Charging walls:  
The weaving city  
Analysis and Intervention in the Afropolis

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Chair of Methods and Analysis, 11th December 2015
INFRASTRUCTURAL URBAN CANYONS: THE AXES OF SEGREGATION
Canyon Cities (Detroit, Oakland, Paris)
by Léopold Lambert (2015)
“The ability for infrastructure, while facilitating some means of communications, to greatly **prevents movement in the ‘perpendicularly’ of its axes.** Urban highways are thus exemplary of how the infrastructural means of maximizing a movement between the city and its suburbs, simultaneously minimize the movement internal to the same city.”

*Canyon Cities (Detroit, Oakland, Paris) by Léopold Lambert (2015)*
Boulevard Mohammed V
Casablanca, Morocco
Le Oasis
Le Oasis
The spatial formal realm of infrastructure vs. The relational realm of human society
“Many European cities are currently experiencing a process of converting urban infrastructures that intervene with the urban structure while opening up spaces for opportunities for creating new uses, meeting places and social interactions.”

“A central issue is how new functional claims and conversions can bring about a successful reintegration of these structures into the urban environment.”

Transforming Cities by Regula Luscher (2015)
Park am Gleisdreieck
Atelier LOIDL Landscape Architects, 2013
Converting urban infrastructures
Design Strategy

Injecting

Layering
“The method readiest to hand for reconciling spatial polarities is to establish an 'in-between', a place where they can be made to interact.”

“It is the place where a meeting between two realms takes shape, the place where two regions that retain their full individual integrity overlap, where they are simultaneously present.”

Aldo van Eyck: The Shape of Relativity by Francis Strauven (1998)
The wall
Traditional/ unconventional tools

Dividing
Aldo van Eyck

Articulating

Inhabiting
Louis Kahn
The wall
Traditional/ unconventional tools

Dividing

Articulating
Aldo van Eyck

Inhabiting
Louis Kahn
The Walls as separating tools

The Charging Walls
“Examples of the richest architectural developments during the last fifty years have almost always emerged through the development of prototypes.”


What is interesting is to see how the public and private flows, how each spaces are being articulated through different wall prototypes and articulations, which create vary density and porosity in each projects.
The wall as articulating tools
Case studies

**Courtyard House**
Mies van der Rohe

**Monte Amiata Housing Complex**
Aldo Rossi & Carlo Aymonino

**Diamond Museum**
John Hejduk
Thickness

0.01+ millimeters

Velvet and Silk Cafe
Mies van der Rohe + Lilly Reich

3.6 meters

Ronchamp Church
Le Corbusier
Height

10 meters
Viewpoint
Richard Serra

0.45 meters
Hassan II mosque
Length

1+ kilometers

Le Oasis

1.75 meters

Human dimensions
Ernst and Peter Neufert
Variables
Height and Thickness

0.45 m.
0.75 m.
1.20 m.
1.95 m.
2.50 m.

0.3 m.
0.5 m.
0.9 m.
1.95 m.
Articulating + Inhabiting
Seating

Seating: h 0.45 x w 0.90 - 3.00
Canopy

Seating: h 0.45 x w 0.45
wall: h 3.2 x w 0.60
Structure

wall: h 4.00 x w 0.60
Street lives
Street lives
Street lives
Ground floor plan

1st floor plan
Construction Principles

Library
Construction Principles
Library

- Sliding type bearings
- Roller type bearings
- Sliding type bearings
Materials
Rammed earth wall

NK'Mip cultural center, Osoyoos, Canada
Hotson Bakker Boniface Haden architects + urbanistes

Traditional Moroccan buildings
Ground fl. +0.00
-1 fl. -4.40
1st fl. +3.20
2nd fl. +6.40
Roof +9.60

BALCONY CONSTRUCTION:
- 30 mm Loam mortar
- 120 mm Mineral lightweight loam
- 150 mm Cast-in-place concrete

EXTERIOR WALL CONSTRUCTION:
- 180 mm Cast-in-place concrete
- 80 mm Rigid insulation board
- 100 x 30 mm Timber battens
- 25 mm Gypsum board

STRUCTURAL WALL CONSTRUCTION:
- 600 mm Rammed Earth mixed with cement wall with 80 mm Rigid insulation board
- Metallic sheet
- Bituminous layer
- 600 mm Cast-in-place concrete plinth

INTERIOR FLOOR:
- 30 mm Loam mortar divided by 100 x 100 mm timber grid
- 90 mm Mineral lightweight loam
- 80 mm Rigid insulation board
- 150 mm Cast-in-place concrete

PUBLIC PAVEMENT CONSTRUCTION:
- Brick flooring
- Sand
- 250 mm Cast-in-place concrete
- 100 mm Gravel
- Bituminous layer

ROOF DETAIL:
- Concrete scupper

ROOF CONSTRUCTION:
- 30 mm Roofing membrane
- Waterproof layer
- 120 mm Rigid insulation board
- 200 mm Cast-in-place concrete

CEILING:
- 200 mm Cast-in-place concrete
- 200 mm Batt insulation between 200x30 mm wooden battens
- Vapor permeable membrane
- 25 mm Gypsum board
Construction Principles
Apartments
Construction Principles
Apartments
Climate Principles
Shading and cross ventilation
Climate Principles
Shading and cross ventilation
Charging walls: The weaving city

Thank you.