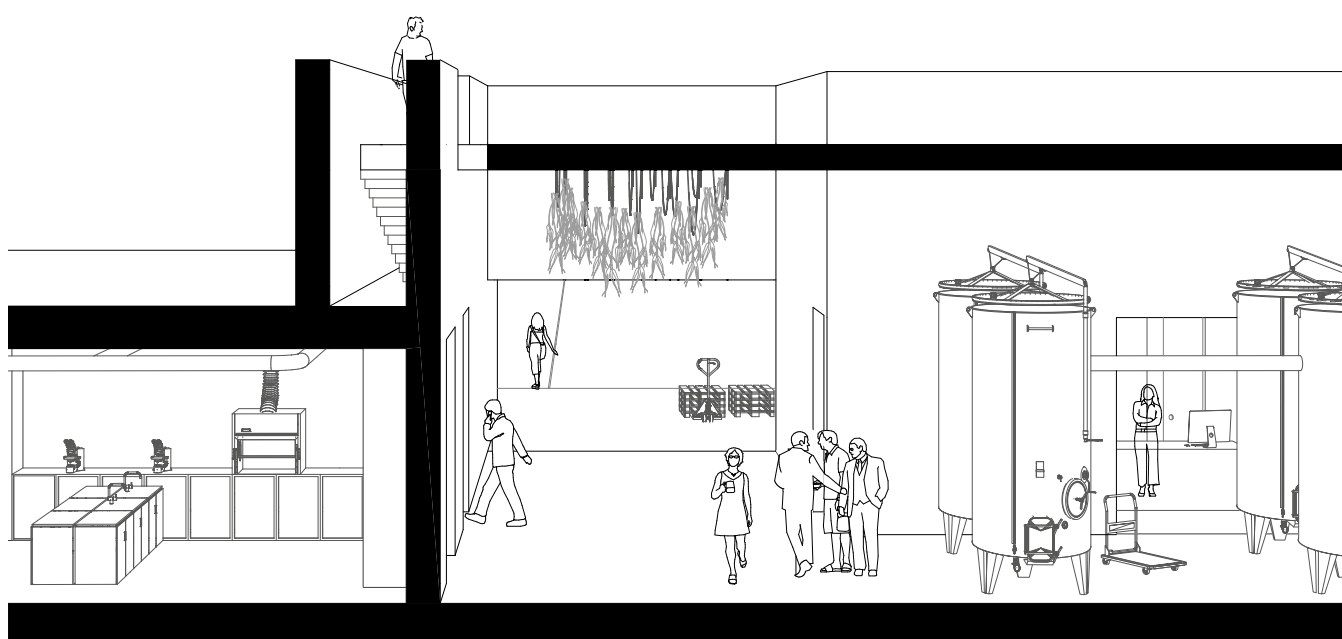
An exploded drawing of the public wing, reveals how the vertical facade, horizontal slabs, tower and plan are four independent elements. When combined they comprise a unison en-

tity that inspires movement across the landscape and interrelatedness between landscape, building and space. From a plan-perspective, this allows a freedom in which movement, spatial relations and framings of the landscape are able to coalesce.

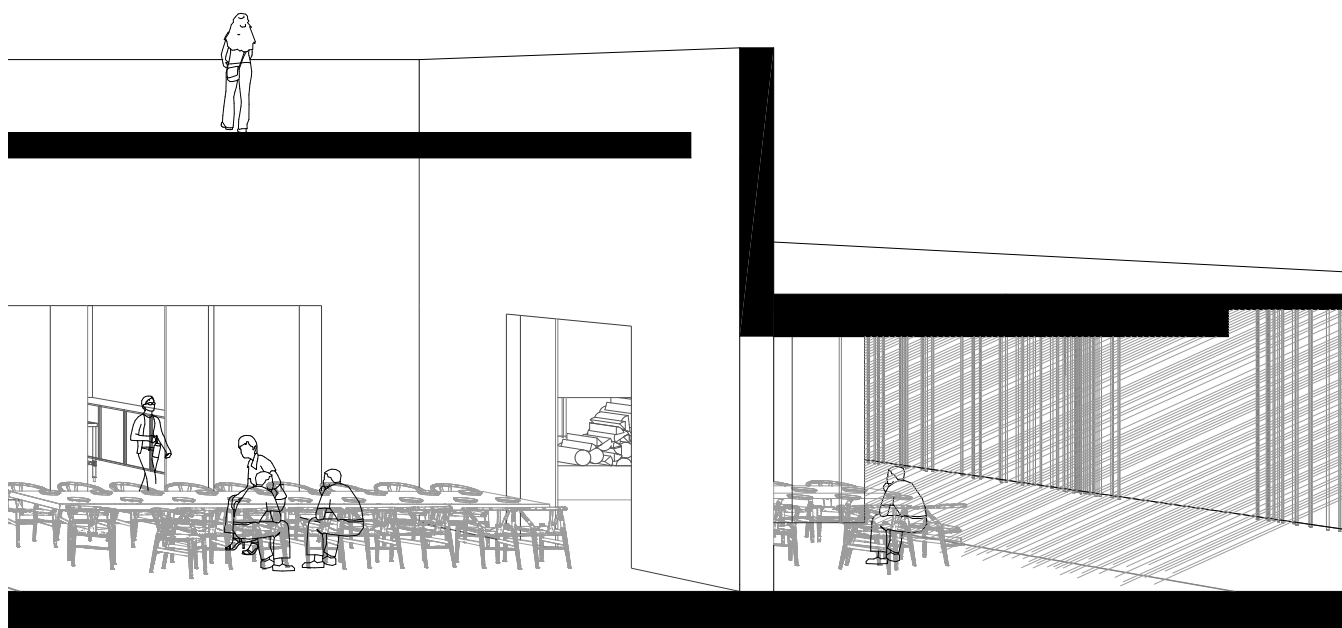




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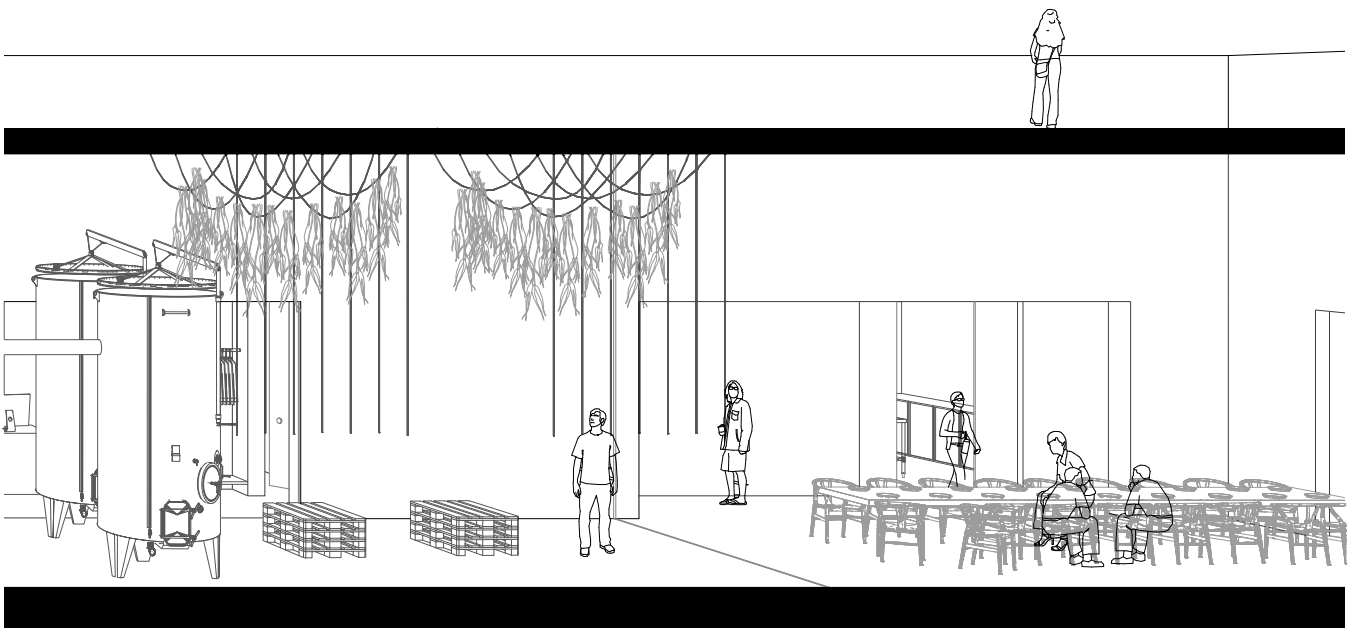
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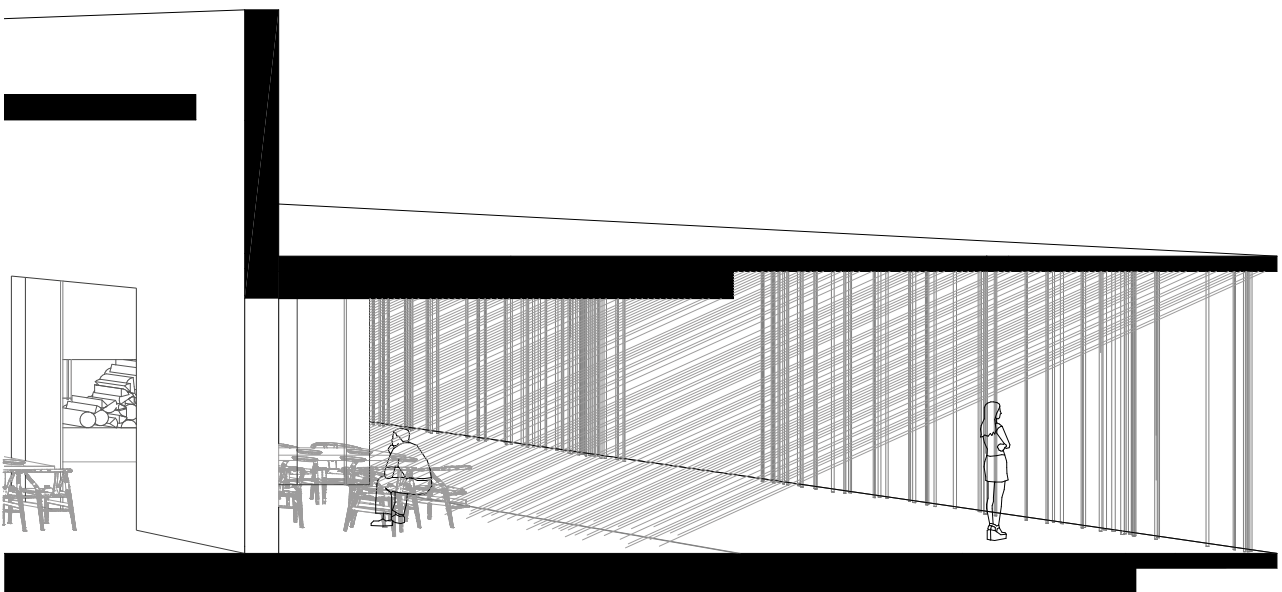
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Materiality and Detailed Design

MATERIALITY, TACTILITY, LIGHT AND SHADOW

CHAPTER 04

page 86-101

CONTENT INDEX

+ Introduction

+ Material Palette

+ Light and Water

+ A Bodily Experience of Seaweed

+ Light and Shadow

+ The Horizontal and the Sublime

Introduction

Every touching experience of architecture is multi-sensory; qualities of scape, matter and scale are measured equally by the eye, ear, nose, skin, tongue, skeleton and muscle. (Pallasmaa, J. 2005)

As Pallasmaa argues in *The eyes of the skin*; considering materiality and a deliberate articulation of material characteristics, aspire to an immersive and sensuous architectural atmosphere.

The significance of atmosphere, which to some extent can be deemed immaterial and ephemeral, is important in how space and place is perceived and experienced. Thus, an atmospheric, integrating and emotive character has the ability to foster spaces for immersion, beyond functional and practical considerations. (Pallasmaa, J. 2005)

When considering the bodily senses Pallasmaa mentions, although they can be analyzed individually, it is their

combination that forms the whole of human experience as Maurice Merleau-Ponty described in *Sense and Non-Sense*. (Ponty, M. 1964)

This has given rise to an exploration of materiality, tactility, texture, light and shadow, through detailed design considerations, which seek to cast light on the relationship of materiality, space and body, how these coalesce into an atmosphere, what informs the choice of materials, and ultimately, how these materials are perceived, used and experienced. Thus, the choice of materials stem from considerations about material properties, functionality, programme and spatial potentials.

The intention of this chapter is not give a detailed description of every chosen material, or a material overview of the entire complex, as it is deemed more qualitative to delve into specifically chosen spaces and unfold their potentials, given the time at hand.

Nevertheless, based on practical considerations and spatial gestures, certain categories can be determined; spanning from exterior spaces of; dirty and rough work and recreational terraces, to interior areas which encompass spaces for; dirty and rough work, sanitary laboratories, focused work and learning environments, and recreational, and private intimate spaces.

Introduced in the following pages, the material palette portrays considerations of the primary used materials.

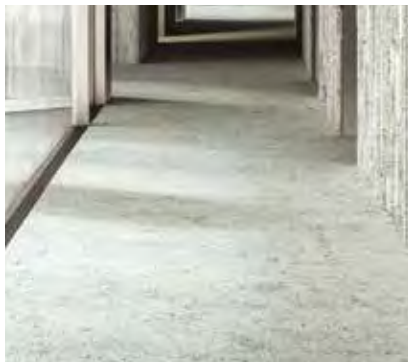
The subsequently introduced visual representations, depict detailed design considerations and spatial thoughts, seeking to uncover the pursued architectural qualities of the design explorations.



Light and Water



A Bodily Experience of Seaweed



Light and Shadow



The Horizontal and the Sublime

Material Palette

OVERALL MATERIAL CONSIDERATIONS

The choice of materials rests partly on functional considerations in relation to robustness, useage and maintenance, and also on aesthetic thoughts about space and atmosphere. Based on programme, functional demands and spatial considerations, spaces are composed by differently treated materials, based on their thematic properties.

Concrete

The solid and hard concrete reflects the roughness of the vast and extensive sea, showing a sense of robustness in relation to prevailing winds and presence of water. Its robust properties support the tough use and abrasion of the variety of programme, specifically the cultivation area's, in which a minimized maintenance is desired. As a heterogenous material, concrete is very versitile and affords a variety of surface and base-treatments, depending on structure, tacility and functionality.

Anodized colored aluminium

As a slightly reflective surface, it captures and refracts shifts in light settings throughout the day and season, underlining an undulating exterior effect, in connection with the shimmering water. As an aesthetic feature, it introduces as sense of refinement and warmth in contrast to the rough and hard concrete, complimenting its untreated and raw mass. Its anodised surface increases corrosion resistance and environmental wear resistance, specifically coined on water resistance.

Wood - Oak

As a stark contrast to the heterogeneous properties of concrete, wood in its very nature is a homogenous material, a living organism. Using wood for flooring, furnitures and other detailed finishes adds a sense of intimacy, homeliness and a sense warmth and softness. Although wood, to some extent, requires more maintenance than concrete and anodised aluminium, its functional qualities reside in its soft and permeable surface, which can be utilized advantageously as an acoustic surface.



fig. 17. Formworked concrete



fig. 18. Texturized concrete



fig. 19. Polished concrete



fig. 20. Anodised aluminium



fig. 21. Wooden oak floorboards





Light and Water

RESEARCH OFFICE

Wooden formworked concrete walls, while framing a standing portrait of the landscape, carry a solid wooden desk as the predominant element in the space. This is a place where thought initiates, a space that fosters contemplation and complete focus. Withdrawn from the facade, not to be completely exposed to the exterior or sharp southern light, the perspective towards the landscape and table underline the main intention of the space as a simple, yet powerful gesture.

Seemingly two glaring opposites; the hard and rough concrete is combined, with a warm oak table and floors, which in unison strengthen the spatial atmosphere of a space which is conceived as neither personal or the opposite - underlining the atmosphere of the office as neither purely home or work - but as something in between.

Architectural space frames, halts, strengthens and focuses our thoughts, and prevents them from getting lost. (Pallasmaa, J. 2005 pp. 7)

Between the flush window frame and exterior facade element comprised of anodized aluminum, a shallow water pool captures a reflecting surface of rainwater, evoking a heightened and sensitized experience of duration and temporal natural shifts. As a backdrop in the landscape, a visual dialogue between the two is strengthened, hinting a story about nature and cultivation.

In our time, light has turned into a mere quantitative matter and the window has lost its significance as a mediator between two worlds, between enclosed and open, interiority and exteriority, private and public, shadow and light.... The shadow gives shape and life to the object in light. (Pallasmaa, J. 2005 pp. 61)

The aluminum sticks of the exterior facade catches some of the sharp light as it is filtered through the space, bouncing off the water and wooden interior floor as it gently enters the space. The further the light travels, the softer its shadows become as they bathe the textured concrete walls. With a simple gesture of bending the right concrete wall, the setting becomes more intimate, while a small opening in the roof slab, captures the mid-day light.







A Bodily Experience of Seaweed

THE TOWER SPACE

Every touching experience of architecture is multi-sensory; qualities of scape, matter and scale are measured equally by the eye, ear, nose, skin, tongue, skeleton and muscle. (Pallasmaa, J. 2005)

Originally thought as a purely functional space, the double height tower-space is a physical aspiring testament to creating interrelated spatial experiences within the research center - as an immersive space where a bodily experience of seaweed is fostered; cultivated, seen, smelled, felt, consumed and experienced. This is a place that embraces transparency and adjoining spaces.


In the background, a glazed door hints a direct connection and use of the Learning Lab, while in the middle ground, the exterior space of the tower exposes the seaweed drying process and a mini biofuel refinery which functions as the central heating system. Here, function and space are in close relation, as the robust and textured concrete underlines a sturdy and highly used space for seaweed cultivation.

In direct spatial relation to the exterior tower-space, the atelier and tasting room, only separated by glazing, epitomizes a synergy between spaces of functional requirement and human desire. This is a flexible room, in which experiments in seaweed, cooking classes, temporary storage, gatherings and in this situation dinner parties take place. Besides functional demands calling for sturdy and low-maintenance materials in such flexible spaces, aesthetic considerations emphasize a spatial gesture in continuing the concrete floor, fostering a strong atmospheric connection with the exterior tower-space.

Framed from the wooden-floored common area, this composition of juxtaposed spaces seek to create a strong visual, spatial and programmatic interrelatedness, as a space for a bodily experience of seaweed.

The powerful smell of seaweed makes one sense the depth and weight of the sea, and it turns any prosaic harbor town into the image of the lost Atlantis. (Pallasmaa, J. 2005)





Light and Shadow

THE HALLWAY

Throughout the research center, narrow hallways inspire movement; across the landscape and through the different domains of the building. The structure derives from the need and desire to enclose specific spaces, specifically and pertinently. Space is defined and within it, spatial exchanges unfold as a society of rooms, in strong relation to each other and the landscape outside. Flanking the central hallway, studies, archives, terraces, offices, laboratories and common spaces open and enclose the spatial sequence to each side. This is where all spaces meet, and where spontaneous exchanges occur.

"When I choose an order of structure that calls for column alongside of column, it presents a rhythm of no light, light, no light, light... As a character of light." (Kahn, L. 1979 pp. 34)

The supporting concrete elements are placed in relationship with the hallway and interrelated spaces, becoming sequential in rhythm and deliberately angled towards adjacent spaces or open views of the landscape. As a result, the structure deliberately defines spatial exchange and becomes the giver of light, emphasizing the variation of programme, spatial atmospheres, interior and exterior. At the end of the arced hallway, a vertical vignette of the ocean is captured in between the formworked concrete, inspiring the individual to cross the threshold between interior and exterior.

The hallway in many ways represents the backbone of the complex - as a place where spatial, personal, atmospheric and functional exchanges occur. A polished concrete used on the flooring and ceiling underline these varying relations, as a relational at to some extent frictionless flow-space for different exchanges. The roughly formworked concrete, running parallel to the exterior facade, captures a varying portrait of the light, adding a gesture of depth and texture to an otherwise structural element that merely serves as spatial separation in concordance to the offices behind. The formworked concrete element thus gives shape to shadow, and shadow gives life to the element.



The Horizontal and the Sublime

THE BUILDING PERCEIVED FROM THE OUTSIDE

Perceived in relation to the coast and the strong presence of the horizon, the building appears as a floating horizontal element, inscribed in a natural setting that is so vast, one is temporarily lost in it. Engulfed in a shroud of fog on a winter morning, the building appears as merged with the sublime backdrop of the vast sea, capturing an overwhelming panoramic boundlessness. This powerful interplay between nature and construct is in constant dialogue, evoking feelings of sublime wonder of a fleeting moment.

"We come to see not the work, but the world according to the work." Merleau-Ponty in (Pallasmaa, J. 2014).

It is here, immersed in the landscape, you come to appreciate the landscape according to the building, and not necessarily the building itself.

Towards the shallow cove, the exterior facade appears as a soft undulating skin, connecting, camouflaging and revealing underlying spaces in a gradual gesture, thus, becoming difficult to completely separate the material and immaterial. Raised on pillars, the building almost appears hovering above ground, blurring the apparent solidity and heaviness of the concrete, as it is also softened by the sweeping gesture of the facade. Materiality thus becomes difficult to decode from a distance, inspiring the individual to encounter, approach and ultimately confront the building.





The Axial Entrance



Critique

CONCLUDING PERSPECTIVES AND THOUGHTS

CHAPTER 05
page 102-111

CONTENT INDEX

+ Introduction
+ Delimitation
+ Critical Perspectives
+ Research Center for Seaweed

Introduction

The large scope of this project which is emphasized by its different parts, has resulted in quite a complex project and a large quantity of work. This ultimately required some delimitations, and thus entail a critical discussion and evaluation of the project; reflection of the intent, focus, explorations and finally the design proposal.

Reiterating, the overall objective of this report revolved around an architectural study that sought to explore architectural conceptions of the implementation of a research center for seaweed. Out of the many possible and probable aspects which would make sense to discuss in relation to a project of this size and magnitude, only a few focal points have been chosen as a point of departure for a discussion of critical perspectives.

Delimitation

Regarding the project strategy and the definition of 'Peripheral Denmark', we chose to lean on Realdania's three potentials; the nature, the coast and the local involvement, as being the predominant qualities of peripheral Denmark. Although this is done as a delimitation and in order to scope the project focus, the majority of the peripheral areas in Denmark are far from the scenic, idyllic and romantic images of Danish landscape, which are depicted in 'Stedet Tæller', and of course Langør and Lilleør in this project. We fully understand that the peripheries in Denmark represent a far greater variation of challenges, including suburban areas, roadside towns and post-industrial areas. The islands represent merely a small fraction of the total image, nevertheless, they are considered as crucial landscapes and important cultural heritage. Thus, this thematic approach also includes considerations about coastal culture and the future of these

islands which are closure-threatened and physically separated from the mainland. (Kristeligt Dagblad 2013)

In relation to the embodiment report, a few things have been outlined in order to scope the focus of the project.

The lack of experienced case-studies of seaweed research centers and thus the understanding of the researchers environment can firstly be mentioned. This, of course, is a central premise in architecture, namely understanding the demands and desires of the users, as the architecture undeniably must relate and correspond to such notions. This being said, this was presented as a challenge, as there currently exists no built projects alike. We felt that prioritizing concrete references, research, theoretical considerations were more important for the overall genesis of the project, as there was simply limited time for user surveys. In prolongation, the full technical considerations of a



research center have also been delimited, in the scope of the project focus. Ultimately, inventing an architectural narrative, desires and requirements of a research center from personal preferences to some extent limit the authenticity of an institution for people.

One could suggest that we as architects should be able to make reason of any giving design task of our own and that we, in light of those reasons, do not need these elaborate design programs to begin with if we just did the job we have been entrusted. We do believe that one of the great potentials of the field of architecture is that it is interdisciplinary by heart - something we indeed have explored to embrace in this project.

Architects must have a curiosity that drives a longing to uncover the mechanism of life, of society, and to understand how we can make it better and more interesting. However, herein lies a

fine balance between the aspiring and ambitious architect (which we rightly should be) and, harshly put, egoism. Clearly, in this day of age, where the users, technical proficiency, economy and sustainability is demanding more than ever from architecture, we as architects must also learn how to be attentive of how to utilize and steer this potential in the interest of architectural quality. Especially in relation to defining the sometimes complex demands and desires of very specific user groups, might in many cases be deemed naive when architects define the user group solely from limited research, aesthetic considerations or personal interpretations and experiences.

As mentioned in the site analysis, Stavns Fjord - the archipelago in close relation to Langør and Lilleør, is in fact a wildlife reserve. Building on Lilleør - in close proximity to the wildlife reserve, is essentially prohibited. This

being said, it must be emphasized that the project is also an exploration of the cultivation of nature, whether being harvesting seaweed or building in scenic surroundings. In relation to the paragraph about coastal culture, and project explorations, this place, among others in Denmark - could be perceived as a zone in-between the preserved natural reserve and the coastal cultural landscape. Thus, it can be understood as a place that simply embraces the natural experience of the surrounding landscape.

Critical Perspectives

CONCLUDING PERSPECTIVES AND THOUGHTS

Project scope

Throughout the course of four months, we have gone through an extensive amount of research, theoretical considerations in order to reach a platform where we could begin our architectural explorations. This was partly a subjective choice, as can be read in the project motivation, but was also deemed necessary. Out of the total allotted time of 16 weeks, 6 of these weeks were planned, and accordingly spent on the project strategy and theoretical paper. This, of course, might be deemed as quite a substantial amount of time in relation to a project that places emphasis on the design explorations. Nonetheless, we believe that a combination of the notions of theme, resource, exponent and theoretical considerations were deemed necessary, as it was a demand to construct a new platform and territory for the project, which today only exists in fragments, spanning across policies, campaigns, demonstration projects, theoretical considerations, studies and laws. This aspect was also briefly touched upon in the project strategy sub-conclusion, aspiring to find a physical resource with growth-potentials, as a reaction and response to towards a critique of Realdania's *Stedet Tæller* campaign; being predominantly based on peak-season tourism.

Choice of site

One could also make an inquiry in relation to the choice of site - not regarding a discussion of culture and nature, but instead the geographical position of the research center in relation to logistics. Does it in fact make sense to place a research institution so far away from the mainland? Obviously this would to some extent complicate logistics, compared to being located in and near a larger city in Denmark. Thus, it certainly raises critical questions about notions of transparency and accessibility. Nevertheless, the entire premise for our architectural explorations is based on immersing the researchers within the very nature they study. The architectural theme builds on the fact that the cornerstone of natural sciences is exactly the comprehension of our natural world, thus, as it very well makes sense to locate the research center based on logistic and practical purposes, this would immediately also dilute the ideological intention of the specific architecture and its exploratory quests. Based on

the academic experience we have gained through our studies, we have found it important to stick with and follow such quests, which to some extent sometimes implies going to *extremes*, in order to be able to evaluate and authentically respond to the architectural explorations, considerations and thoughts.

Talking about '*going to extremes*' in the search for uncovering such potentials, one could ask why this notion then wasn't fully explored? If the intention was to place the research center, and thus researcher in close relation to the matter they study - being water and seaweed - why isn't the complex located *in* the very waters and seaweed it studies - the ocean itself - in the nearest possible proximity of the Seaweed cultivation areas? In relation to an exploratory intent, this would indeed have made sense to examine. The relation between the built, water, the researcher and seaweed would be immense to explore, which testifies to an immense spatial and atmospheric potential. This being said, another bearing aspect of the project rests on the thematic topic of peripheral areas, more specifically coastal cultures and their history and heritage. In connection to this, the three potentials depicted by Realdania - the coast, nature and local involvement, the coast has been an immense inspiration and central premise for the overall project explorations and architectural digressions. The strong connection between the historic narrative and heritage of the coasts, as originally being a cultivated and actively used landscape, in correlation to exploring how a new conception of cultivation and related architecture might build on and possibly continue this hereditary cultural time-line is found very interesting to study. Along similar lines of thought, the role of Samsø as an exponent within the Seaweed Network, only stipulates this strong connection and subjective inspiration for the chosen context of Samsø and Lilleør.

Water, landscape, construct

As the discussion is approaching the scale of the place and architecture itself, there exists a duality within the way the building is positioned and conceived in the landscape, and its function. Studying the position of building in relation to the landscape, and how these interrelate, one could imply that the intention has been to make the least physical impact on the

landscape. Raising the building on slim pillars, thus physically and visually detaching it from the landscape, suggests a sensitive approach towards the landscape. A duality thus arises in correlation to the very intention of the research center, which entails cultivating nature, as this can be read as the very opposite of *being sensitive towards the natural landscape*. In prolongation, one could be so bold and ask if we are not simply building *on* the landscape, rather than *in* the landscape, and thus - more crucially - how does this relate to the aim of immersing the researchers in the surrounding landscape?

The choice of raising the building on pillars rests on two aspects: Firstly, the technical and structural requirements in case of floods is a given condition when building on low-lying shallow sites. Secondly, the choice rests on spatial considerations in regard to how the building is perceived from a distance and closely approached. By raising the building in uniform height, the floor slab underlines the aesthetic fluctuation and the horizontal of the landscape in relation to the construct and ultimately telling a narrative about the powerful and constant presence of water, and its erosion and alteration of the landscape, how it is portrayed, approached and moved across. This ultimately also allows the landscape to breathe and exist underneath the building, emphasizing the buildings floating horizontal presence in horizon. By explicitly working with which parts of the building the water would float under, the idea is furthermore to underline shifts in programme and spatial exchanges within the research center, narrating a story about the variation of domains the center spans. This spatial variation, framing the interchangeability of the landscape and water, creating a strong relation between interior and exterior, and bringing water closer to the individual, aspires to create spaces for immersion in the place.

The intention of raising the building is primarily based on the beforementioned aesthetic and functional aspects, while it definitely has been considered how and to which degree the building should be in physical contact with the landscape. In relation to preconceived logical and today maybe even ethical notions in respect of the nature and how we occupy it, the approach to placing the building has definitely been affected by these as-

pects. With this being said, it hasn't been based on considerations of diminishing the visual presence of the building in the landscape - as the interplay between landscape and construct has been an intent all along - instead it is based on the discussion of how much we visually *alter* or *transform* the underlying landscape.

Facade

As a distinct element of the design, the exterior facade became essential as a correlation between interior and exterior, private and public, shadow and light. As an element, it affords gestures as an aesthetic skin, climatic envelope and a permeated filter of privacy. An extensive amount of studies substantiate its presence, even though only a fraction are shown in this report. Ultimately it portrays qualities that grasp beyond the traditional understanding of a facade as something that simply defines the border between interior and exterior.

Research Center for Seaweed

THE STORY UNFOLDED

Having discussed certain critical perspectives within the project, this chapter focuses on casting light on the architectural experience of the research center; a building which, admittedly is very elemental in its essence and appearance, but nevertheless seems to create spaces for immersion; contemplating, learning, experiencing, being a part of a whole, while telling a story about the landscape in which it is placed.

The Research Center for Seaweed on the island of Samsø, on a shallow meadow at Lilleør aspires within its own spirit to a place for immersion, through interior and exterior spatial relations. Perceived from a distance, it rests on the shallow landscape, inscribed in the horizon of the vast ocean in the background. As an undulating skin constantly changing as light touches it, and as one approaches it from different angles, the facade contains-softens and roots the spaces within to the landscape.

Arriving, two parallel wings, the straight wing, containing the public programme, relating to the exposed part of the site and the extensive ocean to the northeast, and the research wing in the form of an arc, relating to the intimate and secluded atmosphere of the cove, flank a central exterior court. An axis of cultivation emanates from this court, which captures and permeates the entire complex internally and externally, creating relationships between interiority and exteriority, research and cultivation, public and private. Visually present, the tower space anchors the building and the site as a landmark within the building and the landscape, underlining the cultivation of seaweed in its context. The aspiration is simple and powerful; the public spaces where community, transparency and communication is fostered, the cultivation area where seaweed is felt, smelled, touched, grown and experienced, the research spaces where the research is performed, the offices where thought initiates, the dwellings where one relaxes.

Inside, narrow hallways inspire movement through the research center; across the landscape and through the different domains of the building. The component of structure derives from the need and desire to enclose specific spaces, specifically and pertinently. Rather than offering a general envelope within which

space might then be designated, space is defined and within it, spatial exchanges unfold in strong relation to each other and the landscape outside. Alongside the central hallways, studies, offices, laboratories, common spaces open and enclose the spatial sequence to each side. The supporting elements of these spaces are placed in a relationship to the hallways, sequential in rhythm and deliberately angled towards space or views of the ocean, fjord, cove and the settlement of Langør.

Moving from one domain of the center to another is articulated and emphasized by shift in interiority and exteriority, spatial character, or uninterrupted views across the landscape. These gestures deliberately aim to sensitively separate the dwellings from the laboratories, leisure from work, relaxation from contemplation. At the end of each hallway, a vignette captures the landscape and surrounding waters as a living portrait of the place, telling a tale about the enclosure of space, and the attempt to understand and capture nature.

Perceiving the building within the landscape, or the landscape portrayed through it, a narrative about the relationship of the horizontal, the vast ocean and cultivation of nature epitomizes what human endeavour aspires to accomplish, emphasized by a poignant gesture of the water and horizontal landscape.

Ultimately, the research center and its place is a refuge from normatives, an extensive landscape, an immersive place for focus and relaxation - where we begin learning, understanding, cultivating, consuming and ultimately experiencing the potentials of seaweed on the island of Samsø

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Illustration list

All illustration not listed, are created by the authors.

Fig 1.
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Fig 2.
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Fig 3.
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Fig 4
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Fig 10.
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