Architectural Intervention Into Unplanned Settlement And Informal Use

Border Conditions
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Pre-research: Informal Use Of Public Space In Madrid
Cañada Real: Informal Strip Within The Periphery Of Madrid

The Cañada real is a 75 meter zone owned by the King. In this 75 m there is almost no control, since no municipality is governing it. It’s easy to create a building in this zone, although it might be destroyed.

All of these informal settlements are built by locals. Their different social background lead to different structures with their own logic and specific characteristics, defined by available materials and the builders personal creativity and purpose.
The Informal In Architecture

Informal = without a predefined form, unofficial, without a described set of rules

Within the informal city the architect is out of play.

Two main subthemes of the Informal in architecture that are important for me.
Top down projects which can be used informally.
Poëtic bottom-up projects with an ambiguous character.
References: Constant & Superstudio
The cañada has different fragments with their own distinct character.
My mapping process is set-up in a view steps.
1: An overview of specific pictures to show an insight into a small fragment.
2: Interpretation of this small fragment of the Cañada Real and its specific conditions. I make a drawing of this interpretation. The interpretation is based on the local investigation of the different ambiguous informal atmospheres of the place.
3: Interpretation of the drawing into a wire model.
4: Interpretation of the wire model into a conceptual model.
Mapping: Linear Collection Of Personal Initiatives
Example Of Mapping: Intersection With Metroline

This space is about a collection of objects, series of objects and lines that all cross each other. On the same moment, the space resulting out of it is very interesting. With its edges, sight lines and interconnections.
Example Of Mapping: Intersection With Metroline

- Formal differentiation
- Layers of spaces and spatial relations
- Collection of objects and streets, resulting in a space of continuity and discontinuity.
Example of mapping: intersection with metroline
Example of mapping: intersection with metroline
From mapping to design

Conclusions
- Cañada real is a collection of different series of small scaled, individual houses.
- All houses are very individualy created, in the same time different social groups tend to group-up and combine units. Creating groups of objects.
- Reuse of materials in low-tech constructions.
- Clash of fragments.
- The Cañada is a framework with a few structural rules: 75 m zone, path, walls
- Architect is out of play. This is really a large structure with possibilities to create your own house.

Extractions for project proposal
- Bottom-up approach, pilot projects.
- Manipulate the morphology: fence, building, fence, street, fence, building, fence.
- Ambiguous objects.
- Structures as a basis for local initiatives.

Program: market
- Informal atmosphere
- Ambiguous and dynamic character
- Subject of interpretation
- Interesting field of industry for the people of the Cañada
Proposal
My proposal is to create reconfigurable building units, made of locally found materials. That can be used 24/7 by the local population for different purposes. The units are removable market cars, climbing units and temporary habitats. Together they are structured in the Cañada real and form a series of objects that work together. The units are built up in a low-tech building system, easy to reconfigure.

Parts of the object can rotate, slide or move to make the building fitted for specific functions.

They are completely made of wood, a material that’s easy to work with and adjust. So the object can change in time and pieces can be added or taken out.
Piet Hein Eek builds furniture out of recycled wood. His designs have clear and simple structure and are easy to reconstruct.

Rietveld also made low tech structures, in a very sophisticated way. The Rietveld-Schröderhouse is a very small house that can easily transform in order to be used for different functions on different moments during the day.
Buildings
Village like zone
Scattered zone
Suburban area
Train track
Primary school
Colonized empty area
Conditions
Zone of illegal houses and a lot of immigrants.
Zone of waste
Informal behavior and settlements
Hidden
Spanish climate, hot summers, cold winters, rainy autumn

Rules of the project
1. No fixed buildings are allowed at the Cañada Real.
2. The objects need to be able to be transported on the road: max 2.55x 4x12mm, 3500kg
3. The objects need to be built from at least 75% out of reused materials.
4. The buildings need to be built by locals: low-tech.
5. The building need to have use 24/7.
6. The individual object can be combined to form a larger whole.
7. No sewer and in some cases no electricity can be used.
8. Units need to respond to certain weather conditions: open and closed situations.
9. The spaces created need to respond to several conditions of use.
10. The units need to be able to transform in order to serve the different forms of use.

Rules & restrictions
Program: Series of climable market objects.

Elements must contain:
- Toilet 800x600
- Bed 1600x2000mm
- Dining table and seats.
- Storage: 300x500x2000mm
- Cash desk

Personal belongings
Cloths: 2 x 500x400x300

Kitchen
Table 600x800/400x1200
Plates 300x300x300
Pans en pots 500x300x300
Stove 600x600x100
Gasbottle 250x250x500
Sink 300x300x200
Cups 300x200x300
Cutlery 300x300x100
Spices etc. 300x100x100

Different units for:
A: Cloth shop/Giftshop/Towels and blankets
This type of shop should be opened up to the public and have part of its stack outside.
- Shells of 400 mm wide, min. 8 meters of shells. And minimum 4 meters of hanging clothspace

B: Flower shop + stage for performance/Vegetables and fruits
This unit has its most important stack outside, and can be transformed into a stage.

C: Food.
This dining object has a large kitchen and a open space for seatings.

D: Bookshop/Cosmetics
This type needs a lot of shelves to store the goods, the shelves need a smaller deepness of 200-300mm.
- Min. 12 meters of shelves
- Tables with goods.

E: Bar
The bar must be able to sell drinks inside as well as outside. A place to stay as well as a place to take.
- Inside bar 2 meters wide, 800 deep
- Outside bar 2 meters wide, 800 deep
- Seats for 20 people

Program: market
Location: clash of particles, intersection of Legal and illegal/formal and informal
Series of objects

Choices

Quality's of the project
The ability to move leads to a lot of possibilities.
Multiple use
The unique character of the market object will attract customers for the market.
The units have specific and ambiguous character.
The Transformability: extensive and intensive use of small spaces.
Durable quality: the large amount of possibilities of the units give them a long lifetime. Particles can be replaced easily without changing the atmosphere/character.
Temporality of the object: response to the illegal situation.

Rules for climbing wall
Large surfaces are best for diverse possibilities.
Flat and overhanging walls up to 30 degrees.
Holds and grips as integral parts of walls and cabinets.
Mats, cushions for protection at falling
People catching the climber in case of fall

Bouldering is done in mostly horizontal challenging tracks, in contradiction with climbing walls no rope is used. Tracks can turn into vertical direction and go on around the corner.

Holds are very important for the climbing experience. For footholds, small holds is best.
One hold per square foot (30x30cm) of wall surface.
60% medium size bolt-on holds.
20% footholds
10% small handholds
30% small holds in large variety
10-20 jug-holds

Flat overhanging walls of 20-45° are best for variety of climbing Curves and complex shapes can lead to homogenous climbing
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- **Human Body + Movement**:
  - **Sleeping**: Min. 1000 mm
  - **Breakfast**: 1600 mm
  - **Market**: Min 2000 mm, up to 2000 mm
  - **Cooking**: Min 2000 mm, 900-950 mm, 1800 mm
  - **Watching TV/Reading**: Min. 1200 mm

- **Ideal State Of Object**:
  - **Closed object**
  - **Closed or partly opened object**
  - **Completely opened object**
  - **Cooking outside Sleeping inside**
  - **Variable**
Activities During 24 Hours

Sleeping

Wake-up/Breakfast

Market

Siësta: Sleeping/Cooking/Lunch

Other activities

Relaxing/Climbing
Units Combined
Configurations: Mixed Zone
Configurations: Mixed Zone
Configurations: Traditional Linear Market
Configurations: Traditional Linear Market
Configurations: Spread Out
Configurations: Combined
Materials

Planking ordered by profile, length variable

Wooden plates, ordered by thickness, 4mm/6mm/10mm/12mm/16mm/20mm

Hinges, stainless steel 69x89

Dowels Ø8mm x 35mm

Roller runners, to lock the doors/walls

Porch hinges, stainless steel.
Materials Come From Cañada: Reuse
I have built a 1/1 model to show that the system works and how it’s build up. I made a view slides that show how building parts are build up into a model.
Adjusting Materials
Constructing Beams

[Images of wooden beams being constructed on a pink table]
Constructing Beams
Constructing Beams
Constructing Walls
Constructing Walls
End Of Presentation

Thank you for your attention!