

Infrastructural Archipelago

Veronica Arcos

Berlage Institute Rotterdam, the Netherlands

arcosveronica@yahoo.com

Introduction

The research focuses on architectonic production from a bottom up strategy. This means to take advantage of the inherent forces of a territory, understanding them and using its inertia into the production of a more precise and environmental adapted urban and architectural design.

Hypothesis

The design process can be aided by a multifactor analysis, particularly visibility analysis and “syntactic agents”. These tools enable to take design decisions, adapting the architecture to the existing dynamics in a more accurate way, forecasting the events that a certain morphological intervention will enable in a certain environment. Allowing to anticipate the design in response to these events.

Testing

To test the validity of the hypothesis, the following was done: The territory was mapped and categorized into prototypical conditions, registering the morphological and spatio-temporal forces involved in each context. According to these data, a prototype was proposed to be implemented in different spots of the city.

The prototype was made out of a set of rules of behavior that would take different material forms, responding to the environmental conditions where implemented.

The methods applied -Axial Maps, Visibility Graph Analysis (VGA) and Syntactic Agents- were used to study the territory in multiple scales. In one hand the Axial Maps measured the levels of global integration for pedestrians in circular areas of 1.5km diameter, and smaller areas close to the scale of a city block (100x100m); while the VGA was used only to measure the last ones. When both of the methods were applied on the same zone, the results obtained were similar: the gradient of accessibility and pedestrian occupation of the surface were correspondent.

Case Study: Field M02/Maximum Envelope

One of the fields was chosen as a case study. All its construction was registered step by step, showing how the design decisions were taken in response to environmental conditions. Attempting to intervene the territory in a site specific manner.

The interstitial intervention starts from the maximum envelope, or maximum occupation. From this level the intervention can start to reduce itself until reaching the minimum infrastructure required. The floor plan was studied with the VGA analysis, in which the

agents were released, guiding the design into a more coherent direction in direct dialogue with the site constraints.

This means that the phases of design were continuously analyzed until arriving to a morphology that enhanced a desired behavior of pedestrian occupation given by the pattern the released agents threw.