Chapter 2
Anatomy of a Mutating Landscape

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It has become extremely important to revisit our overall design field in consideration of the impressive and sometimes overwhelming progress that the technology available to document, analyze and represent the complexity of our built and natural environments has reached, and also of the role that it has been proactively playing in affecting our way of thinking, designing and building. A renewed "theory of formativity" (Pareison, 1991) characterizes a knowledge that is generated by a constantly transforming process of "making,"[1] in which methodologies, theories and learnings arise within the actions of designing and building across dimensional scales.

2.1 "Transforming Data-Scapes"

The several levels of accessibility often simultaneous, to various sets of information have changed drastically through the use of heterogeneous and adaptable media systems, deeply tailored on the needs of each individual, and yet strongly interconnected in limitless and layered networks (Negroponte, 1996).

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[1] Interestingly the Greek etymology of the word 'poetic' comes from the verb 'ποιεω,' which means 'to make,' to operate through conscious actions which also have immaterial effects. This also refers to the way M. Heidegger used the same word 'ποιεω' as connected to the word 'poetic,' being that the only way for humans to inhabit a space, transforming it into a place through the introduction of poetic implications.

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We are called then to manage a more sophisticated complexity of interactions across fields of knowledge, scales and pace of their evolution, and the emerging of a holistic understanding of the global systems of actions and reactions that characterize our current environments understood through their mutual connections. The overexposure that involves both individuals and collectivities, introduces an unprecedented level of ethical issues about the authorities in charge of collecting and managing the data-scapes available, their legacies and purpose of their utilization, especially when some of these can alter worldwide social behaviors, political decisions and financial settings. Moreover, considering that decisions and strategies adopted at political and economic levels end up affecting people/societies and places/territories far from the source, the issue of selection and dissemination of the information becomes absolutely relevant. This factors characterize our daily life and the spaces within which subjects—physically and/or virtually—move or better flow, formally and informally. Before us is a diverse and often rhizomatous horizon of information, which must be sifted to find what is truly essential. It is critical then to develop tools and strategies to filter and critically select the data which are most effective for the understanding of phenomena both physical (climate change, ecological footprint, etc.) and ephemeral (social behaviors, informal use of space, etc.) characterizing our current landscapes, and the possible directions for their evolution.

We developed advanced and interconnected tools to record, decode, describe and represent these evolving info-scapes that we are part of, leading to a renewed semiology that is often difficult to translate into syntax, being in a sort of self-celebratory aesthetic limbo, in which the originality of the representation of the data can be disorienting and misunderstood with the usefulness of its applicability. The ways we communicate the data seem to become more relevant than their translation into effective strategies or design applications, and of the reality of spatial structures and experiences that these generate. Their conversion in proactive strategies to operate into a context, should be anyhow one of the main purposes of such availability of information, overcoming a sort of paralysis of the action as consequence of an overwhelming quantitative collection of the information itself. In this way, the transformation processes can become more sustainable at multiple levels. Therefore it is necessary to be aware of the possible reactions of a context to the changes introduced by a new action—in short and long term and at a local and large scale—in terms of both space and life quality, and towards the definition of more resilient hybrid narratives. These are the ways through which the same data with their several levels of abstraction, can become real and effectual, connecting individual and collective biographies to the ones belonging to places and territories, exploring and redefining grounds for "landscape urbanism" (Waldheim, 2012).

Accessibility to information about demographics, physical characteristics of spaces and habits of inhabitants has become today certainly more available, detailed, and also predictable through sophisticated devices, which are capable of realistically envisioning several scenarios. A crucial point is then how to critically filter among these data the ones that can be truly useful and proactively influential for the articulation of more strategically located, balanced, sensitive, and site specific design proposals which can work as operating catalysts. It's important to select and
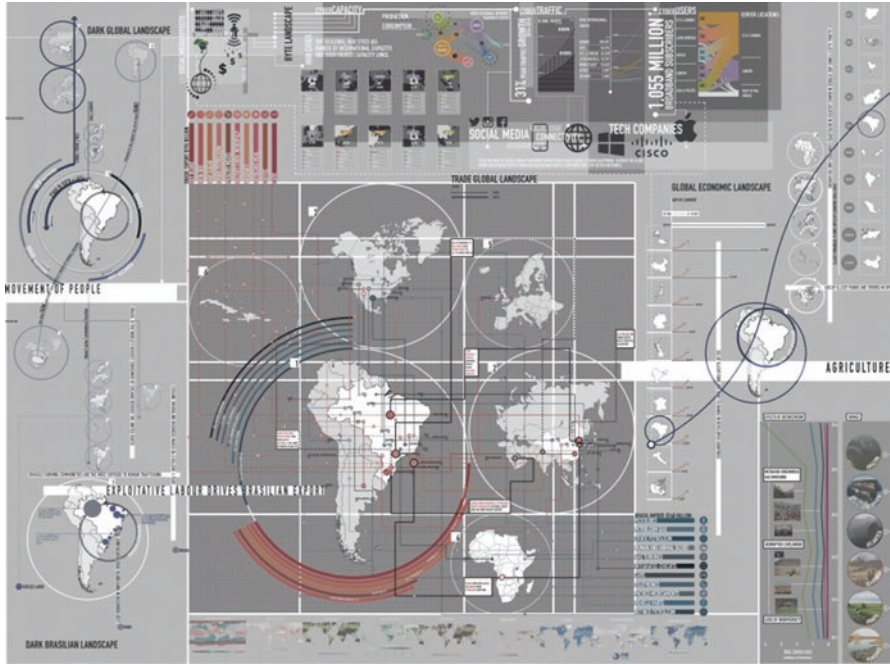
Fig. 2.1 Mapping and diagramming global movements, legal production, trades and illegal traffics. NYIT- School of Architecture and Design. Thesis 2019 – Rio de Janeiro, Brazil. Students: S. Delgado, T. Ferreira, Y. Prior, C. Wade

cross relate the available information to deductively direct outputs towards a better and more integrated understanding of the present contextual conditions, framed accordingly to the historical awareness of their evolving paths, and oriented towards coherent and imaginative visions for the future (Fig. 2.1).

2.2   Global Geographies and Local Cultural Landscapes

We are asked today to develop tools and knowledge to proactively participate to the construction of our environments, upon and because of the understanding of complexity and correlations among the various dynamics—political, economic, social, ecological, technological, anthropological—which are the primary causes that have been shaping and reshaping our global geographies, as well as each locality that is part of it. These dynamics take then the forms of choices made by decision makers and investors, public institutions, administrations and private agencies, becoming possibilities to improve our cities and the quality of our lives. Operating towards understanding and prioritizing the issues that generate the problem in the first place, by more than just dealing with the effects deriving from these, and being aware of

the systemic connections among phenomena of transformation, will eventually nourish a different generation of thinkers and makers, more sensitive and creatively engaged in their personal and global cultural landscapes. They will be also qualified to envision and participate in creating the new institutions, structures, entities and sets of rules needed. Being aware of the consequences of their actions, and of reactions and dynamics that certain choices will initiate, at the same time they will perhaps have a better understanding of the real reasons at the base of those choices and the intricate network of correlated causalities, so they will operate to modify malfunctioning processes and doing so, potentially break unproductive and unfair cycles.

A generation capable of constantly integrating and proactively moving between thinking, researching, and creating, will critically react to the changes and be able to direct them, envisioning and producing new knowledge and renewed professional contexts and tools, which can holistically take care of our environments. In this perspective the construction of a building, a portion of city or of an entire metropolitan area, becomes an opportunity to experiment and verify theoretical, methodological, morphological, typological and technological possibilities. This leads to more sustainable and integrated infrastructure, services, living, producing, working and leisure spaces considered as integrated systems of both natural and manmade materials and tectonics, guaranteeing a more balanced and equal future for our societies. Academic environments can therefore become the places where these collaborative experiences can start nesting, where the gap between thinking and doing is bridged through investments in our human capital, the students and their entrepreneurship, the creativity of their ideas and their innovative approaches to problems, or their original vision in recognizing and strengthening potentials, free from preconceptions. In this perspective, information metabolized into knowledge become fundamental media to reach awareness and expertise. This same expertise should result in an inspiration to push further, envisioning and experimenting with what is new, conquering challenges and learning form defeats, all while engaging in productive alliances and shared intuitions across disciplinary boundaries and beyond consolidated and predetermined structures.

This scenario delineates then a renewed synergy between fields of action, which describes at the same time a new humanistic approach that positively integrates scientific and pragmatic knowledge, classic[2] theories and the most advanced applications of science and digital technologies. Here we find the need for a truly collaborative and interdisciplinary coordination among backgrounds and areas of expertise that are involved in the expression of our mutating landscapes. Along with this, new procedures and administrative structures will be needed as professionals seek to design processes that ask to be understood at the scale of complex territorial systems but simultaneously come from and characterize the one-to-one dimension of the locality. These have to be recognized within the ecological, economic, social and cultural complexity of our diffused and diverse urbanizations in a more resilient

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[2] The notion of "classic" it's here understood as sort of authority which doesn't over-impose itself to a context, but it's spontaneously recognized because of being meaningful despite the time distance, and since ontologically related to the historical nature of the being that confirms its value across the times. This approach is further developed and documented into the book by Hans Georg Gadamer, Verita' e Metodo, Italian transl. by Giovanni Vattimo, (Studi Bompiani Ed. 1983)

way, referring to larger and layered space and time dimensions to better understand their evolutions and mutual influences.

The need for design choices and strategies that operate across both local and large contexts—often coinciding with vulnerable post-industrial environments, or iper-dense informal urbanizations—is dramatically manifesting its relevance almost every day on lands and communities. Therefore there is an equally serious need for more consistent and coordinated actions across territories, as well as institutional and geographical boundaries. We must stay aware of the systemic connections among phenomena globally, for decisions that must go beyond specific political and ideological positions and their time frame, to guarantee a shared, accessible and equally distributed well-being. There should be then a consolidated understanding that even though ideological differences and contrasting positions are vital in a democracy to keep the dialogue alive and push constantly to do and be better, a common ground of values and priorities has to be established to protect the survival of our planet, which means also our future. This understanding points to the need of working together towards rights and equity[3] for all (Fig. 2.2).

2.3 Renewed Mapping Processes

Learning how to decode and represent the complex and multilayered systems of cause and effect through a new integrative and dynamic "agency of mapping" (Corner, 1999) will become even more relevant for the future generations, and equally important for the definition of a new professional expertise capable to operate within our landscapes often characterized by a variety of conflicts and vulnerabilities that must be addressed by more holistic design proposals. This renewed way of mapping focuses not only on statically describing the physical conditions of a territory and the locations of the structural elements that identify it, but also represents/diagrams the interactions between visible and hidden phenomena referring to natural and cultural behaviors and social beliefs historically layered to a place, the symbolical and perceptual values that have been defining the anthropological evolution of it, framed in a geopolitical perspective. This, along with a new understanding of the relevant role played by the ecological dynamics within our territories, and the intricacy of their effects across time and place—mostly as consequences of series of human choices and behaviors—have made it necessary to experiment with mapping as a more dynamic, performable, technically evolved and most of all design oriented tool. This must also be understood as a methodology to decode complexity, capable not only of describing elevated levels of processing, but also offering the ability to critically synthetize and interrelate data and phenomena to enable a deeper understanding and potentially a better way of anticipating and preventing problems, also in a spatially localized perspective (Fig. 2.3).

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[3] The term equity and not equality is used on purpose. Unlike equality, which refers to treating everyone in the same way and giving everyone access to the same opportunities, equity refers to the proportional representation of race, class, gender, etc. in those same opportunities. Therefore to achieve equity, policies and procedures may result in an unequal distribution of resources.
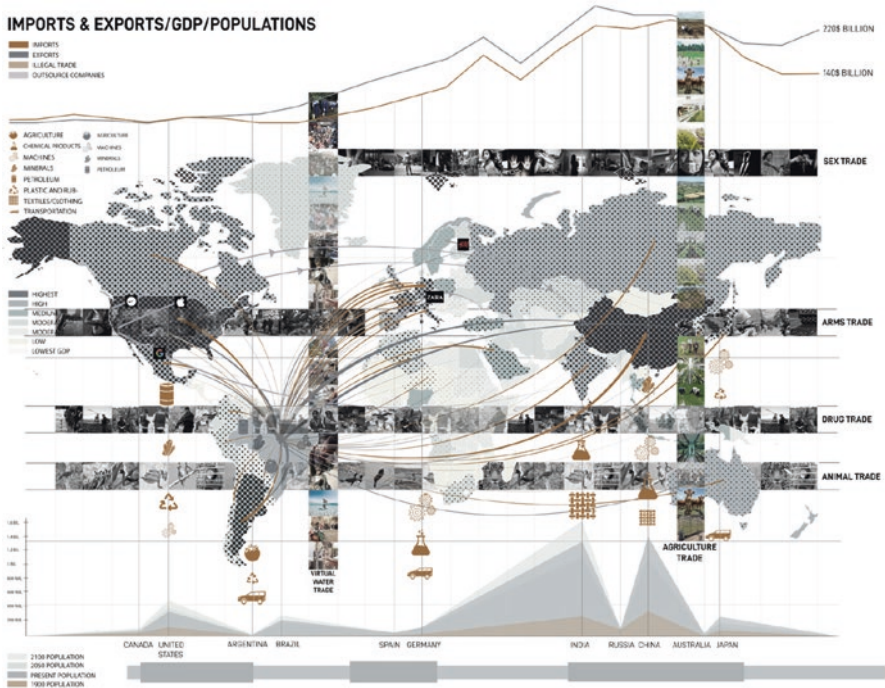
Fig. 2.2 Mapping and diagramming global flows, demographics and wealth, and their effects on processes of environmental growth and decay. NYIT- School of Architecture and Design. Thesis 2020 – Rio de Janeiro, Brazil. Students: H. Ahn, P. Mendoza, S. Moral, H. Patel

2.3.1 Mapping as Meta-design

The mapping process becomes particularly relevant as an integrated part of every design proposal, especially the ones operating in vulnerable contexts characterized by transforming processes formal and informal, of shrinking or fast growth of built and natural landscapes. These occurrences can be deeply understood and sustainably managed only if considered as parts of larger and more complex territorial and extra-territorial systems. The design approach deriving from this processes of mapping becomes then itself not only an indispensable tool to understand the complexity of dynamics that are often hidden and ambiguously layered, but it's also a possibility to rethink the existing systems of production and distribution of resources and information in a more sustainable way.

Here the thresholds between research and work in the field merge and mutually enrich each other, creating a stronger awareness about the responsibilities of designers/planners at the multidimensional scales of their interventions and in various connected sectors. This responsibility has to be accepted and proactively embraced also within the renewed learning environments of our schools, which will then produce professionals who have a clearer vision and a deeper understanding about how to lead and coordinate changes that require multidisciplinary teams, considering the implications of their choices as an integrated part of the design process.

Fig. 2.3 Mapping and diagramming cause/effect processes regarding global phenomena of pollution, and their consequences on natural and human capital. NYIT- School of Architecture and Design. Thesis 2020 – Rio de Janeiro, Brazil. Student: Himesh Patel

The mapping/remapping as meta-design project is then not only a way to analyze and record processes of transformation across several dimensional scales and fields of issues, understanding the reciprocities of their cause-effect conditions, but also crucial part of the actions of re-envisioning while discovering, necessary to originate and nourish better design choices. These become then understanding of the operating issues beyond their formal expression, and rooted into territorial and cultural conditions. It's a way to "re-write" the narrative of a site that assumes then the connotation of a place, in which proactive choices find their expression through an

Fig. 2.4 Mapping and diagramming anthropological processes of transformation and their inner connections with productive and natural landscapes, and living habits. NYIT- School of Architecture and Design. Thesis 2020 – Rio de Janeiro, Brazil. Students: H. Ahn, P. Mendoza, S. Moral, H. Patel

open, performable and integrative "strategic plan" as evolution of the modernist idea of a predetermined, formulaic and abstract "master plan." This new plan explores and coordinates as sort of neuronal system, the several possible processes of metabolic change that, involving a metropolitan region more than an urban sector, are expression of phenomena simultaneously deriving and affecting global territories and specific localities. These phenomena are often effect of undeclared, hidden and illegal dynamics that, driven by strategies of profit, power and control, yet often misunderstood by some leaders as ideologies and beliefs, have deep consequences on our natural, built and social environments, originating conflicts that are difficult to eradicate, and at the base of inequality and injustice (Fig. 2.4).

2.4 Action in Place: Strategic Plan and Sensitive Locations

Taking form from the need of decoding and proactively react to the previously described dynamics, the strategic plan integrates systems that engage the complexity of ecological, infrastructural, cultural, technological, political, and economic layers, understood in their plural and mutual cross determinations, and approached in their continuous evolving, not as separated entities in which the urban structure has a self-referential, ultimate and determined role of "master." The understanding of human behaviors, not always immediate, of collective and individual beliefs, of cultural belonging, merge then with the complexity of the geographic and ecological components of a place (Mostafavi & Doherty, 2010), a landscape continuously in-making, which is the result of the components described above, but at the same time also able to affect the way these components themselves have been changing, and will evolve.

Therefore the strategic plan describes, re-envisions and proactively challenges, structures, policies and at the same time space making tools and roles, the systemic interactions of physical and ephemeral phenomena, focusing on a qualitative more than quantitative approach. Introducing ecological processes of reclaiming, restructuring, reusing, recycling, etc. it rethinks environmental structures as spaces for an elevated quality of life. Furthermore this doesn't have any longer the "man," and even less a specific social/cultural/anthropological/gender oriented "typology of man" at the center, as the only inspiration and goal of the design action.

Within the complexity of the systems introduced, integrated and "spatialized" through the strategic plan, a selection of "sensitive spots" (Lefebvre, 2004) involving places with the highest level of resonance and density of issues/potentials, is identified and explored as landing agents through which disseminate the most effective actions from. These also engage a variety of specific micro-regions gravitating around the selected localities, still connected to the larger scale of issues that they belong to.

Problems of flooding and erosion, pollution and waste production, energy and soil consumption, unequal access to services and resources must be identified, mapped and resolved through the territorial localization of these sensitive spots[4] within the strategic plan, and the tools of an environmentally oriented urbanism. The latter has been on the rise as a shared urgency and as a counterpart to the lashing production of an oligarchy of star-architects around the world. In this context the creative component of a design proposal not only involves the original expressions of the form making, but also the architecture[5] of the overall strategy, of the methodology involved, and of the originality of the rethinking process of structures and systems (Fig. 2.5).

2.5 New Adaptable Paradigms

An environmentally oriented approach has to envision new sustainable and adaptable paradigms for networked metropolitan areas involving multidimensional scales, and also consider the uniqueness of each location. This approach begins with an overall understanding of the outcomes of decisions made at various levels and in contexts often different from the ones in which we are called to operate. Outcomes must be conceived of and included into the design process, in which the action can aid in finding the minimal formal and structural solutions that can then have the broader effects in activating a more resilient change and a better diffused

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[4] These locations are selected accordingly to their relevance within the natural/ecological and cultural/symbolic contexts, and they can vary in relation to the dimensional scale, even though these operate across them, from the local to the territorial one. They can also create and/or modify urban and metropolitan dynamics of accessibility, circulation, production and exchange, in coordination or in contrast to historical values and individual or collective agendas.

[5] Besides the primary definition of this word and its etymology which refer to the "art and practice of designing and constructing buildings," the use of the word refers here to its secondary meaning of "the complex and carefully designed structure of something" in terms of its conceptual frame and logical organization and correlation of its parts.
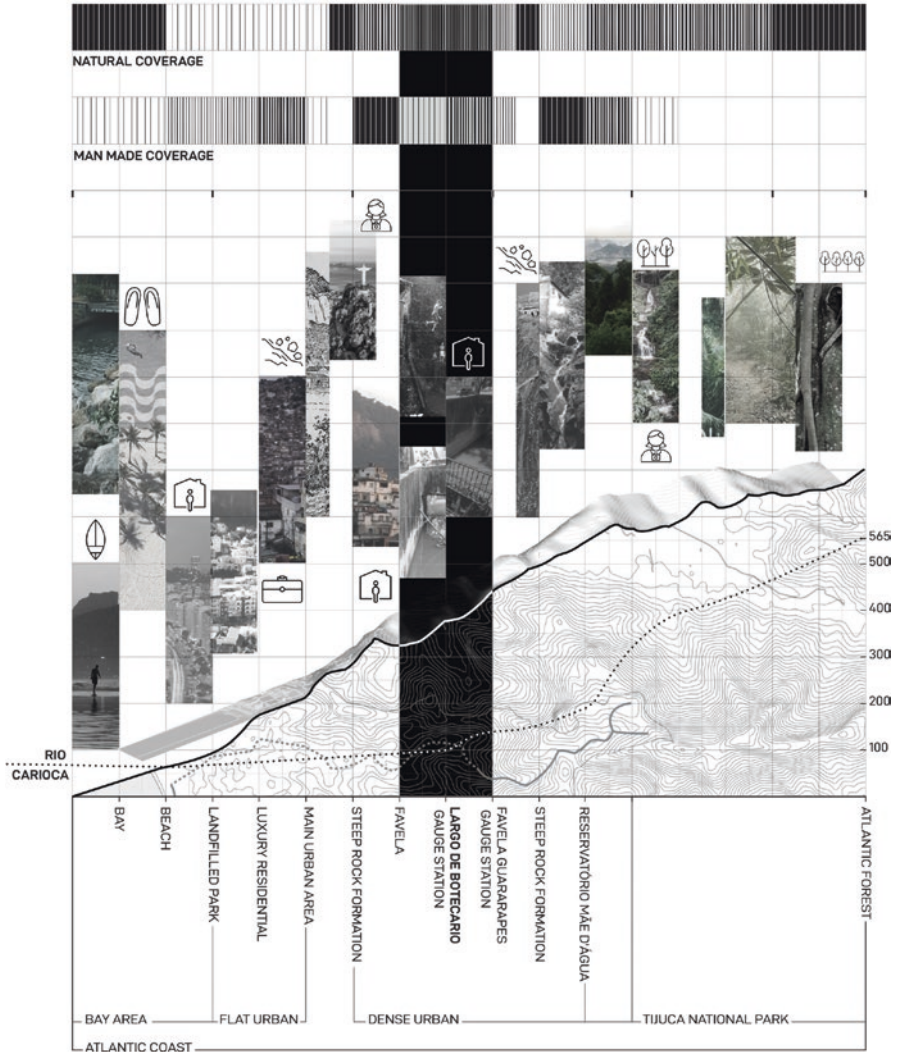
Fig. 2.5 Analysis of the territorial transept underlining correspondences between topography, urban morphologies, building typologies and cultural landscapes. NYIT- School of Architecture and Design. Thesis 2020 – Rio de Janeiro, Brazil. Student: S. Moral

environmental quality. The specific sensitive locations mentioned above, are then rethought and reclaimed through highly contextual and at the same time deeply visionary and experimental design interventions, becoming local mediators that perform as catalyzers and part of a more complex regional metabolism. At the small scale these work as epicenters of attraction, points of accumulation of territorial forces, and operating like permeable and multiscale clusters of exchanges, open to opportunities to rethink programs, structure, and methods of construction reducing the variety of existing conflicts, towards more resilient landscapes (Fig. 2.6).

Fig. 2.6 Strategic plan for the adaptive reuse of the abandoned power plant of the Italian energy company ENEL, and reclaiming strategies for the surrounding natural landscape. NYIT- School of Architecture and Design. Thesis 2019 – Santa Barbara- Florence, Italy. Student: Zandile Ncumbe

A renewed methodological approach arises from the arguments above and from the need for a more effective knowledge: open, integrative, adaptable, dynamic and truly experimental, in which re-thinking structures, organizational systems and their multiple interactions can overcome the rigidity of a model-oriented one belonging to modernism. It will integrate and build upon the knowledge and legacy of consolidated tectonic, typology and compositions, liberating them from the dogma of an aprioristic definition, through the deep understanding of their genealogical transforming processes, and towards their evolution in crossing scale "morph-typological" and "trans-typological" deductive schemes of possibilities and integrated design proposals that can be transformable and proactively adaptable accordingly to the specific contexts and their interactions through time. This new methodology reacts to and includes the understanding of the DNA of a context in a territorially extended physical perspective, but also geo-politically, geo-philosophically and geo-anthropologically (Gregotti, 2014) focused. At the same time a bottom-up exploration of the local characteristics, allows us to create a more sensitive tectonic, responding to the transforming needs of the users.

We all are called to positively embrace the challenges and explore new possibilities to do and be better, to be "agents of change" (Corner, 2014) responding to the needs of evolving contexts, and often anticipating and redirecting transformations towards a more equal and sustainable future for all, giving form to the anatomy of our mutating landscape.

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