

Adaptations

British Tropical Architecture in the Age of Modernity

A Research and Exhibition Concept for the British Pavilion at the 14th Venice Architecture Biennale 2014

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Motto: “Modernity” is not a thing as the sun. Its power is neither endless nor absolute. The Biennales „Absorbing Modernity“ device has to be understood dialectically. The expansion of modernity in the world went parallel with (strange) adaptations of modernity outside of its origins. Transfer and transformation of modernity are one and the same process.

Introduction

According to the architectural historian Nnamdi Elleh, among the reasons why the new African elites moved to the former European quarters after independence, were the **pleasant climatic conditions** which they encountered in the buildings: “There were certain things that the builders of the colonial structures did very well. The architects of such structures, usually recruited from the members of the Public Works Department (PWD), were sensitive to the environmental problems relating to heat, humidity, moisture, energy saving mechanisms, and maximizing the opportunity to exploit daylight. As a result, long sloping eaves, plain but shaded surfaces, darkened and screened openings, and cross-ventilations were applied for the benefit of utilizing the gifts of nature to moderate the interiors of such buildings.” (Elleh 2005) In no other (modern) architectural discourse are colonial demands and climatic sensitivity more tightly interwoven than in **the concept of Tropical Architecture**. The Tropical Architecture tradition has to be understood as a direct result of the intercultural constellation established by colonialism, whereby indigenous architectural practices were developed further by the European population, leading to new types of adapted architecture. Colonial building, as the medium of Tropical Architecture in its early days (in the 18th and 19th centuries), was the result of an architectural synthesis: the adaptations of imported building culture in new local conditions, and the dynamic that emerges between the old resident and the new architecture.

Tropical Architecture as a climate-sensitive architectural concept was especially developed in British architectural culture. Although other colonial countries (France, the Netherlands etc.) developed a sensitivity to the local environment and topography in their colonial architecture, the British Tropical Architecture heritage is richer and more complex; not least because of its institutionalisation at AA in London. In 1954, the Architectural Association

in London launched a programme under this name, which gave a decades old architectural trend an institutional and modern foundation. The founders were, in the context of the British CIAM section MARS, **the architects Jane Drew, Maxwell Fry and Otto Königsberger**, who were crucial for the establishment of a culture and science of Tropical Architecture. There are several important institutions which continue the Tropical Architecture tradition today, among them the Bartlett Development Planning Unit (London) and the Faculty of Technology, Design and Environment at Oxford Brookes University. There are interesting conceptual continuities to be explored between colonial building, Tropical Architecture (at AA), foreign aid practices and development planning knowledge within universities today (UCL, Bartlett etc.).

Tropical Architecture refers to the desire to make climatic conditions in the tropics tolerable. The guideline for Tropical Architecture has been the British way of life, toward which architectural solutions have had to be oriented. At the heart of discussions of Tropical Architecture we find **the so-called bungalow**, which represents (from a British-European perspective) the experiences with construction under extreme climatic conditions. With the colonial bungalow a conceptual model emerged by which complex adaptations to the natural and cultural conditions could be made. The bungalow was the result of an encounter between European and indigenous building traditions. In the words of Anthony King: "The bungalow was a product of cultures in contact, an indigenous mode of shelter adopted and adapted for Europeans living in India". In the 20th century, modern versions of the bungalow spread outwards from its origins in India to all parts of the globe. Anthony King located echoes of the colonial bungalow (with its porches) in the detached houses of the global suburbs, as well as in the tourist resorts that now cover the tropical and subtropical regions of the world. It is in this sense that Anthony King describes the distribution of the bungalow as the "production of a global culture" (King 1984).

Research Proposal

Historically, Tropical Architecture is a **modern knowledge** produced under colonial conditions. This knowledge can be described as an attempt to regulate the tropical climate through design and building solutions. How can we deconstruct the colonial heritage of Tropical Architecture whilst at the same time harnessing its sophisticated technical and cultural achievements for contemporary globalised architecture? Today's challenge lies in the transformation of the historical concept of Tropical Architecture into a contemporary theory of construction. Tropical Architecture has to be understood both as a historical and a timeless concept (one which urgently needs updating). From these twin perspectives, the British pavilion will look to both the British colonial past of the 20th century, and to contemporary global endeavours towards sustainability in architecture and construction. Tropical Architecture will be understood as a forerunner to green and sustainable architectural strategies (with, indeed, a lot of ambiguities to be discovered).

Thus, the British pavilion is going to have two basic sections:

(1)

The Cabinet of Wonder

Modern British Tropical Architecture

1.1 The Formation of Tropical Architecture

- An overview of aspects of British Tropical Architecture. Examples from Nigeria, Kenya, Uganda, India, Singapore
- A history of Public Works Department projects in the British colonies: hospitals, factories, schools, offices, settlements etc.
- British engineers, architects and anthropologists investigating vernacular architecture
- Environmental and cultural adaptations of British lifestyle in the colonies: modern interior design, objects, textiles for the tropics

1.2 The Institutionalisation of Tropical Architecture

- The institutionalisation of Tropical Architecture at AA (London)
- The science of Tropical Architecture
- The work of the architects Maxwell Fry, Jane Drew and Otto Königsberger
- Modernising the colonies with Tropical Architecture concepts (Tropical Architecture as a modern ideology)

1.3 The Spread of Tropical Architecture

- The Bungalow as the architectural essence of British Tropical Architecture
- The worldwide spread of the bungalow: middle class single family houses in the suburbs and touristic resorts
- Techno-symbolic zones of the bungalow: porches (verandah), windows, shades etc.
- Strange (postcolonial) adaptations of Tropical Architecture in the former colonies

Archives

AA (London) / Bartlett Development Planning Unit / Faculty of Technology, Design and Environment at Oxford Brookes University / National University Singapore

Field trips

Nigeria, Kenya, Uganda, India, Singapore

(2)

The Open University

Towards a new Theory of Construction

2.1 Workshops: The passive design paradigm

- From Tropical Architecture to Building Science – and back? Technical and cultural aspects of sustainable architecture
- Wind, more wind please! The thermodynamics of passive cooling

2.2 Experiments: The Stoffwechsel paradigm (after Gottfried Semper)

- Vernacular influences on Tropical Architecture: Mud-Concrete, Wood-Steel etc.
- Building with Mud (Pise, Adobe), Wood, Bamboo, Stone, Waste
- Constructing Appropriate Technologies

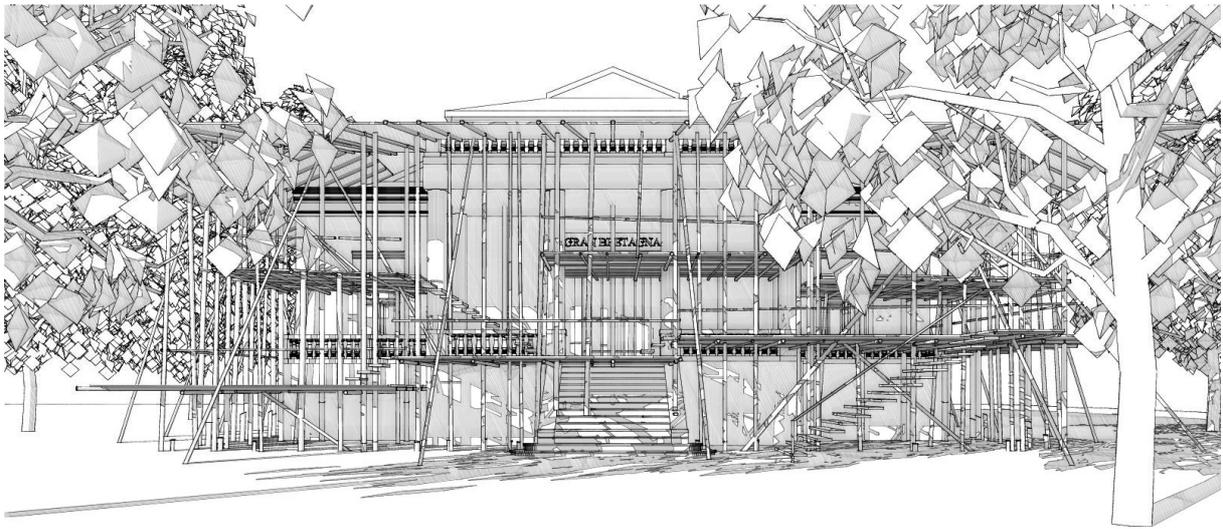
2.3 Lectures: The adaptation paradigm

- Leaving the colonial heritage behind? From a history of knowledge to a new theory of construction (Reinventing constructional theory based on Tropical Architecture)
- Clarifying the concept of adaptation in architecture: progress contra building evolution

Collaborations

Collaborations with leading building scientists, cultural scientists, postcolonial thinkers and architectural historians, amongst others: Anthony King, Jiat Hwee (NUS Singapore), Nnamdi Elleh (University of Cincinnati), Ola Uduku (University of Edinburgh), Regina Göckede (TU Cottbus, Germany), Jay Edwards (Louisiana State University), David Aradeon, Gwendolyn Wright (Columbia University), Mark Crinson (University of Manchester) and many more.

Exhibition Concept



A new **filigree timber structure** will be erected generating new perceptions and uses of the existing pavilion. The two structures, old and new, interpenetrate each other. The old pavilion is both the means and object of the exhibition. From the outside it might seem that the existing pavilion has been transformed into a new building, with the appearance of a bungalow. Instead of the existing 300m², the expanded pavilion will have a useable surface of 700m².

The new spaces, which result from the intersection of the two structures, are the playground for both the exhibition (1) and the public workshops (2). Whereas the rooms of the old pavilion will mainly be used for the exhibition (300m²), the new structure provides different spaces for workshops and lectures (400m²). These will mainly take place on the platforms of the new structure both outside and inside the old building.

Material for the exhibition will be found both in archives and in the field. Fieldtrips to former colonial territories will be made in order to document exceptional buildings and their surroundings. Objects from collections documenting the tropical modern lifestyle in the colonies (Textiles, furniture) and documents from archives (photographs, plans, films, texts) are the basis for the exhibition inside the old building.

The investigations and presentations in the two sections of the research project will lead to a **book**, which comprises in two parts (1) the history of British modern Tropical Architecture and (2) contemporary attempts to modernise Tropical Architecture within a new theory of sustainable construction.

Costs

| | GBP |
|-----------------------------|-----------------|
| Building Structure | |
| Timber Structure | 170,000 |
| Preliminaries | 15,000 |
| Electrical Installations | 3,500 |
| Removal | 20,000 |
| Work to Existing | 10,000 |
| Contingencies | 20,000 |
| | <hr/> |
| | 238,500* |
| <hr/> | |
| Exhibition | |
| Exhibition Furniture | 40,000 |
| Photographs | 35,000 |
| Objects | 15,000 |
| Transport, Insurance | 15,000 |
| Multimedia | 35,000 |
| | <hr/> |
| | 108,500* |
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| Workshops / Lectures | |
| Lecturer | 25,000 |
| Workshops | 25,000 |
| | <hr/> |
| | 50,000 |
| | <hr/> |
| | 397,000 |

* Design Costs included

Participants

Sascha Roesler

<http://www.sascharoesler.ch>

Dr. Sascha Roesler is an architect at ETH Zurich. He is currently working as a Senior Researcher at Future Cities Laboratory in Singapore, investigating the relationship between climate, culture and construction. Looking at the transformation of Egypt's and Indonesia's building industry, he investigates how vernacular and informal climatisation principles can be re-integrated into mass housing projects designed by architects. His recent publications comprise the first knowledge history of ethnographic research conducted by modern architects (Weltkonstruktion, Gebr. Mann Verlag, Berlin 2013). Sascha Roesler is winner of the Swiss Art Award (in architecture) 2012.

Future Cities Laboratory (Singapore), ETH Zurich

<http://www.futurecities.ethz.ch>

The Future Cities Laboratory (FCL) is a transdisciplinary research centre focused on urban sustainability in a global frame. It is the first research programme of the Singapore-ETH Centre for Global Environmental Sustainability (SEC). It is home to a community of over 100 PhD, postdoctoral and Professorial researchers working on diverse themes related to future cities and environmental sustainability. For the conception and execution of the exhibition and the lectures in the British pavilion FCL researchers will be involved.

Michael Meier / Marius Hug Architects, Zurich (Switzerland)

<http://www.meierhug.ch>

Michael Meier (Zurich, Switzerland) und Marius Hug (Bournemouth, England) founded their architectural office in Zurich in 2001. They graduated from the University of Applied Sciences Winterthur and ETH Zurich. Their buildings are characterized by a variety of different sizes and construction tasks. Their works include the lido Rapperswil-Jona, the office towers in Baden and the parish house in Klosters. They are currently planning residential towers in Arbon, the natural history museum in St.Gallen and a residential building in Bern, which will run as a pilot project and 1:1 experiment with different sustainability concepts for building equipment. The architectural firm has won several prizes for their work, including «Best Architects in Gold 2011» for the lido Rapperswil-Jona. Meier Hug Architects will be responsible for the conception of the new timber structure.