A house as a "thermal delight"[1]

"So, what is 'thermal delight'[2]?
- Just a pleasure of being alive. Noticing. Experiencing. Reacting.
Just like you. Right now, sitting on the sunshine, with a breeze wafting over you."

Lisa Heschong, in conversation with Sascha Roesler[3].

At this particular moment, all disciplines are elaborating questions on the climate issue.
Our discipline, by being aware of all these questions, should elucidate how this affects the design process.

The French philosopher Bruno Latour clarifies the idea of "modern", almost as a slogan, where one believes in the difference between nature and culture. For him *Modernity* is over and with that we just come out of it with **a new aesthetic point of view**, where prosperity is different from the idea of progress.

"In the old cosmology we were in an infinite universe, we had the impression of being in a world almost infinite. Where are we? We are in Gaia. Now we find out that we are in a tiny area of 10 km of life (…), confined to this world, where humans have become a major biological force."[4]
Understanding Gaia's theory, in which the environment was made by living things over thousands of years is essential to rethink our political position.

In his discipline the philosopher formulates the question - ***What is the human subject of ecology?***
The answer is politic. He describes it as a new social order, which he defines as a *Geo-social one*,
where we must understand the network of our dependences "- **What do you depend on**?
What defines who you are? What defines a territory? - Follow the network of your dependences," he says.
Only after that it is possible to elaborate your political views in relation to the old climate regime.

The architect, researcher, and consultant Lisa Heschong, in 1979, has published her pioneer book on climatology with the "***hypothesis that the thermal function of a building could be used as an effective element of design"***[5] **.**

Our design studio "**house as a thermal delight**", is based on the long-term research of the professor and researcher Sascha Roesler at the Accademia of Mendrisio, who has been elaborating questions such as ***How can we translate insights of urban climatology into design?***

As today we spend more than 90 percent of our time inside climatized environments,
"*The notion of control represents the centre of gravity in today's climate discourses in architecture. (…) The focus is no longer "control" but instead on the mutual dependency of inside and outside, urban culture and nature, which must be rethought and redesigned."*

It is a study of a *Man-Made Weather*[6] *of cities*, he conceives "urban microclimates both as outside and inside phenomena", where the idea of microclimates about how modern man controls the climate inside buildings and how

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[1] HESCHONG, Lisa, *Thermal Delight in Architecture*, 1979.
[2] HESCHONG, Lisa, *Thermal Delight in Architecture*, 1979.
[3] ROESLER, Sascha; MADLEN, Kobi, *The Urban Mircroclimate as Artifact, Towards an Architectural Theory of Thermal Diversity*. Birkhauser, Basel, 2018.
[4] You tube interview: https://www.youtube.com/watch?v=endM-0Pn_yA
[5] HESCHONG, Lisa, *Thermal Delight in Architecture*, 1979.
[6] ROESLER, Sascha, *Coping with Urban Climates*. "The notion of 'man-made weather" refers to an expression coined by the supposed inventor of air conditioning for his novel discovery".

this affects the environment. "The resources consumed in *managing* the indoor environment are, ironically, one of the more significant causes of outdoor environmental change". [7]

Professor Roesler's research considers high-tech solutions such as architect Philip Rahm's, and Richard Neutra´s Kaufman House in the desert, that investigate indoor air harmful to health.
The connection between indoor and outdoor was the most important aspect Kaufman house that reconsiders the thermal interaction between indoor and outdoor spaces. The floor was heated, so that windows are openable even in the cold and residents could comfortably breathe the fresh air, while at the same time be mechanically warmed by the floor.[8]
As well as low-tech solutions of architect Francis Kéré, who believes that the most sophisticated solution are those ones that do not need any form of thermal efficiency that needs energy, even in an extreme climate like in Burkina Faso.
In his lecture "Coping with Urban Climates", Sascha reflects about the idea of **comfort** in the 20th century and how it affected the climate change, so that we understand the urgency to rethink the inner relationship between interior and exterior.


Experimental House, Alvar Aalto

"Until the emergency of modern comfort, buildings have always been linked to the surrounding environmental thermally, microclimas varies degrees formed smooth and incremental transitions between inside and outside.
Thermal continuity and diversity, not the dichotomy of air-conditioned interior, not the non-conditioned exterior, formed the ruled of human history until the middle the 20 centuries. (…)

THERMAL MODERNITY
20C. TEMPERATURE
50%. RELATIVE HUMIDITY

In the residential sector great thermal uniformity has been set up at all costs and with enormous energy expenditure; the former differentiation of heated zones in the house has been abandoned in favour of a simple unified solution by a central heating and air conditioning.
The modern vision of a constant uniform temperature in all situations, seasons, and climates still becomes reality today. However, the other side of the technical perpetuation of the thermal dichotomy is global warming. The building sector contributes substantially as the environmental sociologist Elizabeth Shaw has noted: the global phenomenon of climate change quote: `*the resource is consumed in managing the*

[7] SHOVE, Elisabeth, Sociologist. Pg. 25
[8] Lecture by Sascha Roesler, Architecture and politics:
https://www.youtube.com/watch?v=zwhu7VLFGeE

indoor environment our ironically one of the more significant causes of outdoor environment change'.
This applies particularly to the climate of cities, that are increasingly affected by this dialectic worldwide, 2/3 of our energy is consumed in cities.
In the 21st century cities are not just the main contributors to climate change, they are also struck by it in a particular manner which implies specific and new answers.
Although indoor and outdoor climates are obviously linked to each other.
The examination has proceeded along different paths and there has been remarkably little cross over as a consequence a holistic urban climate science has not emerged so far with comprehensive implications for the discipline of architect.
Today in order to strike a new thermos climatic path in architecture design must reassert the link between the indoor and outdoor as part of a broader engagement with the urban climate.
In other words, our today´s one-sided obsession with controlling the inside of buildings has to be overcome and the thermal dialectics between inside and outside of cities to be examined and told instead. (…)
Urban microclimate appears as man-made artifacts of architecture and the plant cover the topography and the buildings are the central thermal means to mitigate or to even control a city in a passive way as man-made artifacts urban microclimates are consciously designed thermal zones with various ecological social and political implication.
Lisa Heschong described microclimates as thermal places where particular climate conditions meet specific social activities: "Places with desirable thermal qualities naturally tend to become social spaces, as people gather to take advantage of the comfort found there."[9]


Abu Font house, Solano Benitez

Lisa Heschong, in conversation with Sascha Roesler[10].

Sascha Roesler: …Is "thermal delight" a counter-concept to thermal comfort? Or does it, at least expand our notion of comfort?
Lisa Heschong: "Physiologically thermal comfort means that you're within the bounds where your body can normally maintain its homeostasis. But your body has a range- It s dynamic. If you're within those boundaries where your body can raise or lower your metabolism slightly, you're within your comfort zone. That's thermal comfort. Thermal Delight, on the other hand is when you're achieving this marvellous dynamic balance; a little bit or breeze or a little bit of sun moving your body in the right direction.

Sascha Roesler: Thermal delight promotes a constant change of sensations and highlights the thermal diversity in our environment, right? Don t remains in the comfort zone, with a constant temperature…

[9] HESCHONG, Lisa, *Thermal Delight in Architecture*, 1979.
[10] ROESLER, Sascha; MADLEN, Kobi, *The Urban Mircroclimate as Artifact, Towards an Architectural Theory of Thermal Diversity*. Birkhauser, Basel, 2018

Lisa Heschong: Yes, because its stimulating. It's more interesting, it's more pleasurable it's about being alive. A good example of that is the sauna, out in the woods and in the middle of the snow, there you are playing with very big extreme s of pleasure in both directions.

Sascha Roesler: (…) From my perspective it has also practical implications: to design a building without homogenous climatic conditions.

Lisa Heschong:
(…) The goals is to create a diversity of environments, and allow office workers to select according to their needs and preferences (…) In terms of microclimate, I think one implication is that buildings can create interior microclimates which don't need to have constant temperature and humidity.
There can be a transitional space that can take advantage of the sun and the breezes.

Marika House, Glenn Murcutt

Abu Font House, Solano Benitez

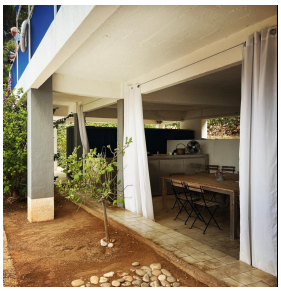
Autumn Semester 2022

1 st Exercise_**Learning from tradition**

Each student will have a case study on different microclimates around the world.
We will study design cases that have different technologies in relation to the climates and the economic condition of each place, seeking an interaction with the environment that has been forgotten as a premise: the difference between thermal comfort and thermal delight.
This is the first stage of understanding the research of Sascha Roesler, where he proposes to design a **microclimate of a city**, that will be explored in the second semester.

Case studies:
Lycée Schorge Secondary School, Francis Kéré, Burkina Faso
Villa E_1027, Eileen Gray, France
Curutchet House, Le Corbusier, Argentina
Villa Chupin, André Wogenscky, France
Corona Ave Elementary Bell, "Fresh Air Schools", Richard Neutra, USA
Kaufmann Desert House in Palm Springs, Richard Neutra, USA
Open Air School for healthy child, Johannes Duiker, The Netherlands
Casa Gerassi, Paulo Mendes da Rocha, Brazil
Chandigarh, Le Corbusier, India
Esmeraldina House, Solano Benitez, Ecuador
Marika House, Glenn Murcutt, Australia
Research projects about thermal conductivity, Philippe Rahm, England
…


Rabat, Morocco


La Ville E-1027, Eileen Gray

Clay workshop_ **Thermal Layers**

The intention of doing a workshop with clay is to get closer and learn a basic knowledge of the material through a physical contact with it and to understand the thermal conditions that the material can reach and keep. **Thermal Layer**s is open to various interpretations, students can create an object without a specific theme, exploring the perception of thermal condition not only of the material itself as a surface, but of the empty spaces, the voids between each layer of the composition.
The simplest and most primary example is the clay vase, an empty object, inside and outside condition are extremely different: dry-wet, smooth-rough, hot-fresh…

Trip_ **2 days in France**

Visit to a series of houses nearby Côte Azur, by Eleen Gray and Le Corbusier, France

2nd Exercise_**A house as a *thermal delight*:**

Students will divide in groups, considering different and peculiar microclimates around the world.
The site will be chosen between the various climatic areas, previously studied in group.
The program is a single family unit and every student will work singularly, drawing by hand, from 1.200 to 1.50 scale. The use of material models will be developed during both semesters.

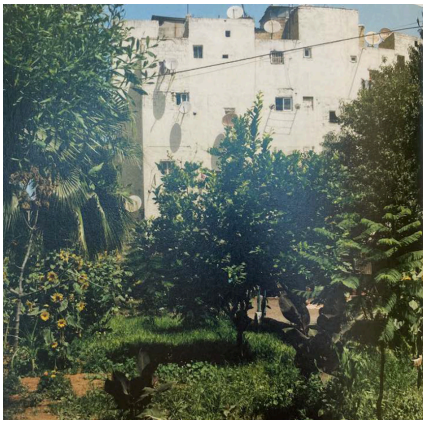
Spring Semester 2022

1st Exercise_**Habitat Marocain**

All students will concentrate on one case study: analysing "Habitat Marocain as a model", an exhibition organized by prof. arch. Sascha Roesler that happened in Zurich Architecture Gallery in 2013.
Besides analysing a specific project made by Swiss architects Jean Hentsch and André Studer in Africa (1953-1955) and the dynamics between informal and formal building. We are interested in discussing modern attitudes and its formal and technical meanings.
After visiting Morocco and "get a deeper understanding of the cultural prototypes and climatic basis for design"[11] we will be discussing contemporary visions related to the microclimate of this place, in a broadest sense, not on the object itself, but how the object affects its **surroundings**, as Prof. Sascha Roesler proposes in his study "The urban Microclimate as Artifact, Towards an architectural Theory of thermal Diversity."

Trip_ **4 days in Morocco**

2nd Exercise_ **Social Housing in Morocco**



Habitat Marocain, Jean Hentsch and André Studer

Habitat Marocain, Jean Hentsch and André Studer

[11] Heschong, Lisa

Bibliography:

Roesler Sascha, *City, Climate, and Architecture (vol.1)*, Birkhauser architecture, Zurich, 2022
Roesler Sascha, *Coping with Urban Climates (vol.2)*, Birkhauser architecture, Zurich, 2022
Roesler Sascha, Madlen Kobi, *The urban Microclimate as Artifact, Towards an architectural Theory of thermal Diversity,* Birkhauser architecture, Zurich, 2018
Heschong Lisa, *Thermal Delight in Architecture*, MIT press, 1979
Latour Bruno, *Nous n'avons jamais été modernes*, *Essai d'anthropologie symétrique*, La découverte, 2006

Lectures:

Sascha Roesler
https://www.youtube.com/watch?v=A0l5btDF2N0&ab_channel=ARCHITECTUREOFTERRITORYETHZ%C3%BCrich
Sascha Roesler in conversation with Alice Hertzog
https://www.youtube.com/watch?v=A0l5btDF2N0

"Architecture & Politics": Climate – Philippe Rahm, Sascha Roesler & Dietrich Schwarz
The lecture series "Architecture & Politics" discussed on three relevant topics, such as **climate**, **heritage** and **forensics**, the question to what extend architecture has the capacity to solve or rather provoke conflicts. The first lecture on climate asked the question into what extend architecture can be used as a political means to an end, and for what consequences, whether it may be on an organizational, constructional or technological level. Which answers could architecture give beyond climatic labels? How could architecture deal in such a way with resources that they could prevent the emission of global warming gases? By which methods and strategies architecture could influence or prevent climate change? The discussion was moderated by Annika Sei.
https://www.youtube.com/watch?v=zwhu7VLFGeE

Rethinking materiality with Anupama Kundoo
Rethinking materiality: time as a resource Anupama Kundoo discusses the potential of architecture to address complex intersections of urbanization, people, technologies, resources, and the environment within the context of growing affordability issues. Her practice, the result of her quest for knowledge to build appropriately, considers projects as opportunities to build knowledge. Architecture is the result of building processes, and time needs to be invested despite the sense of urgency triggered by rapid urbanization.
https://www.youtube.com/watch?v=TtIG0NOtTlI

Bruno Latour
In a highly detailed interview, renowned French philosopher and political scientist Bruno Latour sets out his thoughts on the climate crisis as well as his own philosophy.
Video conference in discussion with Victor Woronov, director of the Yori-Eye and professor at Tokio University, about Latour's book "Nous n'avons jamais été modernes", at the French-japanesw institute in Tokyo.
Latour reflects on the concept of "d'acteur-réseau" and on epistemological issues hidden in the contemporary ecological thinking.
https://www.sam-network.org/video/nous-n-avons-jamais-ete-modernes?curation=0
http://www.bruno-latour.fr
https://www.youtube.com/watch?v=sYfwkTgEpmE