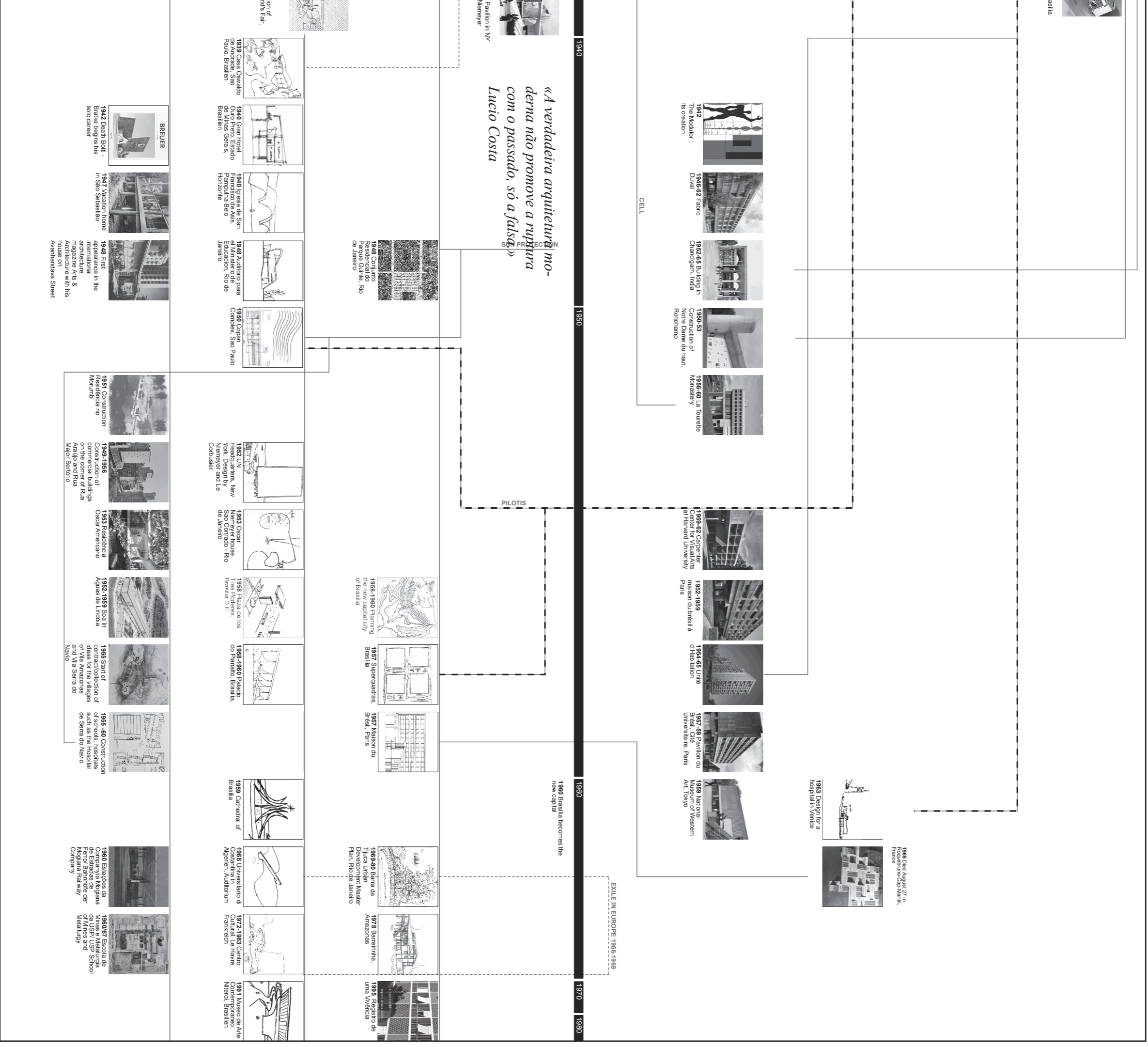




# PRE-CONDITIONS AND INTER-RELATION

by the example of Le Corbusier : Lucio Costa : Oscar Niemeyer : Oswaldo Bratke



# HABITAT #0

LIVING SPACES BETWEEN CULTURE: ARCHITECTURE: CLIMATE  
CULTURE AND CLIMATE AS DESIGN FACTORS

limited edition

## REPHRASING THE HIDDEN

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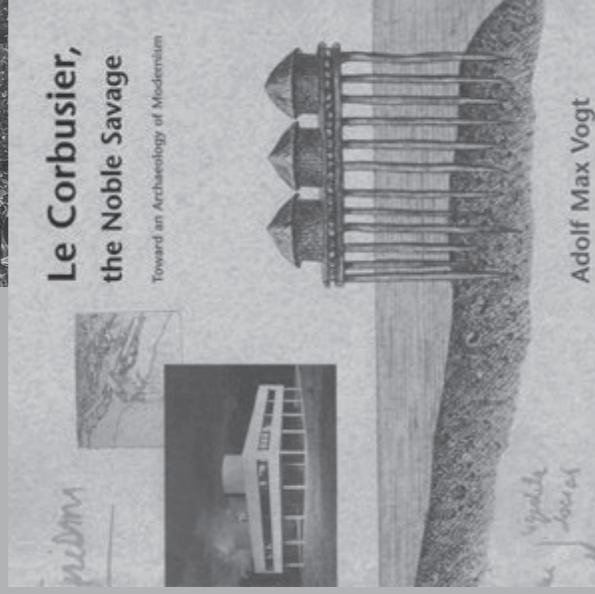
### **PALAFITAS**

#### **A HIDDEN HISTORY**

Pile dwellings on the lakes at the edge of the Alps existed for more than 4,000 years, from the Stone Age around 5,000 BC to the Iron Age around 500 BC.

There were various reasons for this type of settlement. On the one hand, the lakes could be used as transport routes, which was often easier due to the dense vegetation on the shores. On the other hand, settlements on the water offered better protection, as it was almost impossible to approach them unnoticed from the lake side. In addition, the lakes provided additional food sources such as water birds and fish.

The soft lake bed made it easier to set stakes without having to dig laborious holes. The elevated position above the water helped to cope with the fluctuations in the water levels of the pre-Alpine lakes. Settling on the shores required a suitable construction method. Cultural groups that preferred large buildings in which entire family groups lived together with their livestock could not settle in these areas. Here, smaller, lightweight buildings were required that were suitable

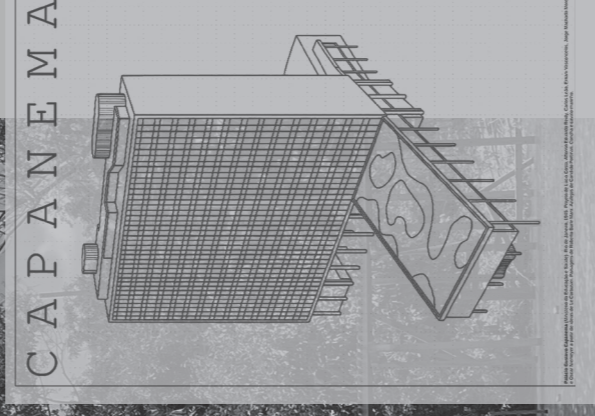


**modernismo** :

**archeology**

**antropology**

**modernismo**



uncovering relationships

Pile dwellings are among the oldest examples of climate-adapted architecture. In Europe, especially in regions surrounding lakes, archaeological finds bear witness to a construction method that specifically responded to environmental conditions such as flooding, humidity, and temperature. Knowledge of these traditional building forms provides valuable insights for today's challenges—such as dealing with climate change. In the 20th century, architecture 'discovered' this historical heritage, and pile dwellings had a significant, yet little-studied influence on modern architecture. Le Corbusier was "influenced" by pile dwellings and integrated the principle of pile construction into his 'Five Points of a New Architecture'. The pilotis – piles that allow the building to float above the ground – became a symbol of open, flexible and functional construction. The concept found international resonance: Oscar Niemeyer and Lúcio Costa transferred the idea to the tropical context of Brazil: the principle of pile dwellings was 'tropicalised', architecturally reinterpreted and adapted to the climate and social needs.

Today, in the age of climate change, looking back at the European history of pile dwellings, combined with learning from the casas ribeirinhas of the inhabitants of the Amazon in Brazil, opens up new perspectives. The elevated construction not only offers protection against flooding and improves natural ventilation, but also creates transitional spaces that could promote social interaction and coexistence. Pile dwellings show how architecture can learn from history, be culturally transferred, and be developed in an ecologically sustainable way.

This study is based, among other things, on the work of Adolf Max Vogt, who has examined in detail the connection between Le Corbusier's understanding of architecture and the historical pile dwelling structure.

for groups organized into smaller social units. In Neolithic settlements, a household often also represented an economic unit. Different forms of settlement developed over time due to changing environmental conditions. Initially, pile dwellings were usually built on the shore in shallow water and consisted of a few unstructured houses. With advances in agriculture and metalworking, the settlements grew. Larger villages with several dozen houses were built, often protected by palisades. Pile dwellings reached their peak in the late Bronze Age. The settlements became larger

and more structured, with special buildings for craft activities. The construction process followed a clear plan: first, the settlement site was secured with palisades and the first buildings were erected. Later, a wooden wall with a battlement was added. The wood required came from the surrounding area. Initially, strong trunks of hard woods were used, later also weaker trunks of less suitable tree species. This overexploitation led to short settlement cycles of usually only 25-30 years. Extensive building repairs often led to the villages being rebuilt on other sections of the shore. Nevertheless, suitable

### **PALAFITAS : MODERNISM**

#### **A HIDDEN RELATIONSHIP**

Even as a young boy, Pierre Edouard, later known as Le Corbusier, encountered the subject of pile dwellings. Due to low water levels in 1853/54, pile dwellings were discovered by chance in Swiss lakes, arousing widespread public interest. They were therefore included in the new edition of school textbooks, so that little Jeanneret encountered the first descriptions of pile dwellings while still at school in La Chaux-de-Fonds. On hikes with his father and later, guided by his teacher L'Éplattenier, on his various travels – le Voyage d'Orient 1910–1911 – he learned about other stilted buildings, storage buildings in the Swiss Alps and residential buildings in Eastern Europe. A central element that Le Corbusier adopted from the pile dwelling principle was the pilotis – pillar systems that lift the building off the ground, allow air to circulate, and enable flexible use of space on the ground floor. This concept became a cornerstone of his "Five Points of a New Architecture" and had a decisive influence on 20th-century modernism.

## FROM MODERNISM TO TROPICALISMO

Oscar Niemeyer and Lúcio Costa in Brazil were inspired by Le Corbusier's ideas and worked together from 1936 to 1945 on the Center for Education and Health (Edifício Gustavo Capanema) in Rio de Janeiro – a key moment in Brazilian modernism. In doing so, they adopted the pile dwelling principle and elevated it to tropical conditions. This process is described as tropicalisation. Niemeyer consistently continued this adaptation, particularly in the planning of the new Brazilian capital Brasília, which he realised together with Lúcio Costa. A

striking example is the Palácio do Planalto (1958), the seat of the Brazilian government, in which the principles of elevated, ventilated, and open construction are clearly evident in its architectural language. In addition, Niemeyer was also inspired by the indigenous architecture of Brazil, whose

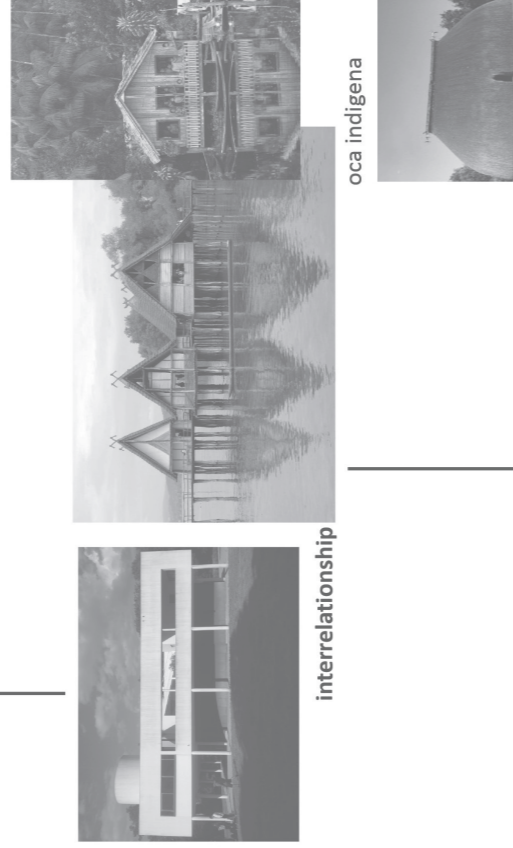
openness, simplicity, and close connection to nature influenced his designs. This reflects a central principle of modernism: existing ideas are reexamined, absorbed, and transformed in a contemporary context. Whether alpine stilt houses or indigenous building traditions, historical building forms are not copied but transferred to new cultural and climatic contexts. Brazilian architect Oswaldo A. Bratke also took up these influences, for example in his design for an ideal city in Serra do Navio.

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Villa Savoie, Poissy. Le Corbusier + Lucio Coste Oscar Niemeyer. Edifício Gustavo Capanema, Rio de Janeiro

5 points:  
pilotis.  
free groundfloor,  
roofgarden,  
free façade,  
long window

lake of constance.  
pile dwelling reconstruction : amazonas today  
casas ribeirinhas



European modernism : archeology : antropology

## TODAY'S CONDITIONS AND A DREAM



#2 Vila Dos Rodrigues

Global climate change, especially the increasing number of extreme weather events and floods, makes it clear that architecture must adapt to climatic changes more than ever before. Against this backdrop, pile dwellings are once again becoming the focus of architectural debates as a proven, climate-adapted construction method. The knowledge of elevated building forms that has grown over thousands of years, as practiced in the Alpine region or on Lake Constance as early as 3,000 to 5,000 years ago, provides valuable impetus for sustainable architecture. But it was not only archaeological tradition that took up this principle and transformed it further; 20th-century modern architecture did so as well. Le Corbusier, for example, integrated the elevated ground floor into his "Five Points of a New Architecture"; Oscar Niemeyer further developed the concept in the tropical context of Brazil. However, pile dwellings are not only a structural response to climatic conditions –

they also have great social relevance. The open, unobstructed ground floor creates usable transition zones between inside and outside, between public and private. These intermediate spaces, which can be transformed depending on the weather, season, or social context, promote new forms of coexistence. They function as living, meeting, or climate rooms and fundamentally change the relationship between architecture, environment, and society. Such flexible zones also allow for spontaneous appropriation and communal use, encouraging interaction, adaptability, and resilience in both urban and rural settings.

Numerous contemporary projects are revisiting this principle. Today, the elevated structure and open ground floor enable architectural responses to pressing ecological and social challenges. They also represent an important design approach for coping with sea-level rise, soil instability, or the need for multifunctional public spaces in increasingly dense urban environments. The return to the pile dwelling principle, in its archaeological origins as well as in its modern and contemporary transformation, shows that the past, present, and future are inextricably interwoven in architectural thinking.

It is important to actively use this knowledge as the basis for innovative design strategies in the 21st century, and to reframe traditional building wisdom as a dynamic source of architectural creativity and environmental responsibility.

To understand the present and actively shape the future, a critical examination of the past is essential. From history, we can gain valuable insights that extend far beyond our immediate surroundings. Especially in the context of climate change, it becomes clear how important it is to integrate global perspectives and to learn from one another. Yet, such knowledge cannot simply be copied, what proves successful in one cultural or climatic context must be carefully adapted to local needs in order to remain effective.

Our decisions and developments are constantly shaped by a multitude of influences, often without us being fully aware of them. It is therefore crucial to question these influences and to deliberately seek those impulses that foster meaningful progress. A reflective engagement with history, the present, and global experiences enables us to develop architecture and society in a responsible and future-oriented way.

Graffiti goes to Baden-Württemberg Stiftung for financing the project being part of the university program Baden-Württemberg-STIPENDIUM  
To the inhabitants of the village, more specifically Edson and Lili  
To the german and french students  
To the professors.

## HYPOTHESIS

- ourboro : architecture is a matter of rephrasing the hidden, sensitising to the roots, raising awareness of the past.
- climate : culture : architecture are inevitably linked | climate and culture as design factors
- pile dwellings is a solution to climate change but also has a social relevance
- modernity is a matter of transformation
- tropicalism is influenced by european modernism but also indigenous architecture

tropicalismo:  
free forms  
supporting structure



HTWG Konstanz Lena Buck | Anna Ellwein | Laura Fröschle | Korbinian Geiger | Marie-Claire Giugno | Emilia Herweck | Anastasia Hochmut | Tizian Landt | Franziska Matthaei | Paulina Minet | Vivienne Pothoff | Manuel Rosenfelder | Nadine Schneider | Erja Stahl | Laurin Theobald | Prof. Myriam Gautschi | Jannis Renner M.A.

HABITAT LIVING SPACES BETWEEN CULTURE:ARCHITECTURE:CLIMATE

#0 REPHRASING THE HIDDEN

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Quotes are stated in the bibliography.

Photos  
All photos are taken by HABITAT.  
Additional Illustrations are stated in the bibliography.

Bibliography of quotes and illustrations

- 1 Vogt, Adolf Max: Le Corbusier, The noble Savage, 2000
- 2 Palácio Gustavo Capanema

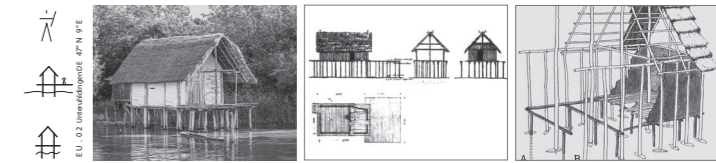
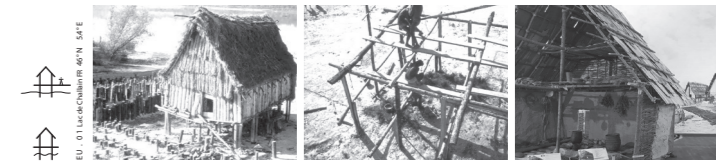
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HTWG Konstanz | Prof. Myriam Gautschi

# OUTSTANDING

Living between heaven and earth

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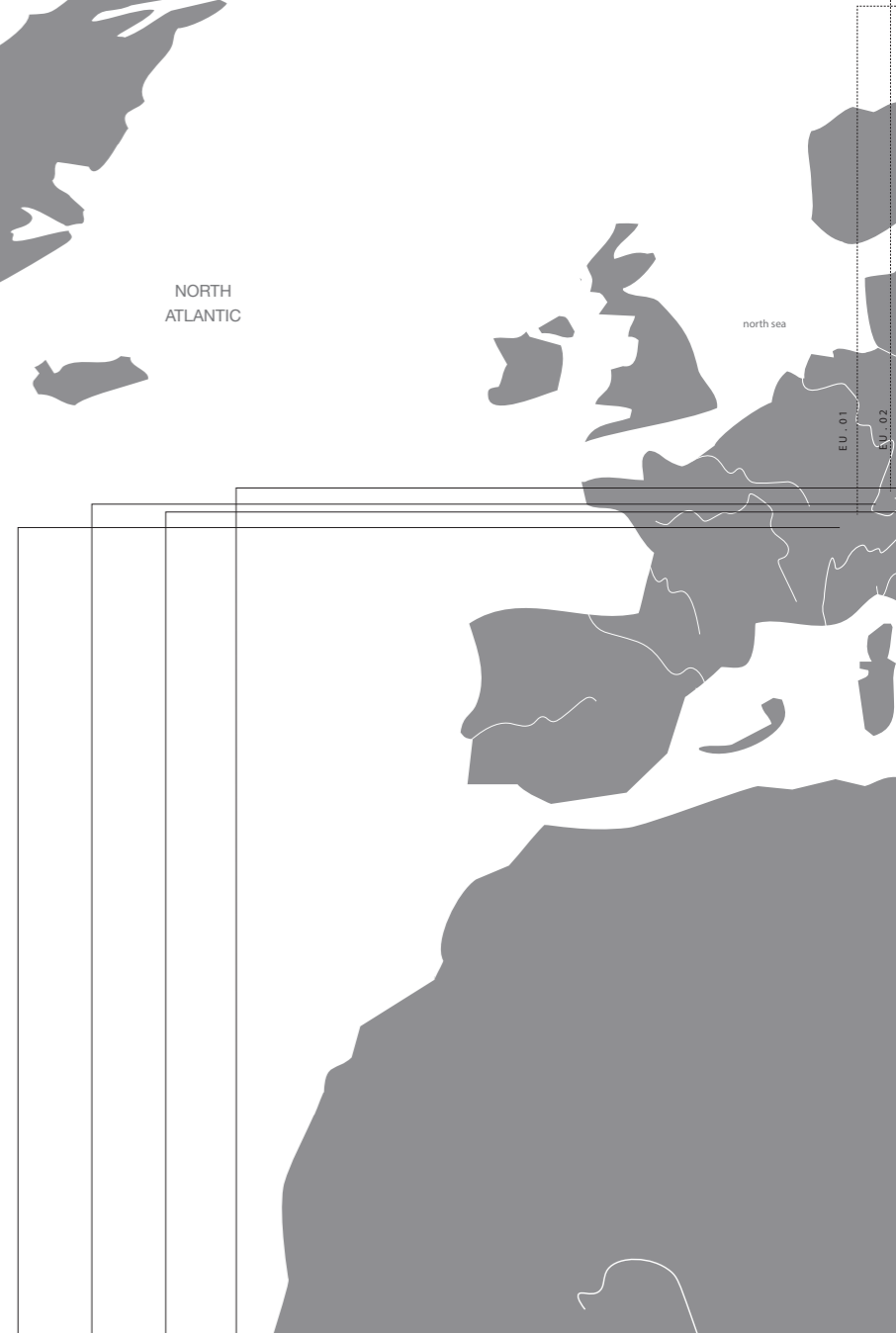


**CLIMATE CHANGE**  
 Today, in the wake of global climate change, we need to rethink, rephrase and move forward at the same time. The increase in extreme weather conditions and flooding requires a rethink in architecture – worldwide. The idea of protection coupled with opportunities for the community should take centre stage.

## ARROUND THE WORLD

The typology of pile dwellings is widespread worldwide, but differs depending on the region and climate.

It is always adapted to the respective geographical and climatic conditions and primarily fulfills a protective function: pile dwellings



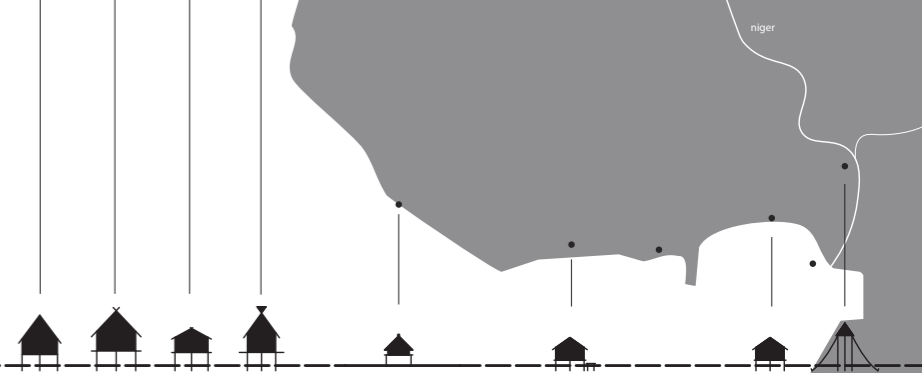
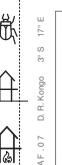
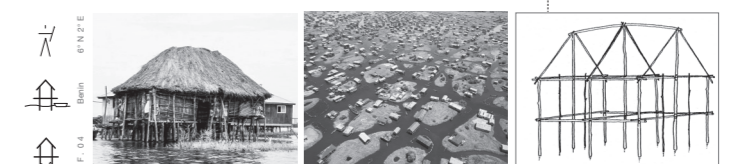
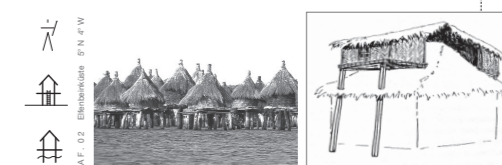
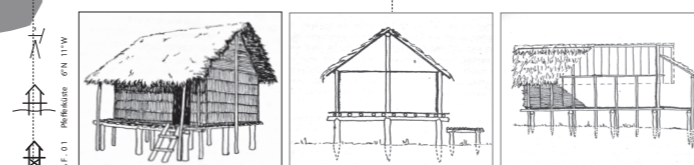
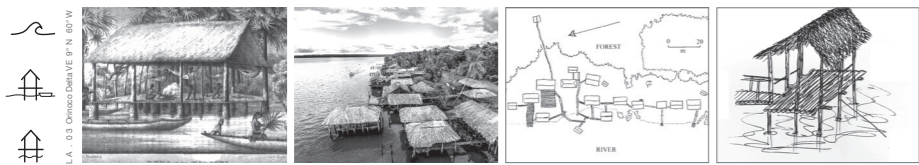
offer protection against flooding, moisture, wild animals and sometimes also insects. They are a typical example of vernacular architecture - a traditional construction method that has developed from local conditions, materials and needs. Geographical conditions, historical developments and, in particular, the climate have a lasting impact on the design of architecture and settlement forms.

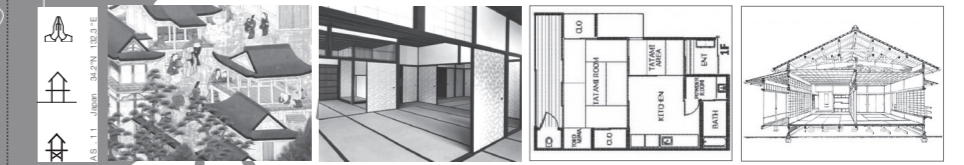
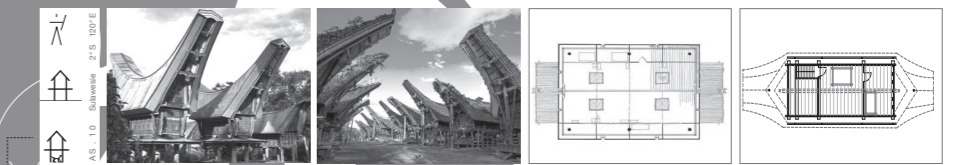
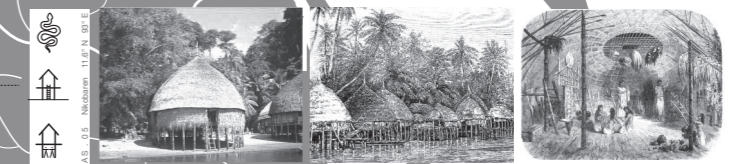
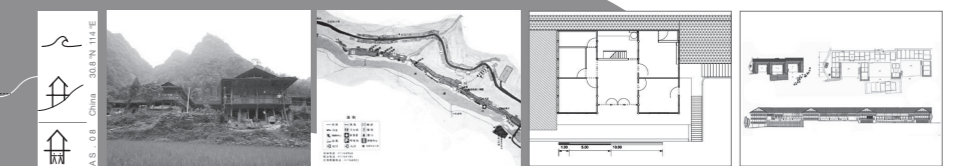
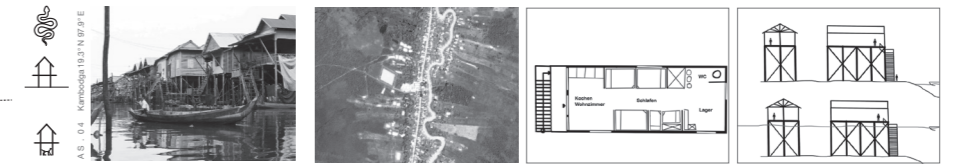
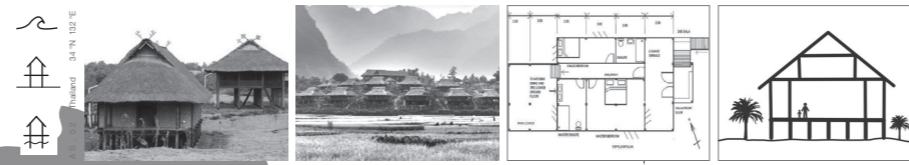
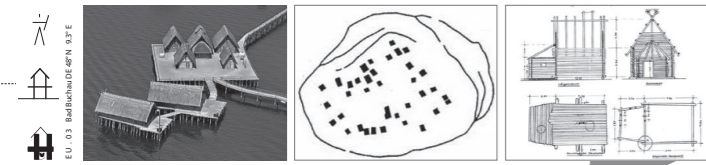
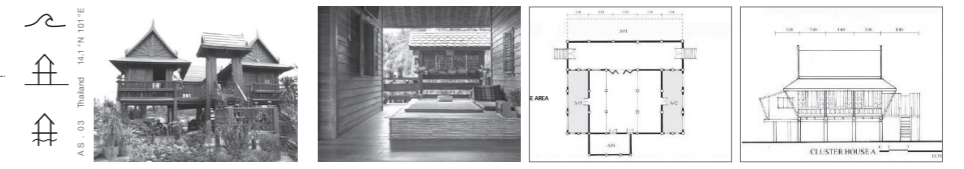
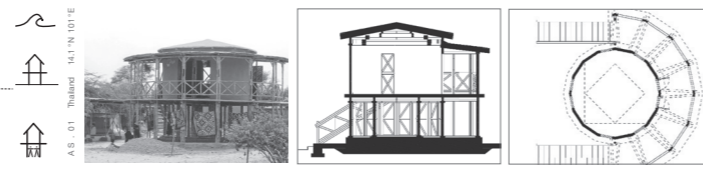
SOUTH PAZIFIC

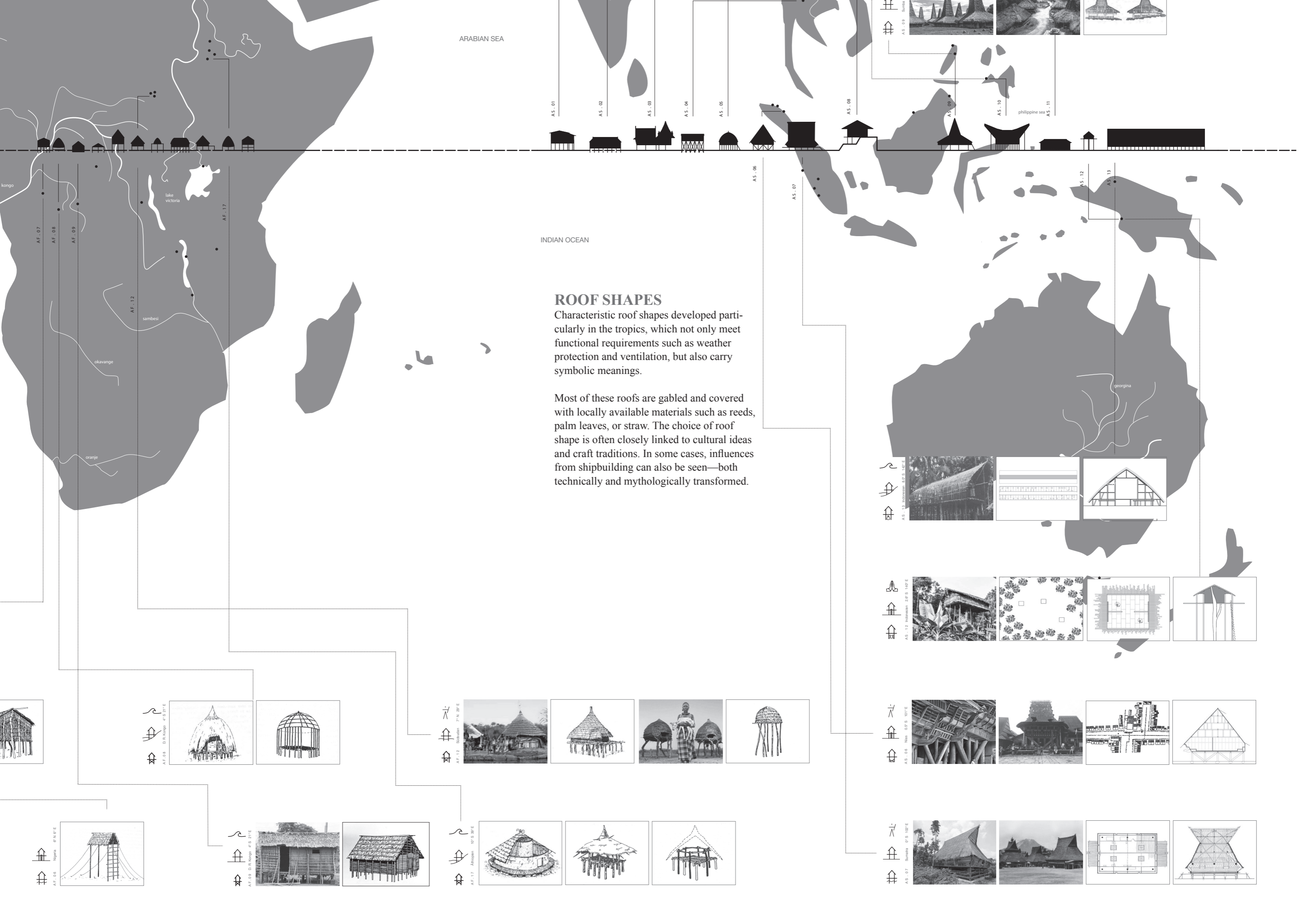
SOUTH ATLANTIC

### CLIMATE ADAPTATION

Pile dwellings are characterized by their precise adaptation to the respective climatic and geographical conditions. Whether in tropical rainforests, on coasts, in wetlands, or alpine regions, the elevated construction protects against flooding, moisture, insects, and overheating. At the same time, they provide a pleasant indoor climate through natural ventilation and shading. This form of climate-adapted architecture shows how local building methods adapt to their environment.







ARABIAN SEA

INDIAN OCEAN

### ROOF SHAPES

Characteristic roof shapes developed particularly in the tropics, which not only meet functional requirements such as weather protection and ventilation, but also carry symbolic meanings.

Most of these roofs are gabled and covered with locally available materials such as reeds, palm leaves, or straw. The choice of roof shape is often closely linked to cultural ideas and craft traditions. In some cases, influences from shipbuilding can also be seen—both technically and mythologically transformed.

