Lighthouse: Dwelling on a Remote Island

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After sailing for several months and more than 21,000 sea miles, I got to know some of the most remote environments our planet has to offer: For days I fought against the harsh climate and heavy seas around both Antarctic Bouvet and Laurie Island, experiencing that life beneath the 50th parallel is even more challenging than you can imagine. I was therefore happy to arrive at a marvellous getaway in the middle of the Indian Ocean, Île Saint-Paul, which turned out to be the long-desired solid ground under my feet. Finally, after passing through terrible storms and thick fog of the southern seas, the shallow and warm waters around the lagoon isle Pingelap expressed the warmest welcome to adapt myself to the islanders' rhythm and the laid-back lifestyle in the Pacific Ocean.

Within this article, a very curious storyteller will guide our way to remotely situated islands and their marvellous stories and stubborn inhabitants, invented by our students. In the summer of 2016, the bachelor diploma students of the department of *Wohnbau* at the RWTH-Aachen University were asked to develop a dwelling for a lighthouse keeper, a house with a beacon.

Within this article, we aim to give an insight into the project's boundaries, by describing the project brief and our tutoring approach. In addition, we have introduced this fictive first-person narrator who guides the reader on the journey. With the combination of these two parallel narratives, we hope to give an insight into the way we organized the project, while simultaneously showing the studio results of four students.
Instead of defining a fixed programme brief beforehand, or selecting one specific location, we embedded the entire project around a set of rules that would allow the students to develop a relatively small design from concept to detail. These rules are not strict boundaries, but rather parameters that influence each other vice versa.
The first rule resulted from the random distribution of a set of unique islands from around the globe, which the students would not be able to visit within the timeframe of the project. As a second rule the students had to develop a protagonist, a lighthouse keeper, whose personality would influence the dwelling and the programme of the lighthouse. Therefore the occupation of the lighthouse keeper and the requirements of his dwelling should respond to the climatic, geological and local characteristics of the island. These two rules established the literary character of the project: to make a design for a fictive character in an imaginary place. The design brief was particularly challenging due to the specific constraints imposed by these literary rules: a lighthouse keeper's dwelling within the physical boundary conditions of the isles themselves.

> *If I wasn't a volcanologist by trade, I would have never made this journey in the first place. Now, after experiencing all these different stages and conditions under which amazing natural phenomena these islands were created, I really need to get some rest and settle down, write and reflect about my keepsakes and collected data. Perhaps, Floreana shows the best conditions to perform this work. With its mild climates and amazing flora and fauna the island pleased me enormously. But maybe the working conditions turn out to be even better on Pingelap, since most people are nocturnal and one gets barely disturbed during the day.*

The fundamental idea of the project originates from the profession of a lighthouse keeper. A profession that triggers our imagination, partly because of its recurring theme in novels such as *Lighthouse at the End of the World* by Jules Verne and *To the Lighthouse* by Virginia Woolf, and films such as *Moonrise Kingdom* by Wes Anderson and *The Lighthouse of the Orcas* by Gerardo Olivares. In addition, the profession is often carried out in a remote place, bound by the local characteristics of the land- and sea-scape, while at the same time connected to a network of global transportation. But most of all it is a profession with a certain distance from (or: away from) everyday life patterns and programmatic challenges that students are used to dealing with.

Taking the lighthouse keeper as a starting point, we introduced a fictive character that the students had to compose and specify for themselves. This protagonist, his or her preferences and everyday life became an individually formed programme that each student had to narrate into the design. Within the narration of the design we focused on imagining daily routines and simple basic human needs such as shelter, nutrition and self-care. Because of this focus, the programme is developed around multiple scenarios and strategies that accommodate human behaviour. These scenarios are presented in a mid-term presentation and form the strategy throughout the design.

We consciously introduced the narration of the protagonist, since we wanted to prevent the students from merely designing the 'object' of a lighthouse. The idea of 'dwelling on a remote island' thus marks the main challenge of the design and goal of the project. The design brief focused on the area of tension between the specific characteristics of the locations and the spatial programme, which came forth out of the requirements of the lighthouse and the inhabitant's manner of dwelling. Emphasis was put on the idiosyncratic characteristics of a lighthouse keeper and on how these could influence the requirements of his or her individual dwelling. Hence, the students were encouraged to work within a fictional framework, which

they created themselves.
As a second 'rule', we did send out our students like explorers on a quest to research islands that – because of the inability to actually visit – could only be found in their imagination. Every student was assigned to a different island, which they had to study, map, draw and mould into a 1:50000 scale plaster model. We selected the isles from Judith Schalansky's *Atlas of Remote Islands: Fifty Islands I Have Never Set Foot on and Never Will*,[1] whose subtitle exactly describes our intention of taking these real islands as locations.
What can normally be seen as a barrier or detriment, namely the inability to visit the site, was fundamental to the pedagogy of this project, because it guaranteed that the students had to work within a fictive frame. After getting acquainted with their island's size, geography, vegetation and the characteristic of the landscape, the students continued their research through the study of blog entries of global sailors and environmentalists, of YouTube videos or online photo albums and of literary accounts of authors who visited some of the islands, such as Oliver Sacks and Margret Wittmer. Judith Schalansky's *Atlas* and the descriptive text of each island proved to be a great source for the students' research. The extraordinary tales of the early explorers, gold diggers, whalers and strange occupants described by Schalansky provided many starting points and declared the islands themselves as the second protagonist for our students' designs.

> *Most of the islands were barely accessible. I often had to wait for the right current or a specific tide to enter a safe inlet such as the crater bay of Île Saint-Paul. Luckily, I had the signals of the lighthouses to guide me or the transmissions of the radio operator around Bouvet Island. Man, how can you survive on such a rocky cliff only surrounded by water and ice?! The same applies to the incredible effort of the ascetic on Laurie Island, where only once a year a ship can land to supply you with all basic provisions you need on a snowy and God-forsaken isle . . .*

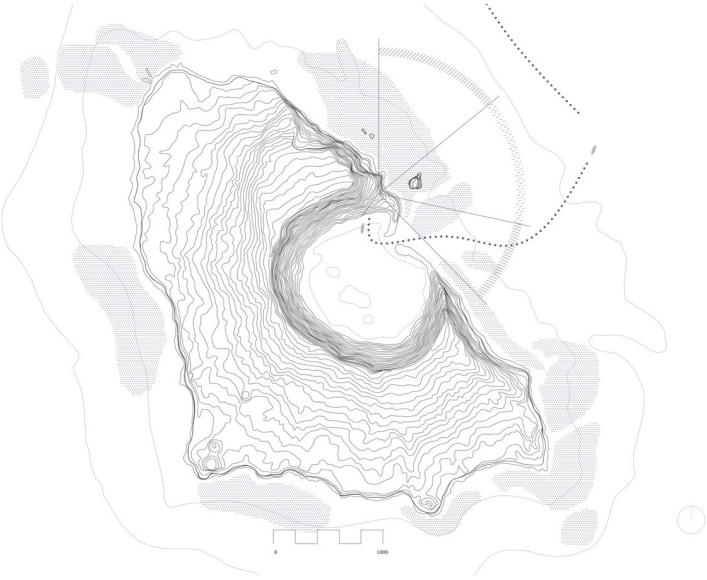

Fig. 1. The crater island of Saint-Paul, with its many underwater cliffs, drawn by Friederike Drewes.

The weekly mentoring sessions became a 'fictional travel', exploring the globe and the many different oceans and climate zones of the selected islands. We travelled from the cold seas of both polar regions to the archipelagos in the Pacific Ocean and everything in between. Since each of the islands had many challenges for our students to solve, from their isolated locations and climatic conditions to their geography and the (im-) possibility of finding local building materials, our mentoring approach existed in asking questions, trying to define the problems our students would have to solve. Since all the students were working within their own narrative frames, we could not compare programmes or sites between the students, yet we were able to contrast similar problems they all had to address. In defining the narrative frame, each student had to figure out the daily rhythm of his or her protagonist. Next to the responsible duty as a lighthouse keeper, the everyday routine of the island's inhabitant was determined and structured around a particular passion or distinctive side profession. Due to the remote and ecologically protected environments a large number of science-related professions such as geologist, (marine) biologist were introduced. These side professions were characterized by the islands themselves and simultaneously defined the programme of the dwelling. In defining the programme, we emphasized each distinctive profession and how that would influence the needs, the appliances and daily routines of the inhabitant. Here, we focused again on the scenarios and routines rather than on a certain amount of square metres.

Since dwelling on a remote island also implies a certain level of survival, each student had to take into account basic needs such as food, water, electrical power and a comfortable interior climate. Because of the manifold climates and soil conditions the number of solutions varied greatly. From kitchen gardens and greenhouses to annual deliveries, and from geothermal advantages to installations for filtering salt water. Each student created solutions that were derived from the characteristics of the islands themselves.

A major challenge was to design a building for an isolated island to which

not every construction material could be shipped, and not every location could be assigned as a construction site. Since many islands are or have been inhabited, we advised students to study these schemes of inhabitation and typical dwelling patterns. This often led to the study of vernacular architecture, the adaptation of local building techniques and materials or the transformation of abandoned structures. A process that resulted in a great diversity of architectural structures and building techniques, ranging from cathedral-like structures built from ice and snow to pneumatic greenhouses, from working with local masonry to the knotting of bamboo. All techniques and building methods were researched and tested by the students themselves in large-scale models and drawings.
Concluding the developed narratives and building techniques, the students, with emerging ingenuity and knowledge, explored their own sensitivity and creativity towards such ambiguous, multi-faceted aspects of architecture. The literary framework of the assignment, departing from a place that could not be visited and from a particular character, made their observations and readings of both programme and context extremely focused. A strategy we advanced by letting them develop a very precise set of plans and models, including a 1:2 scale study with their selected building materials.

During my travels I met some of the most peculiar lighthouse keepers who guided me with their light beams past shallow waters or unexpected cliffs into safe inlets and to secure landing points. These men proved to have many skills and a remarkable attitude towards dwelling. Next to providing all the necessary maintenance to keep the light operating, they were all enthusiastic with their own profession and their self-reliance for electricity, water and food.
The Cistercian monk I met on Floreana lead a balanced life between meditation and prayer, the work in the vegetable garden and the crafts he attended. He taught me to look at the fragile balance between imported and indigenous species within an isolated biodiversity. For sure, the balance of the flora and fauna can't be restored; however, by building several

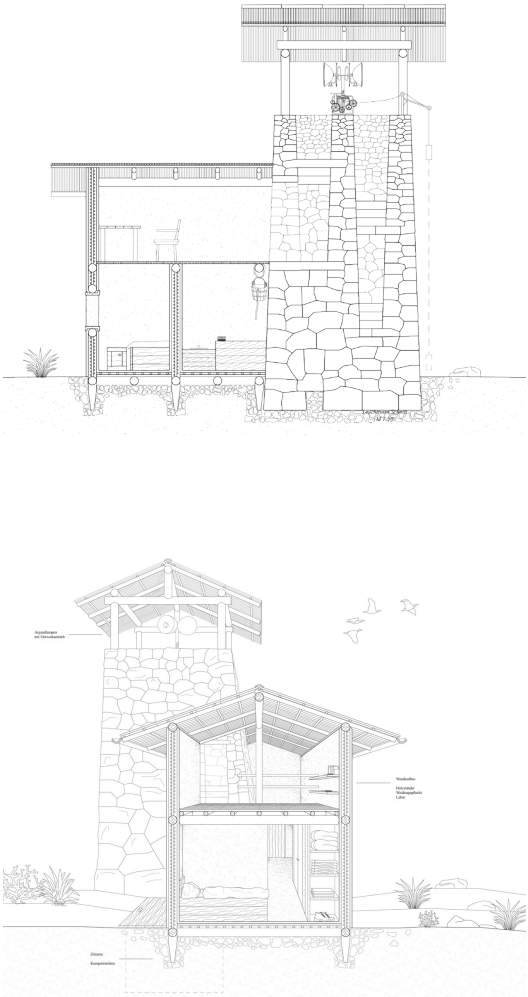

Fig. 2+3. Hanna Feldhagen: Floreana Island, 1°17'S / 90°26'W

structures across the island he not only trained himself to build with local materials using indigenous craftsmanship but also structured his daily routine finding a balanced life in between the magnificent landscape.

A few days after sailing past the most southern point of South America I was warned by an awkward combination of a wind turbine and lighthouse at Laurie Island. Its structure, a small basalt tower rising just above the cliffs, yet low enough to shine its light below the clouds and over the ocean, aroused my interest. What I expected to be an uninhabited island turned out to be permanently occupied by an Argentinian scientific station. At this station I was warmly welcomed by fellow scientists and researchers who helped me with retrieving data. After I made some remarks about the lighthouse structure, they told me about a man living in seclusion accompanied by a dog on a remote part of the island. They recommended I go and visit his house, a dry-stone construction built against the northern slope of the island. A hidden structure with more stockrooms than actual living quarters, the perfect hiding place for someone who wants to dwell in solitude.

Another remarkable fellow is the lighthouse keeper on Bouvet Island. A glacier- and cloud-covered island in the middle of the subantarctic waters, 1700 km north of Antarctica, is a breeding ground for many seabirds and the barely legal hideaway for a radio operator. Next to looking after the fact that his island doesn't become missing in the fog, he guides all the ships that sail in its proximity. Since he's passionate about technology and innovation, his lighthouse is quite a remarkable statement. A pneumatic greenhouse, using the heat of the volcanic soil and powered by specially equipped wind turbines. With everything covered under the pneumatic roof, the entire structure acts as a light beacon, one that is supplemented by the radio signals of its keeper.

Fig. 4+5. Felix Hübbers: Laurie Island, 60°44'S / 44°31'W

After zigzagging between the islands of both Indonesia and Papua New Guinea I finally arrived in the warm waters of Micronesia and headed for my final destination, the atoll of Pingelap. This almost completely sunken top of an ancient volcano is home to the pro rata biggest population of achromats. Here, every tenth inhabitant, all descendants of their late king who survived the 1775 Typhoon Lienkieke, doesn't care for the overwhelming colours of the azure blue ocean or the many green variations of vegetation, the colours of the ripe papaya, breadfruit or coconut. During the day, they keep their eyes closed, to protect them from the bright and reflective sunlight, yet at night they become active, lighting torches to catch flying fish inside the lagoon. However, having a bright and overwhelming lighthouse signal at the isle would devastate them with its strong light. That´s why the keeper uses a coconut oil-driven candle and a Fresnel lens to guide ships between the coral cliffs. The structure that shelters the signal is a true manifesto for the use of local materials, traditional techniques, craftsmanship and down-to-earth solutions. A house that keeps the bright sun outside, but glows through the night.

With this article and the introduction of our own curious narrator we intended to show how our approach has resulted in a great variety of narrated tales that were combined with profound building techniques and methods. The project made the students aware of the complex relationship between the subjectivity of the programme, which explored the boundaries of reality, and the objectivity of the design solutions, which had to show a certain level of practicality. The students learned consciously to work within a fictive framework, to work in different scales simultaneously, and to work independently.

The students explored their islands and treated the challenges for their protagonist to dwell on them in an accurate manner. They became sensitive to basic conditions of dwelling, such as landscape, climate, materials, building methods, and applied these conditions in their distinctive and tangible design solutions.

Fig. 7+8. Katrin Herrmann: Bouvet Island, 54°49′S / 3°21′E

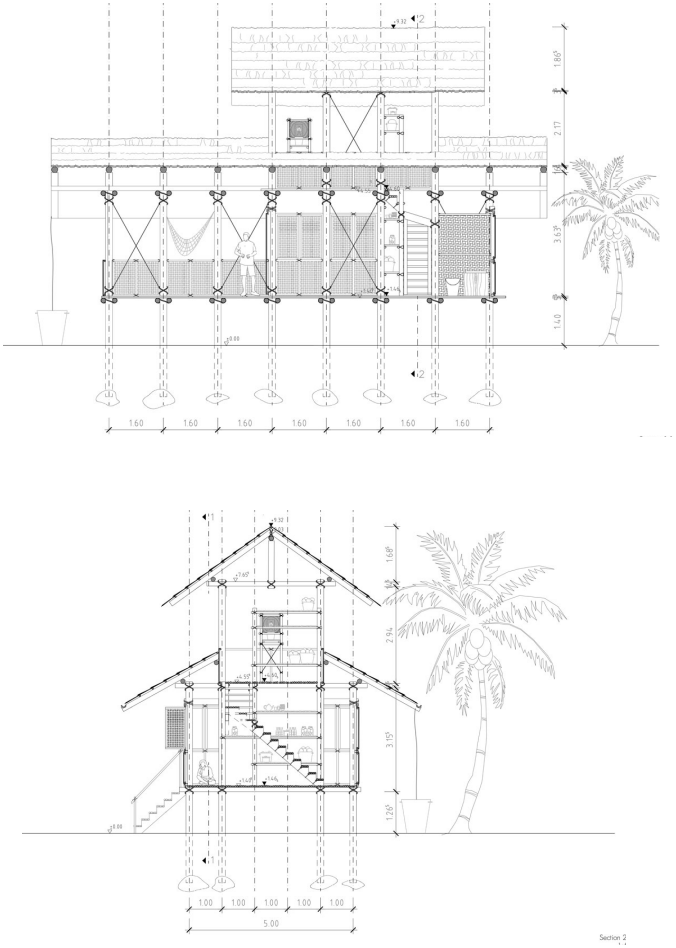

Fig. 9+10. Isabelle Bothe: Pingelap Island, 6°13'N / 160°42'E

In addition, the game rules of the entire project, in combination with the detailed requirements for the final presentation, did more than help examine the skills and knowledge we deem indispensable to obtaining the bachelor's degree. The students gained the understanding necessary to handle a relatively small architectural design project from concept to detail through imagining their own narrative framework and making their unique design of a lighthouse the starring role of their very peculiar and fantastic story.

1. Judith Schalansky, *Atlas of Remote Islands: Fifty Islands I Have Never Set Foot on and Never Will* (New York: Penguin Random House, 2010).