2.5D Playgrounds for Bogota

Stimulate Playful Actions in Public Spaces by Redesigning
Ground Surfaces into a Constellation of 2.5D Architectural Compositions

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Method and Analysis
P5 Presentation
30/06/2017
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Background | Segregation

Constructing the Commons in Bogota
Bogota Location
Urban Topography
Segregation
Constructing the Commons in Bogota

- Architectural and Urban figures
- Commoning procedure

Architectural Positions

- Alternative strategies to “strong counter-forms”
- Punctual architectural intervention

Transcultural Methods and Positions

- Adjust existing analytical methods
- Resonate with transcultural urban condition
Urban Topography

Altitude | 2600 m above sea level
Climate  | Subtropical Highland Climate
East     | Monserrate Mountain Range
West     | Bogota River
Segregation | Transportation

Bogota Transmilenio map
Before 1500: Pre-Colombian

1500 -1810: Colonial

1810 -1890: Republican

1890 -1930: Neo-Colonial

1930 -1960: Modernist

1960 -1990: Salmona Era
Bogota, what a segregated city...
What can be an alternative design strategy that results in more punctual architectural interventions?
Problem | Mismatch

Dérive in the City

Problem Statement

Research Question
Strong Commons | Spontaneous playful actions

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<tbody>
<tr>
<td>26</td>
<td>Skateboard</td>
<td>玩滑板</td>
<td>skatepark, building, fresco, ramps, stars, stage, railing, planter</td>
<td>incline, extrude, divide, elevate, draw, semi-encircle, centralize</td>
<td>skaters, passing-by</td>
<td>skateboard, motorbikes</td>
<td>chaotic blocks</td>
<td>HV-AV-PP-SC</td>
<td>5</td>
<td>o</td>
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Normal Commons | Mechanical playful actions

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</thead>
<tbody>
<tr>
<td>25</td>
<td>Exercise 锻炼</td>
<td>playground, garden</td>
<td>encircle, extrude, extend, offset, panelize, barrier</td>
<td>neighborhood people</td>
<td>exercise</td>
<td>playground facilities, lights, basketball stands</td>
<td>trees, community housing</td>
<td>HV-AV-PP-SC</td>
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<td>0</td>
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</table>
### Weak Commons | No playful actions

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<tr>
<th>Scene Number</th>
<th>Encompassing Verb (EV)</th>
<th>Architectural Actors (AA)</th>
<th>Architectural Verbs (AV)</th>
<th>Human Actors (HA)</th>
<th>Human Verbs (HV)</th>
<th>Props (PP)</th>
<th>Scenery (SC)</th>
<th>Hierarchy</th>
<th>Dynamic Level (1-5)</th>
<th>Positive/Ne gative</th>
</tr>
</thead>
<tbody>
<tr>
<td>24</td>
<td>Refuel</td>
<td>加油</td>
<td>erect, sign, elevate, tunnel, punch, isolate</td>
<td>drivers, gas operators, pedestrian, traveller</td>
<td>wait, refuel, walk, ride</td>
<td>motorbike, vendor vehicle, dining table</td>
<td>high-rise, street corner, park, fence, pavement, Tower La Rebaca, surrounding pedestrian connection</td>
<td>3</td>
<td>5</td>
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a. Strong Commons | Spontaneous playful actions

Architectural and urban actors stimulate spontaneous playful actions performed by human actors, thus the spaces and social activities are intertwined with each other that a playful commonality is established.

b. Normal Commons | Mechanical playful actions

In normal urban parks there are some playground equipments, and they do bring some playful actions, however the players have to follow the mechanical function of the equipments.

c. Weak Commons | No playful actions

Spatial Quality is too poor to bring people together, let alone stimulating playful actions.

Rapid development has claimed a lot of public spaces from the city, consequently the rest public spaces have become fragmental leftovers. Many of them remain boring, chaotic, hidden, negative spaces where few people would go; the “commons” become weak.
Problem Statement

There is a mismatch between spontaneous “playful actions” in Bogota citizens’ daily lives and the poor boring leftover public spaces.
Research Question

How to construct the commons with the power of play?
How to reactivate the leftover public spaces in central Bogota by architectural interventions that stimulate playful actions?
Implantation | “Playful Abstraction”

Theoretical Reference

Playfulness and Abstraction

“Playful Abstraction” as a Commonality

Simplicity and Implicity of Ground Surface

Architectural Position
“Play” might be the origin of many aspects in human culture, such as law, war, knowledge, poetry, art, etc. Johan Huizinga emphasizes the importance of play element in human culture by naming the human species “Homo Ludens” (man the player) instead of “Homo Sapiens” (wise man) or “Homo Faber” (man the maker).
“Play is an important but largely neglected aspect of people’s experience of urban society and urban space…Play reveals the potentials that public spaces offer.”

Quentin Stevens describes the play activity as:
- non-instrumental,
- unpredictable/contingent,
- controversial expenditures of time and energy
- an escape from instrumental social relationships/everyday serious routine
**Polycentric**, playgrounds become a network system instead of a single big one;

**Interstital**, playgrounds fit into leftover/in-between spaces instead of cleared area;

**Participatory**, playgrounds result from dialogue with users of a particular site.
Theoretical Reference | “Leaf-tree/house-city diagram”, Aldo van Eyck

The relationship between an individual and the bigger system it belongs to should be like leaf and tree: “tree is leaf and leaf is tree / a tree is a tree but it is also a huge leaf / a leaf is a leaf but it is also a tiny tree”.
- In-Between, “Ich und du”, design as means for creating relations between people rather than as goals in itself;
- Site specific/Path-based design, design has to respond to unique situations, to improvise;
- Surface intervention like the snow: when snow falls, the city is taken over by children and becomes a big playground.
What makes a difference between Aldo van Eyck’s playgrounds and “normal” ones?
Playfulness and Abstraction | Comparison

Aldo van Eyck’s Playground

Abstract
- Modest Simplicity & Elegance
- Care about ground surface
- Spontaneously Suggest playful actions
- Site specific
- Include different users and activities
- Strong Commons

First Search Result of “Playground” on Google

Representational
- Excessive ingredients
- Obsessed in objects
- Mechanically Define playful actions
- Detached from context
- Exclude other users and activities
- Weak Commons
“Playful Abstraction” as a Commonality

“Playful Abstraction” is an abstract realm drawn away from practical matters and representational qualities, in which people share as a common resource to engage rejoicing themselves.

Play (v.)
Old English | plegen, plegian
“move rapidly, occupy or busy oneself, exercise; frolic; make sport of, mock; perform music,“
West Germanic | plegen
“occupy oneself about“
Old Saxon | plegen
“vouch for, take charge of,”
Old Frisian | plega
“tend to,”
Middle Dutch | pleyen
“to rejoice, be glad;”
German | pflegen
“take care of, cultivate”,
Proto-Indo-European root | dlegh-
“to engage oneself,”

Abstract (adj.)
Latin abstractus
“drawn away,”
Latin past participle of abstrahere
“to drag away, detach, pull away, divert;”
also figuratively, from assimilated form of ab “off, away from” (see ab-) + trahere “to draw,”
from Proto-Indo-European root tragh-
“to draw, drag, move”
in philosophy,
“withdrawn or separated from material objects or practical matters”
In the fine arts,
“characterized by lack of representational qualities”

source: www.etymonline.com
Point, Curve, Surface Composition

Proun 12E
El Lissitzky, 1923
Visual “Playful Abstraction” | Color Field Painting

The Vague Edge

Untitled
Mark Rothko, 1968
Geometry Collage and Space in-between

Playground for UN Building, New York
Isamu Noguchi, 1952
Undulating Surface

Landhausplatz, Innsbruck, Austria
LAAC Architekten and Stiefel Kramer Architecture, 2010
Folding Surfaces

Plaza de Bolivar in 1930/1960,
Fernando Martinez
Understanding Change: Public Space Construction in Bogota, Colombia

The Plaza de San Victorino

Maria Camila Coronado Cabrera
The University of Texas at Austin
Spring 2014

Clothing and textiles
Chemicals
Esoteric and religious merchandise
Sports
Kids parties and toys
Drugstores
Stationary shops and miscellaneous wholesales
Book shops
Casino
Restaurant
Mixed malls

Folding Surfaces / Changing Materials

Plaza de San Victorino in 1998/2000,
Lorenzo Castro
Stimulate playful actions in public spaces by redesigning the ground surface into a constellation of 2.5D architectural compositions.

“2.5D” refers to an abstract composition of the ground surface, including composing different ground materials on the planer dimension (2D), and create minor vertical level difference by sinking, elevating, folding and undulating (0.5D).

These 2.5D compositions are site-specific, meaning each of them should be a unique match with its context. Yet they share a similar architectural language, so that citizens will be able to recognize that they belong to a polycentric network of playgrounds.
Configuration | Constellation of Public Spaces

Map Urban Axes
Locate Interventions
Pedestrian Connections
Map Urban Axes | Topographical Factors
Constellation of 2.5D Playgrounds
However, the “constellation” remains on the urban design strategy level. How do the individual playgrounds look like, taking the three sites in Barrio Armenia as examples?
Parque Armenia
Parque Armenia | Existing Situation
Parque Armenia | 2.5D Composition
Parque Armenia | 2.5D Composition
Parque Armenia | Material Composition
Parque Armenia | 2.5D Composition
Parque Armenia | Before
Gas Station
Gas Station | 2.5D Composition
Gas Station | 2.5D Composition
Gas Station | Material Composition
Gas Station | Material Composition
Skatepark | 2D Composition
Skatepark | Material Composition
Skatepark | Before
Add-on Playful Surfaces Manual
(Bogota Urban Design Manual Extensions)
Cartilla de Muebles Urbanos

Protector de árbol de dos tubos

Descripción

El protector de árbol de dos tubos tiene un diseño simple y efectivo para proteger los árboles de las condiciones adversas. Se compone de dos tubos metálicos que se fijan al suelo y al árbol, proporcionando así protección contra el viento y el frío.

Materiales

- Metal robusto
- Fondo de protección

Acabados

- Color: antioxidante/Shiny Black
- Tamaño: 150 cm (ancho) x 200 cm (alto) x 15 cm (profundo)

Mantenimiento

El mantenimiento requiere limpieza regular y protección contra la corrosión. Se recomienda aplicar un tratamiento antioxidante cada año para prolongar la vida útil del protector.

Instalación

La instalación puede ser realizada por personal cualificado. Se recomienda colocar el protector en un ángulo que permita la circulación del aire y el drenaje del agua.

Anotaciones

Más detalles sobre el protector de árbol de dos tubos pueden encontrarse en el Manual Verde de Bogotá. Se recomienda consultar las normas vigentes para un correcto uso del producto.

Diana Wiesner Arquitectura y Paisaje

Tomo del Manual Verde

Ingeniería:('
Add-on Playful Surfaces Manual | “Playful Abstraction” as a Commonality

**Playful**
- Stimulate unpredictable, spontaneous playful actions
- Escape from instrumental serious routine

**Abstract**
- Draw away from practical matters
- Articulate the abstract geometric composition

**Commonality**
- Add-on architectural and urban figures that citizens recognize as a constellation
- Commoning procedure that users find their own way to play
Add-on Playful Surfaces Manual

Undulating Rectangles

Description
A series of long concrete blocks with undulating top surfaces and various heights

Material
Smooth Concrete

Installation
Prefabricate individual pieces in factory, or cast on site then polish until smooth finishing surface
Stepping Triangles

**Description**
A series of triangle concrete blocks with various heights and form a big terrace.

**Material**
Smooth Concrete

**Installation**
Prefabricate individual pieces in factory, or cast on site then polish until smooth finishing surface.
Inclining Parallelograms

Description
A series of parallelogram concrete blocks with 6-degree-inclining top surface in different directions

Material
Smooth Concrete

Installation
Prefabricate individual pieces in factory, or cast on site then polish until smooth finishing surface
Sunken Circle

Description
A big circular concrete block with a shallow sunken pool in the middle.

Material
Smooth Concrete

Installation
Prefabricate fragmental pieces in factory, or cast on site then polish until smooth finishing surface.
Description
A big truncated-cone-shape concrete block with a smooth surface merging into the flat ground level

Material
Smooth Concrete

Installation
Prefabricate fragmental pieces in factory, or cast on site then polish until smooth finishing surface
Stepping Triangles

Description
A series of triangle concrete blocks with various heights form a big terrace.

Material
Smooth Concrete

Installation
Prefabricate individual pieces in a factory, or cast on site, then polish until smooth finishing surface.
Pedestrian Connection
After such series of interventions, I expect that some boring, leftover and fragmental public spaces in central Bogota area will be reactivated by a constellation of exciting “2.5D playgrounds”.

These playgrounds should be unconventional as the playful quality is achieved by manipulating the ground surface instead of adding playful objects. Yet they are humble as the minor level difference and usage of familiar materials enable them to merge into the local context.

I expect that these “2.5D playgrounds” will bring Bogota citizens together, stimulate their playful actions, and enable them to recognize the scattered playgrounds as a constellation of “playful commons”.
Reflection | Zigzag Design Path

1 Mechanical Approach
2 Obsession in Objects
3 Impose Design Ideas
4 Excessive Ingredients
5 Reduce to Simplicity and Implicity
1 Mechanical Approach | Metro Station
2 Obsession in Objects | Alternative Twin Towers
4 Excessive Ingredients | Arbitrary Ground Patterns
5 Reduce to Simplicity and Implicitness | 2.5D Playgrounds
Acknowledgements to my Mentors

Jorge Mejia Hernandez
Klaske Havik
Pierre Jennen
Tom Avermaete