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Toolkit design methodology / Architectural project by use of classification and taxonomies

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Abstract

The paper is focused on a methodology carried out to approach landscape and urban design, on the base of a codified process, during an international design workshop that took place in Shkodra. The fragment comprises the mouth of the Buna River, ranging from the Albanian part of the delta to the western side of the marsh. The even landscape changes drastically every year, and often more than once, in a waterbed with houses and stables apparently floating on it. Moreover, informality along the street and the coast spread unfinished buildings, reducing the draining capacity of the area and putting in danger those who decided to move there.
Here we suggest a methodology built on a system of localized interventions. As Jan Neutelings pointed out, we need to find new metaphors to read those diffused cities that do not establish a recognizable relationship between the inside and outside, figure and ground, city and countryside, as they provide green spots, which contain built spots too. His metaphor of the patchwork, deflated the idea of a comprehensive large-scale design conducted by an isolated agent. We should not forget that Albania admitted the rules of the free market only during the 90s, at a mature stage of the European liberalism, causing an explosive run from state-owned lands to fragmented private properties. Then the main issue is the distance between the author (of the plan) and the user, and the way the latter can bend and transform certain rules according to his needs.
The proposed design is a soft landscape infrastructure that analyzes the overlapping artificial and natural pattern striving to enhance the natural diversity of the area, though addressing natural and human threats. The overall process is intended as an architectural toolkit that gathers three steps up to the final strategy: the formation of an analytical tableau; the visualization of a new geography; the definition of the architectural toolkit.

Introduction

The paper is focused on a methodology carried out to approach landscape and urban design, on the base of a codified process, during an international design workshop that took place in Shkodra (northern Albania). According to the curator's view, the overall picture of the territory is meant to be a juxtaposition of projects carried out individually. In our case, the fragment is the one that comprises the mouth of the Buna River, ranging from the Albanian part of the delta to the western side of the marsh. Namely the access of Shkodra to the sea. Here is an alluvial plain bordered by a thin and long ridge that stretches North-South. So that we can consider this mountainous formation as a natural threshold to the plain that separates two spatial domains: that of the coastal marsh, and that of the city-lake. There are only two small interruptions, and one of the two lets the street from Shkodra reach Velipoje and the seaside. During the rainy period, the basins around Kukes (Albanian Alps) need the dam to release abundant waters that will eventually flow down along the Buna. Because the

Fig1 / Concrétisation du tube électronique
source / Simondon, 1958

aforementioned ridge retains this water, the even landscape gathering farmed fields changes drastically every year, and often more than once, in a waterbed with houses and stables apparently floating on it. Moreover, informality along the street and the coast spread unfinished buildings, two-level houses as well as five-story apartment blocks, reducing the draining capacity of the area and putting in danger those who decided to move there.

Even if the real estate pressure diminished the attractiveness of the landscape, we do not believe that the actual scenario of urbanized countryside would be still reversible. For these reasons, the community[2] would probably reject and antagonize a fixed long-term project. We rather suggest a methodology built on a system of localized interventions. And more specifically a number of tools that are flexible in their implementation to a certain degree. While we will later clarify how the terms "tool", "system", and "flexibility" affect the project, is now useful to introduce the metaphor of the toolkit.
As Jan Neutelings pointed out[2], we need to find new metaphors to read those diffused cities that do not establish a recognizable relationship between the inside and outside, figure and ground, city and countryside, as they provide green spots, which contain built spots, too. His metaphor of the patchwork (Neutelings, 1990), as well as that of the archipelago (Ungers' manifesto for Berlin) (Hertweck and Marot, 2013) and many others, deflated the idea of a comprehensive large-scale design conducted by an isolated agent (architect, office, or institution), preferring a process of identification of single patch/ island as minimum spatial unit to be designed individually. Very often these reference images are taken from biology and other sciences. We should not forget that Albania admitted the rules of the free market only during the 90s, at a mature stage of the European liberalism, causing an explosive run from state-owned lands to fragmented private properties. Then the main issue is the distance between the author (of the plan) and the user, and the way the latter can bend and transform certain rules according to his needs. And most importantly how to control the outcome of a series of individual agencies or a collective one occurring in different times. As an example, these actions show a parasitic pattern along infrastructures (as it occurs along the street connecting Shkodra and Velipoje). Given the lack of a proximity relationship, the resulting geography cannot be understood as a spatial composition but rather a system of distant relationships based also on economic and social relationships. In our case, see the vicinity to Montenegro and the seasonal tourism due to the sandy beach in Velipoje.

The proposed design is a soft landscape infrastructure that analyzes the overlapping artificial and natural pattern

1 / Here considered as the sum of farmers, seasonal and long-term inhabitants, users, tourists.
2 / See Jan Neutelings' interview by Carlo Pisano (Pisano, 2018).

Fig2 / Juno and her handmaidens seated before the painter Zeuxis, and Parrhasius rushing to unveil his painting before a group of observers. Engraving by J.J. von Sandrart after J. von Sandrart source / Wellcome Library no. 34375i, London

striving to enhance the natural diversity of the area (wetland, meadow, rural area, coast, urbanization), though addressing natural and human threats.
Thus, the analysis of the context, considered as the dialectic tangle of built and rural system, consists in isolating the main features of a place that could trigger new scenarios, interacting by their size, position and material quality. The overall process is intended as an architectural toolkit that gathers three steps up to the final strategy: the formation of an analytical tableau; the visualization of a new geography; the definition of the architectural toolkit.

The formation of an analytical tableau

The formation of a tableau is essentially based on the work of reading the territory with an object-centred approach to spatial analysis. Mainly grounded on the literature that investigated technical objects since the end of the nineteenth century, one can consider the set of architectures and natural elements as a system of objects that is continuously changing and expanding. In the same way, mechanization drove rapid updates of everyday items that directly affected the evolution of their form.

We believe the present form of an object is the result of a long evolutionary path, in which Gilbert Simondon, in his On the mode of existence of the technical objects, demonstrated the symbiotic relation between components and the system they make work together. He approached technical objects as biological species, studying their modes of existence in an evolutionary taxonomy (Fig. 1). Therefore, one can see his famous picture that depicts the (technological) evolution of the electronic tube, in which the autonomy of the component from the system (the circuit) reflects an individual formal evolution of the sub-object. For this reason, "if we wish to define the laws of the genesis of a technical object within the framework of its individuality and specificity, we had better not begin with its individuality or even its specificity but, rather, reverse the problem" (Simondon, 1958: 12). This means we have to start from the process of creation and then identify its individuality and specificity, since "an individual technical object is not such and such a thing, something given hic et nunc, but something that has a genesis" (Simondon, 1958: 12).

To expand this reasoning on the object and sub-object in aesthetics, let us take Cicero's narration about Zeuxis. He aimed at representing Helen of Troy, considered as the most beautiful woman in the world, gathering the best parts of young girls from Croton. Since he could not find a model graceful enough to be compared to Helen, Zeuxis composed five nude parts from the most beautiful virgins of the place (Fig. 2). In doing so, he probably triggered, during the 5th century BC, one of the first composite method to reach an ideal beauty. This composing process, that here we maintain it can be compared to that of architecture, was grounded on discrimination and selection (Crowley, 1998: 31). These two crucial actions

carry out an analytical reading that lets the creator grasp significant pieces of a manifold reality. Finally projecting a vision, in the form of an idealized image, that would re-elaborate, in a positivistic way, the biased original situation. Moreover, the initial selection of significant objects and details is not to be considered an impartial, pragmatic, phase, but rather the beginning of the inventive process itself, in which one has to define the rules of the game. Quatremère de Quincy underlined that each selection is driven by an outcome (Cramer, 2006: 29-31). It cannot be conducted in absolute terms and implies a number of criteria, according a specific cognitive position, to project the expected final image. Or better, the range of possible outcomes.

Such abstraction of reality is based on the possibility to find categories as well as erasing what is not important for the sake of the project. Binary reasoning activates certain spatial qualities while leaving, on the background, some others that could weaken or blur the comprehension of the initial setting. Inevitably, generalization takes the object to a state of "disengaging it of its accessories" in order to "bring as much of the object as is possible to the simplicity of its principle, to the moral unity of its nature"[3].
Finally, drawing and re-drawing activity of the territory entails a process of collection and classification. Artificial and natural features are framed in an encyclopaedic discourse, and understood as a system rather than an historical genealogy. Thus, one is able to compile a tableau of forms comparing natural and artificial layers, on the same operating table, based on their form, position, material, and dimension. Especially focusing on architectural consequences.

The visualization of a new geography

The creation of a world of forms is an inventive process that starts from a biased analysis of the context with the aim to set one's toolkit, where physical space is treated like an operating table and looked at by means of a medical gaze. As stated by Michel Foucault, pathological anatomy, through procedures that involved the cutting of corpses and observation of open bodies, later influenced the structure of other sciences. Especially concerning what was related to spatial knowledge as a new approach in scientific investigation[4]. In our case, Foucault's tabula "enables thought to operate upon the entities of our world, to put them in order, to divide them into classes, to group them according to names that designate their similarities and their differences – the table upon which, since the beginning of time, language has intersected space" (Foucault, 1970: xix).

In the history of architecture and geography, we have several exemplar classification projects from which to learn different inventive methodologies that created new geographies. At the urban scale, Giovanni Battista Piranesi, in his 1762 Il Campo Marzio dell'antica Roma, invented a radical image of the ancient Rome, making his historical and literal sources the sole instruments to arrange the reconstruction of an entire city. He mixed archaeology and invention, making monuments from literary sources and historical ruins overlap with a personal interpretation of "romanity", finally conveying an extensive megalopolis made up of large-scale edifices. So that Piranesi conveyed a utopian reinvention of an urban environment based on one's arbitrary experience. On these premises, Carlo Aymonino and Aldo Rossi expanded his methodology in the 1950s, employing the figure of the analogy to study the relationship between architecture and the city, mediated by history and memory. And they were probably influenced by Foucault's work on the deep structure of language and the way this structure generates new meanings (Boyer, 1996: 129-202). Piranesi also imagined a city that is the sum of large-scale edifices, anticipating the idea of bigness[5] that one can find in contemporary debate about urban morphology and social condensers.

Few years later Paul Marie Letarouilly conducted an important encyclopaedic survey, devoting 13 years to draw plans, sections, and elevations of sixteenth and seventeenth century architecture in Rome. The Édifices de Rome moderne (Letarouilly, 1840) is an open-ended project about the eternal city, and a formidable source for renaissance academies as an important reference for residential buildings. Counting on the three volumes of the book, the French architect

3 / Here Quatremère de Quincy is quoted in Cramer's text (2006: 30) in the context of its dissertation about selection-theory and abstraction-theory as opposed to the Neoplatonic process of inspiration.
4 / A detailed account on how Foucault's thinking is related to space, and architecture field as well, can be found in Foucault for architects (Fontana-Giusti, 2013).
5 / The word "bigness" is a successful term mainly related to Rem Koolhaas' theoretical work, from S,M, L, XL on.

Fig3 / Comparative size of lakes and islands
source / Colton, 1856

put the surveying activity at the beginning of a new architectural sensibility. He consolidated specific typologies, such as the Italian palazzo, and most importantly, he abstracted certain spatial archetypes that those building featured with the aim to mediate the public space, in order to be reused elsewhere as successful formulas. In many plates, for this reason, we can find dedicated drawings focusing on porticoes, loggias and niches.

The process of identification and classification, here proposed to be a fertile way of preparing the designing phase over a spatial domain, not only involves buildings and built environment in general, but also those natural features that have strong formal consequences on the city. One interesting collection of geographical objects collected on the same scale is the comparative tableau of lake and island, on the base of their size and form, formerly published in 1856[6] (Fig. 3). Due to iconic works published by important naturalists in that period, like John James Audubon's Birds of America, physical features entered the field of evolutionist theory. In that plate, it is as if an ornithologist applied the same analytic gaze of research on geographic entities, lakes and islands, on a unique scale, translating his methodology on a much larger scenario. That way of drawing a set of lakes from all over the world, must have caused a deeper understanding of water bodies on a global scale. Where the masses of more than one hundred and fifty lakes and islands of the Western and Eastern hemisphere gains finally their autonomy.

The definition of the architectural toolkit

The final stage is that of the operative toolkit, made up of objects and/or actions, condensing the idea of the overall design. That exercise understands the didactic value of simplification, which distinguishes what is essential from what is not: after the free-floating pieces of space have been detached from their original context, the newly designed set will depart from the typological interpretation of geographical information toward one or more expected scenarios.

The atomization of the architectural object is not meant to reduce problems, but rather to define a common ground to share architecture-related issues with different professionals and users. Selective interventions can be financed and discussed gradually, engaging the community on an object-based strategy conveying the iterative method to explore new ways of facing complex issues. Given that approach, albeit the overall designed structure can be latent for a time, it has to be holistic and clear since the beginning of the process.

Such elemental architectures compose the final project that acts as a new layer, comprising nodes and connections, establishing a genetic structure that could be modified and adjusted according to temporal and financial circumstances. The proposed methodology of design relies on a fixed palimpsest and a wider set of implementation possibilities that would face the manifold complexity of reality. Namely, a set of prototypes that have a

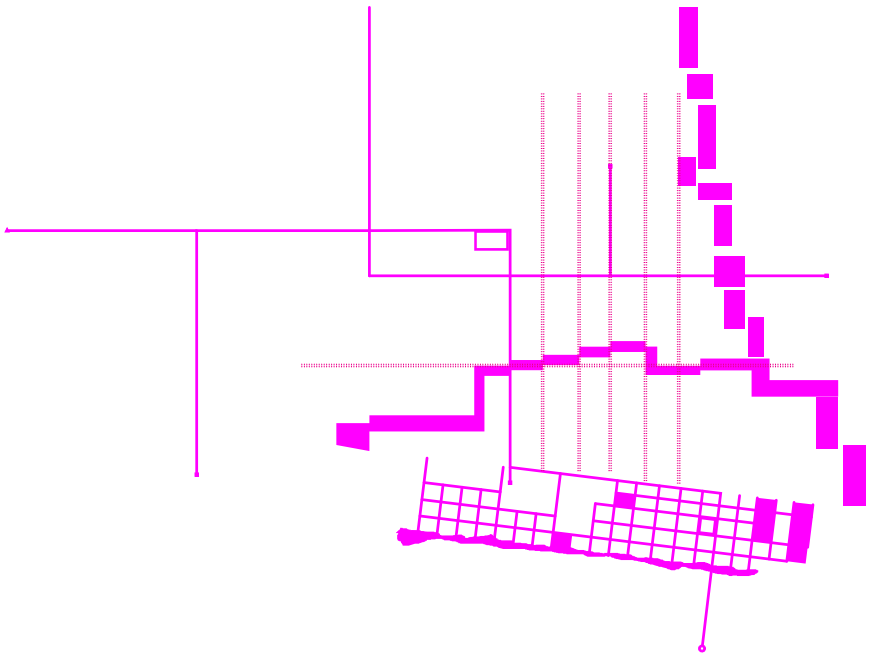

Fig4 / Diagram for Projecting Shkodra
source / the author

degree of flexibility when joining the actual context. Let us just think about the high level of unpredictability that proved the classical way of planning as not effective and paternalistic.

But, how an architectural prototype is meant to adapt when engaged in a real context? Heidegger proposed that "the place of beings is always derived from the contexture of serviceability" (Harman, 2002: 51) causing spatial objects to encounter their users at a determinate distance and with a certain direction. Then the tool, when facing reality, is closely linked to its context in a way that "the same object at different points in the tool-system is actually a different object in each case, since it acquires a completely different equipmental effect" (Harman, 2002: 52). In our case, each object shows certain spatial hierarchies and relationships with the ground, while providing those designed qualities that work on the above-mentioned territorial features.
The circularity of the process allows us to start few essential operations, check their efficacy, and finally resume the main plan with a higher level of implementation, leading to the expected results.

Conclusion

During the workshop "Projecting Shkoder. Operative fragments between lake, river and sea" (Tirana, February 2017), the toolkit design strategy has been tested on an assigned area, in northern Albania, comprising the delta of the Buna river, the village of Velipojë, and a wide alluvial plain. The proposal (Envisioning Nature) is a process of spatial signification that hinges on a series of artefacts unfolding the potential of a specific location with specific landscape features. The expected result would be an intelligent network overlapping as a new layer on the natural and artificial environment. Envisioning Nature enhances a soft landscape infrastructure that relies on the natural diversity of the area: wetland, meadow, rural area, coast, urbanization (Fig. 4). In the urbanized area, Velipoje follows the "satellite concentration" strategy in relation to Shkoder. Given the predominance of residential informality, urban area requires a clear limit, amenities and strict measures to regain the balance with the natural environment. Main goals would be a pedestrian promenade, reducing coastal erosion at the same time, and designed paths that take advantage of the existing rural network. In the rural area, a large logistic structure is provided. Agricultural land is meant to be consolidated, while riparian corridor establishes a better protection of the land from flooding risk. A pattern of woods would enhance pavement permeability, a network of environmental observatories would help monitoring health-related issues, irrigation channel would be regenerated.
At the end, a multiscalar toolkit combines

6 / Published in Colton's Atlas of the world, illustrating physical and political geography, by George W. Colton, accompanied by descriptions geographical, statistical, and historical, by Richard Swainson Fisher.

water and air quality assessment, emergency structures, and watchtowers. The latter, referring to that ottoman system of watchtowers that used to read the Albanian geomorphology, would give prominence to the most important spots of the landscape.

The landscape toolkit is composed of wooden boardwalks (beach access and services, erosion prevention); riparian units (biodiversity connections; agricultural consolidation); irrigation channels re-qualification (implementation of canal water quality monitoring programmes, aquatic vegetation removal tree planting). The mid-scale urban toolkit provides a Bazaar (flexible public space for events, fairs, exhibitions, and recurring markets); logistic centre (collecting agricultural goods and storing agricultural machinery). Finally, the lower-scale architectural toolkit comprises a water platform (viewing platform, landscape photography, natural resources, monitoring water pollution, flooding measurement, leisure); circular watchtower (workshops organized by Marubi Museum, landscape photography, bird photography, natural resources, flooding measurement, risk management, controlling wild life related practices); Observatory (viewing platform, landscape photography, monitoring water pollution, flooding measurement, controlling wild life related practices, leisure); watchtower and storage facility; river dock (platform and services related to the navigation of the Buna River).

This framework of objects conveys a number of spatial milestones, everyone connected to the main grid, gathered in an overlapping layout that reacts to the weakness of the starting situation.
Given the naturally instability of the landscape, due to massive floods that happen to invade large pieces of land, the more the object is near the coastline, the more it interacts with the uncertain form of the water. This is precisely what we are interested in: understanding and operating with new tools, borrowed from other disciplines, to deal with complex and uncertain scenarios. The perceptive dimension would be fundamental as well, since these objects convey an empirical reading of the structure of the territory. In saying so, they activate new perspectives and render the possibility, on the behalf of the local population, to discover new ways of enjoying their own landscape.

In the belief that even the structure is questionable, let us just imagine the possibility of defining a set of architectural tools (Fig. 5), followed by a gradual implementation of an overall strategy, in which the target places, its community, its environmental condition, contextualize the object. And finally, a mature stage in which the genetic structure of the site already evolved toward a future setting.

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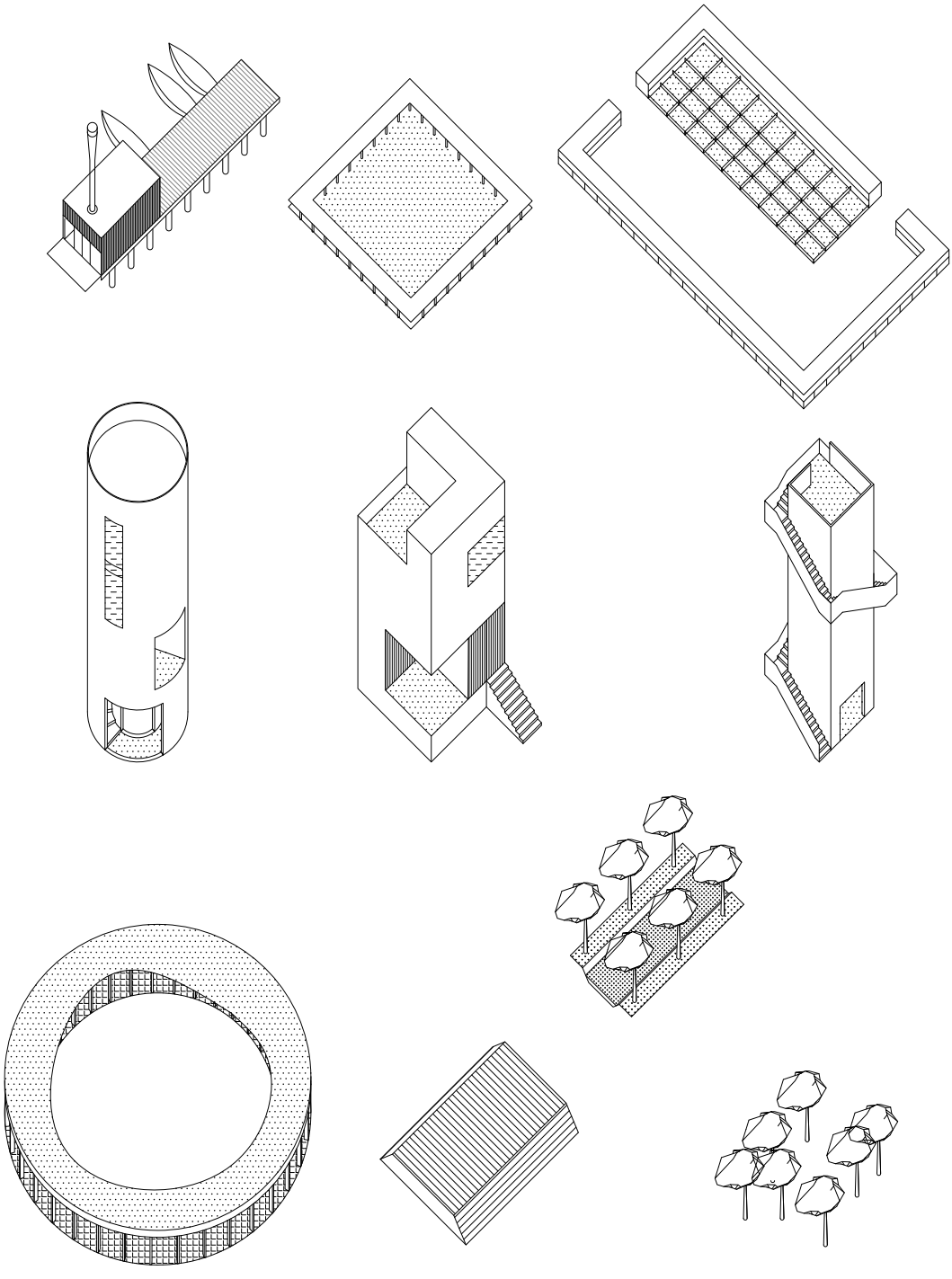

Fig5 / Architectural toolkit for Projecting Shkodra
source / the author