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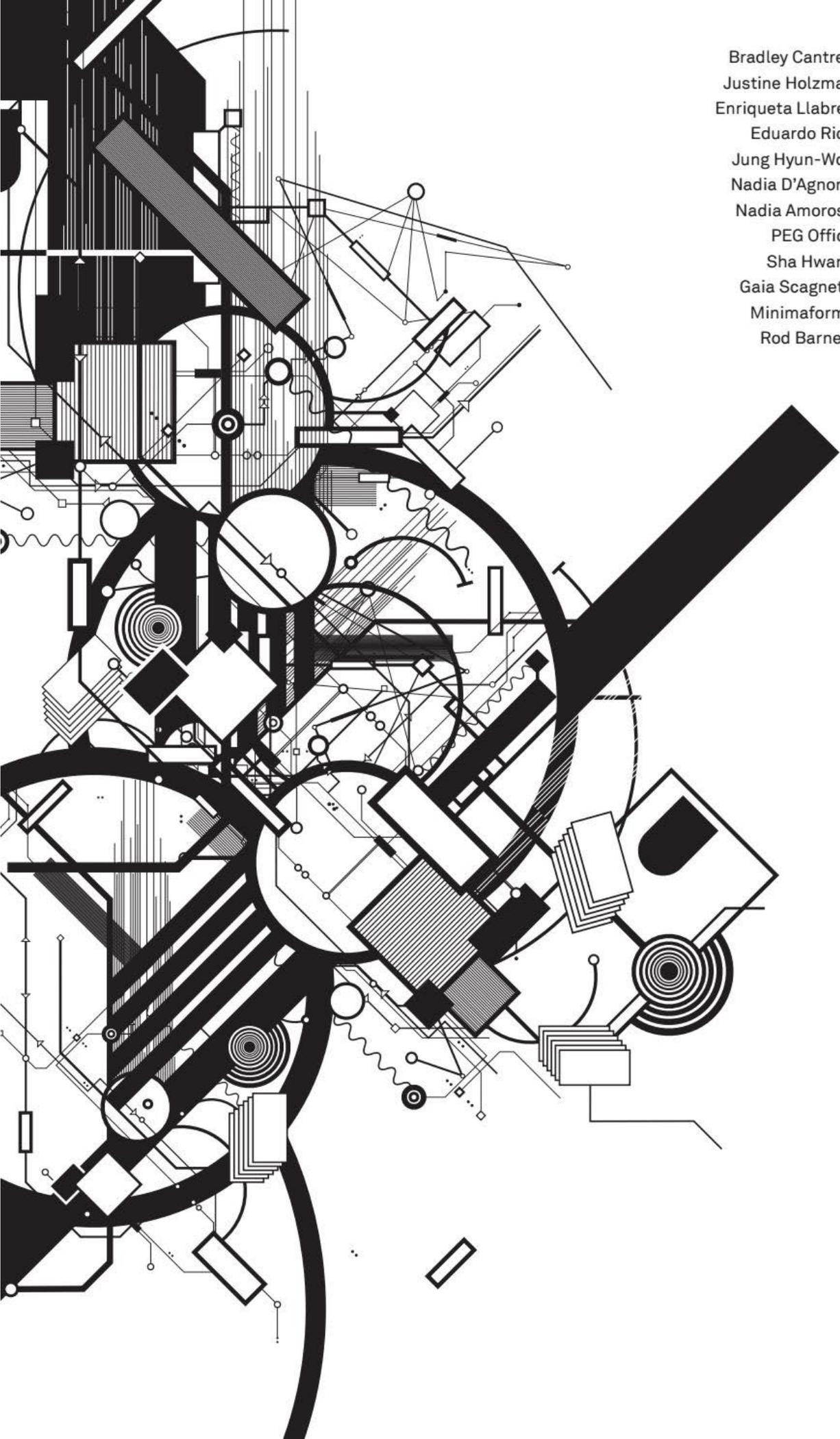
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DIGITAL LANDSCAPES

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Digital tools and multiplicity: towards a relational understanding of space, time and value

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The use of simulation of landscape processes, techniques of cartographic representation and digital interfaces can help us move towards a relational form of understanding design at territorial scale. It does so by focusing on how synthetic thinking influences both our perception and definition of time, but also how it addresses novelty within the construction of tacit responses to territorial dynamics. Three projects, where digital tools act as mediator between the designer and the different actors involved in territorial process; this form of openness and multiplicity unveils political tensions behind the design process will be introduced. Synthetic time, as design material, has implications in the political dimension of the territorial project, bringing questions about the nature of the project itself and its form of documentation. The need to understand the political nature behind human agency and its relations to material process can bring further relevance to work with these techniques.

The Projects

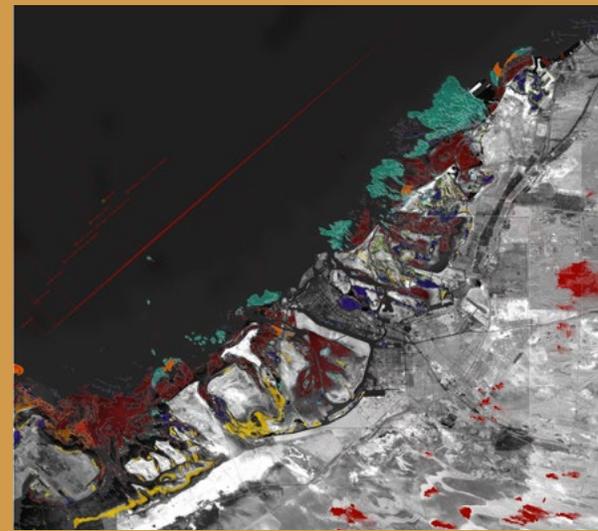
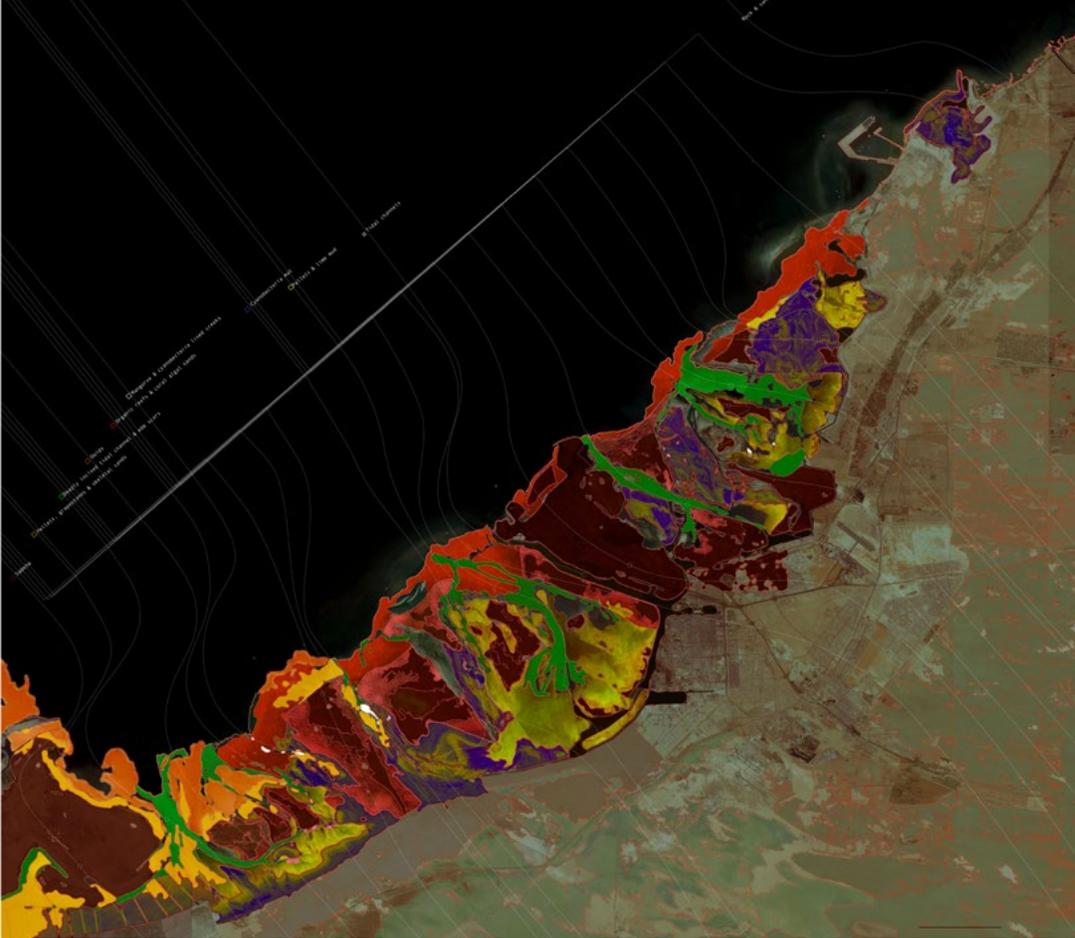
The first case, 'Coastal Futures', is an academic project developed in the Masters Landscape Urbanism (Architectural Association). The course researches forms of territorial praxis which work with the intersection between natural processes of formation and patterns of human

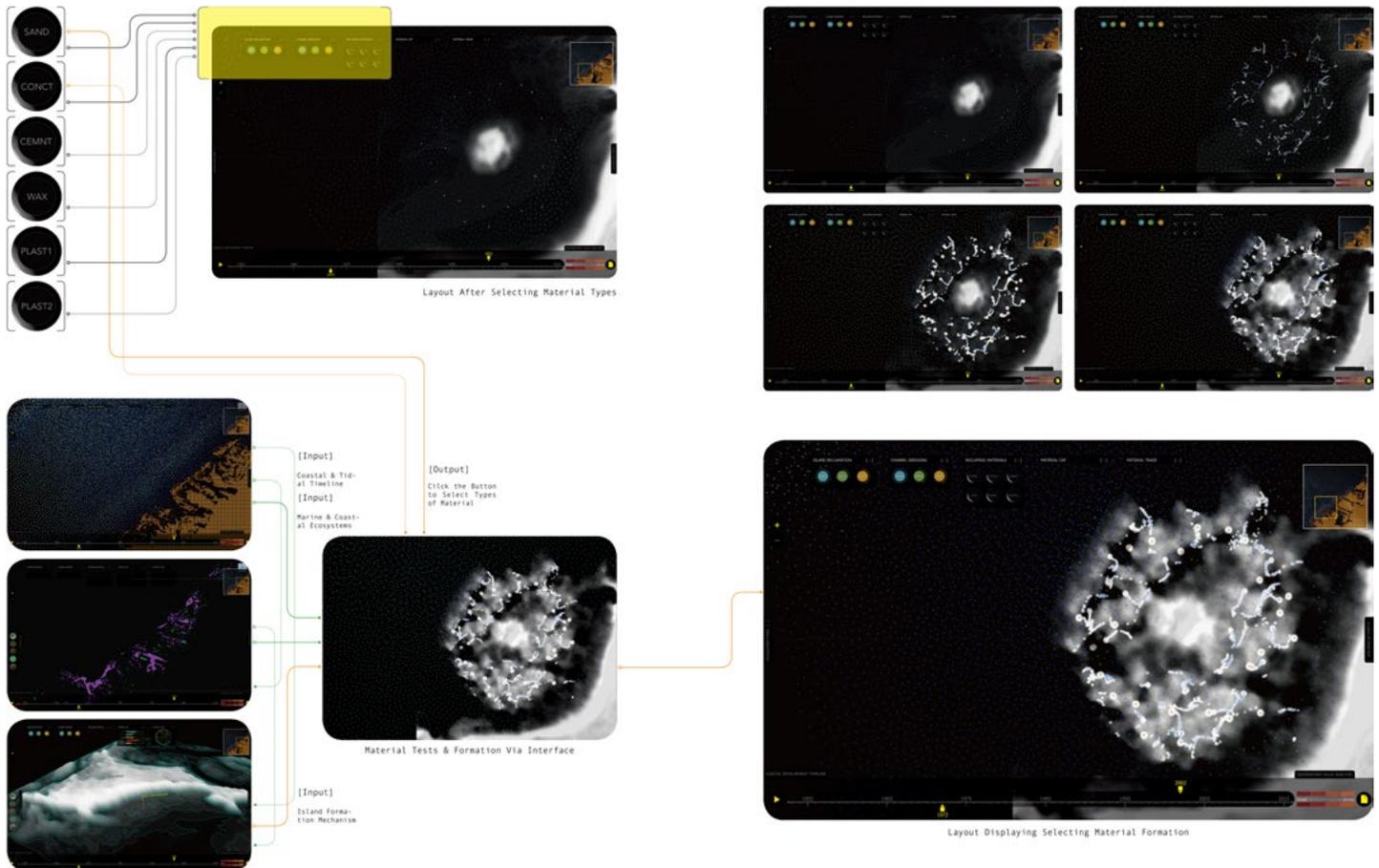
intervention. The aim is to compile a Pan-European Atlas of radical territories, which challenge conventions of border, ownership and the role of the different institutions across The European Union in shaping our landscapes. The students work simultaneously at geographical and architectural scales in order to generate design guidelines which address what Harvey would call the material processes of social reproduction. Here, the author distinguishes between 'Relational' and 'Socially', given constructions of space and time. In the former, it is possible to have multiple constructions coming from different domains; these domains refer to groups of people that share similar values towards a particular process. Domains might differentiate themselves through gender, disciplinary background or ethnic background. In contrast, socially given constructions of space and time are imposed serving as a mechanism to consolidate material practices of social reproduction, as ways of assigning values by imposition. The academic research, Pan-European Atlas, raises the need to stress a Relational approach to design, where a multiplicity of domains form part of the identity of the European Union and where the specificity of territorial practices is brought to the center of the design agenda. Here, value is constructed through multiple understandings of a process that cuts across the member

Figure 1. (Top)
Sediments distribution

Figure 2. (Middle)
Coastal habitats

Figure 3. (Bottom)
Land reclamation and land use





countries. The long-term proposal is the possibility of introducing new forms of Pan-European landscape projects as mechanisms of building European values that facilitate institutional renovation across the EU.

'Coastal Futures' aims to build a design agenda that can be inserted within the wider problem of the eroding coastline of the UK. Both sea level rise and geological subsidence in England are increasing the risk of flooding for substantial tracts of low-lying territories on the coast of the British Isles. A common practice in many of these areas is the so called 'managed retreat', where selected pieces of land are allowed to flood in order to generate buffers to help relieve pressure elsewhere and generate new valuable habits. The project explores how this technique can also be the generator of new forms of economic activities and urban fabric. It does so by looking simultaneously at the small scale of the creek and at the country-wide framework. It explores

the mechanisms of controlled erosion and tidal creek generation, given a single inlet-outlet based on a cellular automata simulation model for sediment transport. A number of tests are carried out in order to generate different structures of saltmarshes, according to requirements of different programs which could range from fisheries, oyster farming or ecological areas. This catalogue is then applied in the floodplain beside the English city of Sandwich by studying the intersection of existing land uses and preferential flood routes, generating a landscape of saltmarshes combined with different economic activities around the city. The project attempts to draw attention to the fact that these territorial changes would require new forms of ownership, agreements and spatial solutions in order to share the burdens and benefits brought by the challenges behind climate change. The system is then explored as a blueprint for other areas on the coast, generating as 'Atlas' of the eroding territories of the UK

Figure 4. Material via relational urban model

where the dialogue between multiple domains reconfigure the way in which we understand economic and ecologic development. While 'Coastal Futures' emphasizes the possibility of creating new cultural landscapes affecting its institutional framework, a question still remains as to how the negotiations behind those decisions would take place.

The second project develops a design tool based on an interactive digital interface that orchestrates input and output from digital simulation of geomorphology dynamics, participation and urban policy. 'Interface System of Island in Abu Dhabi Coastline' is an academic project developed within the Urban Morphogenesis Lab (The Bartlett School) which engages with the conflicts emerging from operations of dredging and construction of artificial Islands off the coast of Abu Dhabi (Figures 1, 2 & 3). The proposal departs from an existing interface developed by the local government. The Abu Dhabi Blue Carbon Demonstration Project, which aims to communicate the importance of different ecological habitats by showing its relationship with the carbon stocks of the Abu Dhabi coastline. While this official project stresses the need to understand the ecological value of the mostly informative. Then team proposes to add a projective focus to this type of application, with the scripting of an interface that facilitates coastal intervention attending to morphological, economic and environmental logics.

The propose interface runs a simulation of the process of tidal delta formation within the archipelago along the coast of the Emirate and departs from a landownership pattern based on the environmental service provided by different ecological habitats. The idea is to maintain the overall environmental service within the Abu Dhabi coastline with each of the owners having the responsibility to preserve their own stock of environmental service. In the event that new land uses

would compromise the overall environmental service stock, the model allows trade between the different landowners within the coastline so that new land is created to compensate the initial loss. The interface is simultaneously the design instrument, the participatory mechanism and the urban document; facilitating a relational construction of space, time and value while contributing to the spatial qualities that would give identity to the emerging territorial formation.

The use of digital simulation allows the designer to develop a materially driven design that merges artificial processes of land dredging and island construction with processes derived from tidal dynamics (Figure 4). Time driven design allows the designer to amplify the sensory information and the development of concepts based on intuitive forms of reading the environmental processes. Here, time based design allows the designer to amplify the sensory information and the development of concepts based on intuitive forms of reading the environmental processes. Here, time based captures belong to periods of intensity within the design process along the lines of the concept of duration. Time as duration has to do with the immediate data of individual consciousness; it is immeasurable, intensive and conformed through our perception by distinct sensations that are inseparable from one another. In Bergsonian Time, heterogeneity and continuity coexist within the individual consciousness. It is within time that we can think of multiplicities, bringing us back to the main idea behind the relational construction of space time as defended by Harvey. One could argue that tools that help us observe and interact with live processes foster the emergence of intuitive forms of engagement with matter and human agency over it. If applied at the territorial scale, these tools can ultimately help us think about relational forms of generating the project of the city, where negotiations of different stakeholders take place in

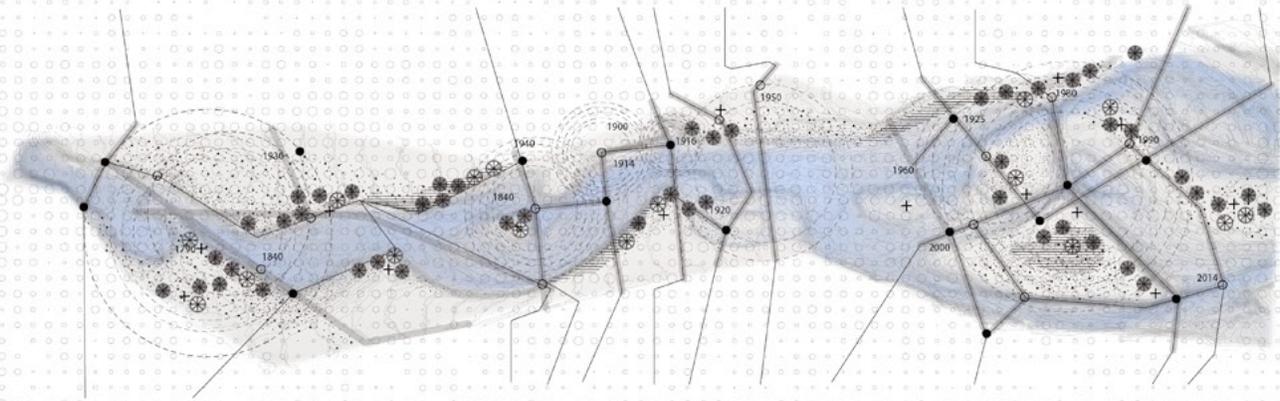


Figure 5.
Proxy model digital capture

a constant interaction with processes of natural emergence. The Abu Dhabi Island Project tries precisely to do this, opening up questions of authorship, public communication and the value of new forms of documentation of the urban project.

The relationship between time and authorship is pushed into the spatial definition of collective values in the third project. In 'Seosomun Park', synthetic time informs the construction of collective consciousness and its relationship with history, bringing the possibility of processual forms of landmarks and icons in the city. Located at a historic site in the heart of Seoul, it provides the status of a landmark with great historical values; as a market, a major gated route into the fortress of the Joseon Dynasty (former Korea) and a place of pilgrimage for Catholics since 1784. The scope of the project is to build a new church, maintain the destination as a park but integrate it into new planned transportation nodes.

The scale of the church and its relationship with the urban fabric has historically emphasized its position as a landmark, an icon and a place; this historical condition is challenged by the continuous constructions of space, time and value in the existing context. The question is whether time as design material can turn this challenge into projective forms of new meanings. In order to

answer this, the project proposes a combination of fixed elements of the landscape, with a form of coded proposal that can evolve over time and is linked to a public design interface.

The project begins with the creation of a landmark by emphasizing its underground condition. It excavates the ground, constructing an imaginary archaeology and unveiling historical traces, two circulation routes are defined. One is dedicated to the religious people and defined by an ambulatory pathway that connects ground with underground (Figure 5). The ambulatory keeps the character of the park but encloses the church into a static condition emphasizing its solemnity. In contrast, the west edge of the pedestrian paths encloses a dynamic landscape that is situated in a lower level (Figure 6 & 7). This dynamic landscape is composed of a constantly mutable riparian landscape (redirection of a previously diverted river) a number of fixed components (hard paved embankments) and a number of semi-permanent components (planted edges). The location of the semi-permanent components can be facilitated through an interface that orchestrates a proxy model and a planting scheme (Figure 8). These in turn affect the riparian landscape and, over time, finalize the form of the fixed components. The final aim is to propose a landscape design that continuously

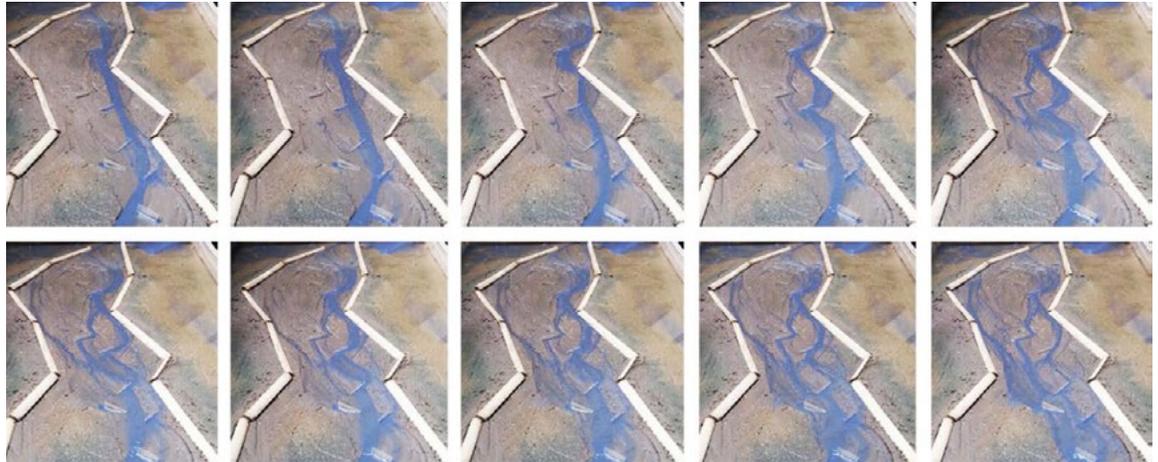


Figure 6.
Proxy model

builds a relational interpretation of historical layers through landscape performance, unveiling the creation of new meanings.

An immersive position towards the environment is currently overtaking the academic debate within the praxis of digital design; coming from the belief that this will move designers away from the distant, technocratic and passive approach to 'the Territory' that has been dominant up until the advent of the environmental movement. In this context, and aided by new digital techniques of data capture and simulation, designers have situated themselves in a blurred condition between natural and artificial, rendering the surroundings as "socio natural setting which pre-exists the production of new things". This condition, as Picon points out in his article 'What happened to the Territory' does not prevent us risking a "return to a magical world animated by forces that escape human characterization". The challenge still remains as to how to unveil and engage with its inherent political tensions.

In Conclusion

In the previously described projects, the designer places rules and algorithms (both computational and digital) and design guidelines for others (park users or urban stakeholders) to contribute towards the final result. This idea of shared spatial agency, linked to particular types of

documentation, is described by Mario Carpo in his book "The alphabet and the algorithm". What this article argues is that the engagement with novel forms of documentation and interaction can bring new regimes of authorship, ultimately leading to a relational form of understanding of the design of space, time and value. The challenge would be to maintain a constant awareness of the political and conflictual nature of the decision behind spatial agency.

A synthetic thinking of time enables humanistic forms of algorithms, bringing back important aspects in creativity such as feelings and intuition. This article advocates that, in the future, digital design practices should move towards tailored design toolkits that act as mediators between the designer and the different actors involved in process of territorial formation. This form of openness and variability will allow unveiling political tensions during the design process facilitating discourses of utopian processes.



Figure 7. (Above)
Church entrance aerial view

Figure 8. (Opposite)
Seosomun park and church
bird's-eye view

