Towards a Pervasive Affectual Urbanism:

Interspecies Encounters and Performative Assemblages of Contamination

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INTRODUCTION

Our inner mental ecology has been known to be fundamental for the meaningful and complete success of the notion of ecology[1]. Further demonstrated by the neurosciences[2], we have now assimilated the notion that we first empathize emotionally and physiologically with what surrounds us in a precognitive phase and only at a later time do we understand consciously the source of our aesthetic experience and, cognitively, its reason and meaning.
In order to investigate the concept of *digital and material contaminations* as a new way to conceptualize democratic design processes as modes of appropriation and negotiation of space, we have chosen to venture into the epistemological ecotone between aesthetics and cognition examined through the concept of *affect*. It is within affects that in fact, creativity emerges through perception and a cognitive approach to change and social action 'bridging aesthetics and political domain'[3] through a series of encounters between different ecologies and their becoming.

What the affect theory speculates is that our 'life potential comes from the way we can connect with others', by our connectedness and its intensity[4] to the point that such a challenge could be out of our direct control. It is a question of *affective attunement*[5] an emergent experience that becomes proto-political. And as any experience 'through a kind of instantaneous assessment of affect'[6] is strongly connected with the notion of aesthetics and cognition. The paper examines how both aesthetics and cognition could be the instantiators of a change of paradigm within affectual and post-humanist approaches to the design of our cities and territories.

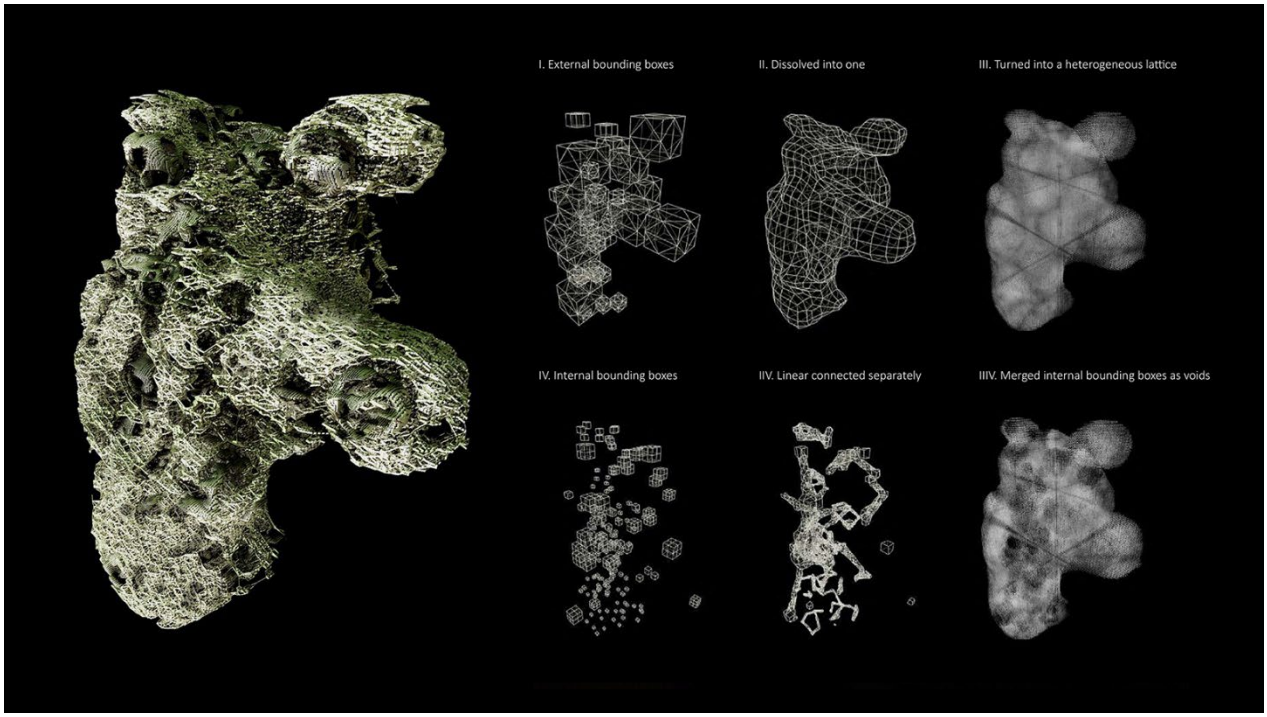

Figure 1: Ecognosis (Kehan Cheng, Divya Patel, Hui Tan), The Bartlett School of Architecture, B-Pro MArch UD, Research Cluster 15 2020-21 (Tutors: Annarita Papeschi, Alican Inal, Ilaria Di Carlo, Vincent Novak).

THE DIMENSIONS OF POST-HUMANIST AESTHETIC

Aesthetics can be defined according to its field of reference in slightly different ways: in neuroscience aesthetics is the neural manifestation of a process articulated into sensations, meaning and emotions[7]; in evolutionary biology, aesthetics is an adaptive system to environmental stimuli[8]; in an ecological discourse aesthetics is capacity to respond to the patterns which connect[9]; in philosophy and in specific in the context of Object Oriented Ontology, aesthetics is the root of all philosophy[10]. Above all, regardless of the framework of reference, aesthetics represents fundamentally a form of knowledge, and as such, it is a very powerful and uncanny conceptual device.

The choice to connect the topic of ecology with aesthetics is not only related to the idea that aesthetics is primarily a form of knowledge and because 'any ecologic discourse must be aesthetic as well as ethical in order to be meaningful'[11] but also because aesthetics has the power to attract affects and to convey difficult or ambiguous concepts like those feelings of ambivalence that often come along with the ecological debate.
As Morton states in fact the aesthetic experience 'provides a model for the kind of coexistence ecological and politics wants to achieve between humans and nonhumans […] as if you could somehow *feel* that *un-feelability*, in the aesthetic experience.'[12] As a form of semiotic and experiential information exchange, the aesthetic experience is our primary source of genuine human understanding.

Neuroscientist Damasio[13], demonstrates through a compelling series of scientific studies how emotions are essential to rational thinking and social behaviour. As well, the *embodied simulation theory* teaches us, that in a

precognitive phase we first empathize emotionally and physiologically with what surrounds us and only at a later stage we understand consciously the source of our aesthetic experience and, cognitively, its reason and meaning. 'Our capacity to understand the others and what the others materially accomplish does not depend exclusively on theoretical-linguistic competences, but it strongly depends on our socio-relational nature, of which corporeity constitutes the deepest and not further reducible structure. […]. In this sense, the aesthetic experience is a process on multiple levels which exceeds a purely visual analysis and leans on the visceral-motor and somatomotor resonation of whoever experiences it'[14]. In other words, such theory speculates that the same neural structures involved in our bodily experiences, our sensing, contribute to the conceptualization of what we observe in the world around us.

Aesthetics, however, is no competence nor ability nor property exclusive to human nature, it only depends on the different sensing apparatus of each agency or on what the proto-ecologist von Uexküll defined as the *Umwelt*, a specific model of the world corresponding to a given creature's sensorium.[15]
Being aware of this aesthetic 'perceptual reciprocity'[16], of this condition of mutual affects towards the environment, opens up to new perspectives of solidarities where multiple agencies, each one living through multiple temporalities and with their 'way of worlding'[17], participate in the remaking of the planet through their patterns of growth and reproduction, their polyarchic assemblages, their territories of action and their landscapes of affects. In fact, we need to acknowledge that the environment is constituted by an ecology of different forms of intelligence where humans are just one form of biochemical intensity[18].

This expanded notion of agency is further enriched by Bennett's vital materialism[19], which by ascribing to non-living systems their own trajectories and potentials, defines a multidimensional gradient that includes not only human and biological intelligences, but the natural and the artificial, raw matter and machinic intelligence, revealing opportunities of intersection, contamination, and collaboration. Her thought is about the need to recognise the vital agency of matter 'as the alien quality of our own flesh' [20] and a part of that 'Parliament of Things' or 'Vascularised Collective' mentioned by Latour in his Actor Network Theory[21].
This radical understanding of agency as a confederation of human and nonhuman elements, biological and artificial entities, opens some critical questions regarding equality, accountability and moral responsibility. As a form of rhizomatic Animism[22], it aims to reclaim and honour the mesh of connections and 'assemblages that generate metamorphic transformation in the capacity to affect and be affected - and also to feel, think, and imagine'.
And it is this capacity to affect and be affected that once again emerges as the effectual and necessary catalyst for creation and change as affects are implicated in all modes of experience as a dimension of becoming. They are located in a non-conscious 'zone of indistinction' between action and thought and they fully participate in cognitive processes[23].

This is a pervasive process that affects all scales of being singular and choral, from the mesoscale of large planetary processes, down to the nano-mechanisms of molecular self-organisation, entailing a new worldly disposition towards the nature of being collective. And it's precisely because of the trans-scalar and concurrent effects that this extended notion of agency produces while processing new interpretations and understandings of the world,

that when considering its impact on ideas of the negotiation and democratisation of space we should interrogate not only the larger mechanisms of collective sense and decision making, but the very processes of cognition, communication, and information exchange at its basis.

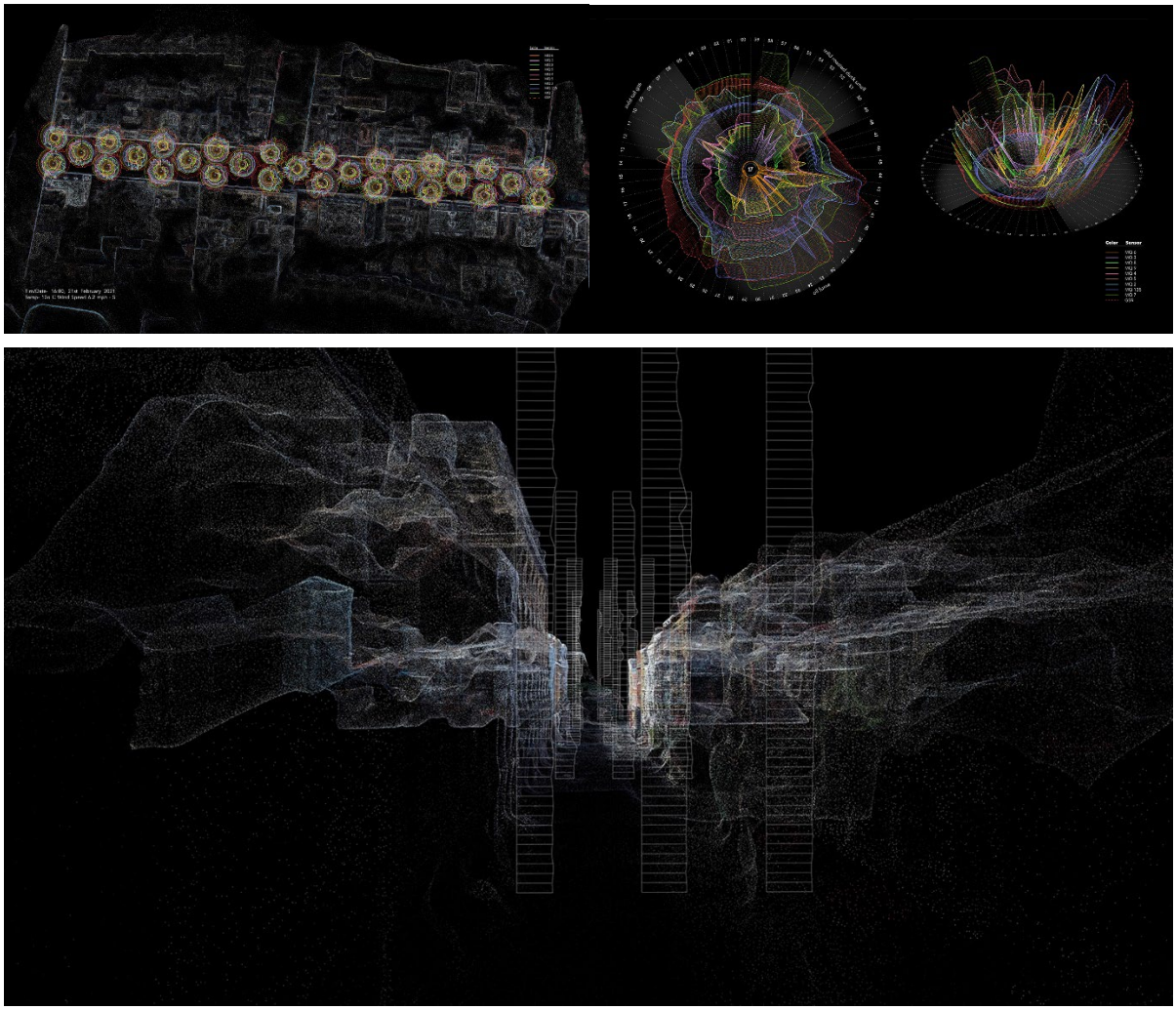

Figure 2-4: Civic Sensorium (Songlun He, Dhruval Shah, Qirui Wang), The Bartlett School of Architecture, B-Pro MArch UD, Research Cluster 15 2020-21 (Tutors: Annarita Papeschi, Alican Inal, Ilaria Di Carlo, Vincent Novak).

PERFORMING THE MANY VOICES

In recent publications, Hayles describes the idea of a *cognitive non-conscious* as the possibility for complex systems to perform functions that "if performed by conscious entities would be unquestionably called cognitive"[24]. Drawing from artificial and biological examples, she further explores a series of complex, adaptive, and intention-driven organisations that, performing within the domain of evolutionary dynamics, exhibit cognitive capacities operating at a level that is inaccessible to introspection.

Within this context, when considering the relation between human cognition and the *cognitive non-conscious*, she explains, the human interpretation might enter algorithmic analysis at different stages in a sort of dialogue that de-facto structures the potential outcomes of a *hybrid cognitive process*, where part of the interpretation might be

outsourced to the *cognitive non-conscious*, in a process that intimately links the meaning of the information produced to the specific mechanisms and the context of the interpretation, opening multiple new opportunities for the interpretation of ambiguous information[25].

Indeed, the argument about the potential and the perils of automation for decision-making is as relevant as controversial today. Parisi is significantly more critical regarding the current practices of human-machine collaboration, warning of the dangers of granular machine-generated content amplifying existing bias, or worst, being redirected for a purpose not pre-known. "Even if algorithms perform non-conscious intelligence, it does not mean that they act mindlessly"[26,] she argues.
Building on Hayles' argument, she further elaborates that while it is not possible to argue that cognition performed by non-conscious entities is coherent and able to link the past and the present in causal connection, it is possible for non-conscious cognition to expose "temporal lapses that are not immediately accessible to conscious human cognition". This is a process that sees algorithms not just adapting passively to the data provided but establishing new patterns of meaning to form coevolutionary cognitive infrastructures that, based on the idea of indeterminacy as a model for automated and hybrid cognition, avoid the primary level of feedback based on prescriptive outcomes and incorporate parallelism of learning and processing[27.]

These arguments acquire a particular relevance is further considered in combination with the theory of information expressed by Simondon, which formulated as an antagonist argument to Shannon's cybernetic theory of communication, argues how information is never found but is always expressed through a process of individuation of the system and, as the result of the tensions between the realities that compose the system itself, as the very notion that clarifies the modes through which these realities might become a system in the first instance. This is a process that, drawing on Simondon's notion of individuation as the process of social becoming leading to the formation of the collective subject, the *transindividual*, is inherently metastatic and emerging from the tension between the sensorial abilities of the system and its tropism[28].
And not only, does Simondon's notion of *transindividuality* and the resulting re-conceptualisation of ideas of knowledge and information constitute the basis for a radical reimagination of the process of becoming collective and building collective knowledge[29] but through the intersection with the speculative opportunities inherent in ideas of tropistic material computation these notions also offer the potential for an emergent rearticulation of collective sense and decision making, ultimately offering a protocol towards the exploration of their material, technological and aesthetic dimensions of new post-human and pervasive forms of authorship.

Attempting to account for the multidimensional consequences of altering the creative processes as a result of the construction of collective authorship as an inherently *transindividual practice*, the points made above imply a series of strategies oriented toward the definition of emergent meaning potentially able to capture the weaker voices and signals, including a focus on the diverse sensual and affectual experience of the participants, the orientation towards procedural indeterminacy and the exploration of material intelligence.
And if we consider them in their intersection with our initial idea of the environment as constituted by an ecology of different forms of intelligence, where the creation of *aesthetic assemblages of collaborative agencies* is intended as the entangled construction of space, time and value through the symbiosis of different forms of

intelligence defined by open-endedness and inclusiveness these ideas describe a new urban paradigm, where the notion of single human authorship with intellectual ownership and its aesthetic language is substituted by the concept of a collective of humans and non-human ecologies might recover the aesthetics' real, fundamental meaning, as an ecological category.

It is in the acceptance of these interactions and mixtures of interchanges and crossings of energies that we can finally detect that the old notion of quality as an essential, pure identity related to cathartic categories gave way to a more diffused and impure one,[30] not so much related to pureness, homogeneity, uniformity and refinement, but rather to a more complex meaning of sophistication by collaboration, *contamination* and exploitation of multiple resonances and superimpositions.

As Lowenhaupt Tsing advocates depicting how learning to look at multi-species worlds could lead to different types of production-based economies: "Purity is not an option if we want to pursue a meaningful, informed ecological discourse. We must acknowledge that contaminations are a form of liveable or bearable collaborations. 'Survival' requires liveable collaborations. Collaboration means working across differences which leads to *contamination*".[31]

These domains and agencies searched across other species, other ecological intensities, and other modes of cognition and reconfigured through computational technology, respond to a different kind of beauty, a filthy one, a revolutionary one, and an ecologic one. One that, as Morton preaches, 'must be fringed with some kind of slight disgust […] A world of seduction and repulsion rather than authority.'[32]

According to Guattari such ecosophic aesthetic paradigms, these collective assemblages, or abstract machines, working transversally on different levels of existence and collaboration, would organize a reinvention of social and ecological practices,[33] offering opportunities for dialogues among different forms of ecological intensities. and instantiating processes that would give back to humanity a sense of responsibility not just towards the planet and its living beings, but also towards that immaterial component which constitutes consciousness and knowledge. Such a change of perspective in terms of critical agency would inevitably bring along a change in what Jacque Rancière calls the *distribution of the sensible*, where sensible stands as the acceptation of 'perceptible or appreciable by the senses or by the mind'[34] in a definition that describes new forms of inclusion and exclusion of the human and non-human collectivity in the process of appropriation of reality. And since access to a different distribution of the sensible is 'the political instrument par excellence against monopoly'[35], we should treasure it for its capacity to allow us, borrowing Thomas Saraceno's words, "to tune in to the non-human voices that join ours in boundless connectivity canvases, […] proposing the rhizomatic web of life, which highlights hybridisms between one species and another and between species and worlds.[36]" This is a process that describes new trajectories for new forms of institutions where we shall consider not just individual democracy, but a democracy extended to other species, talking to us through the language of the machines.

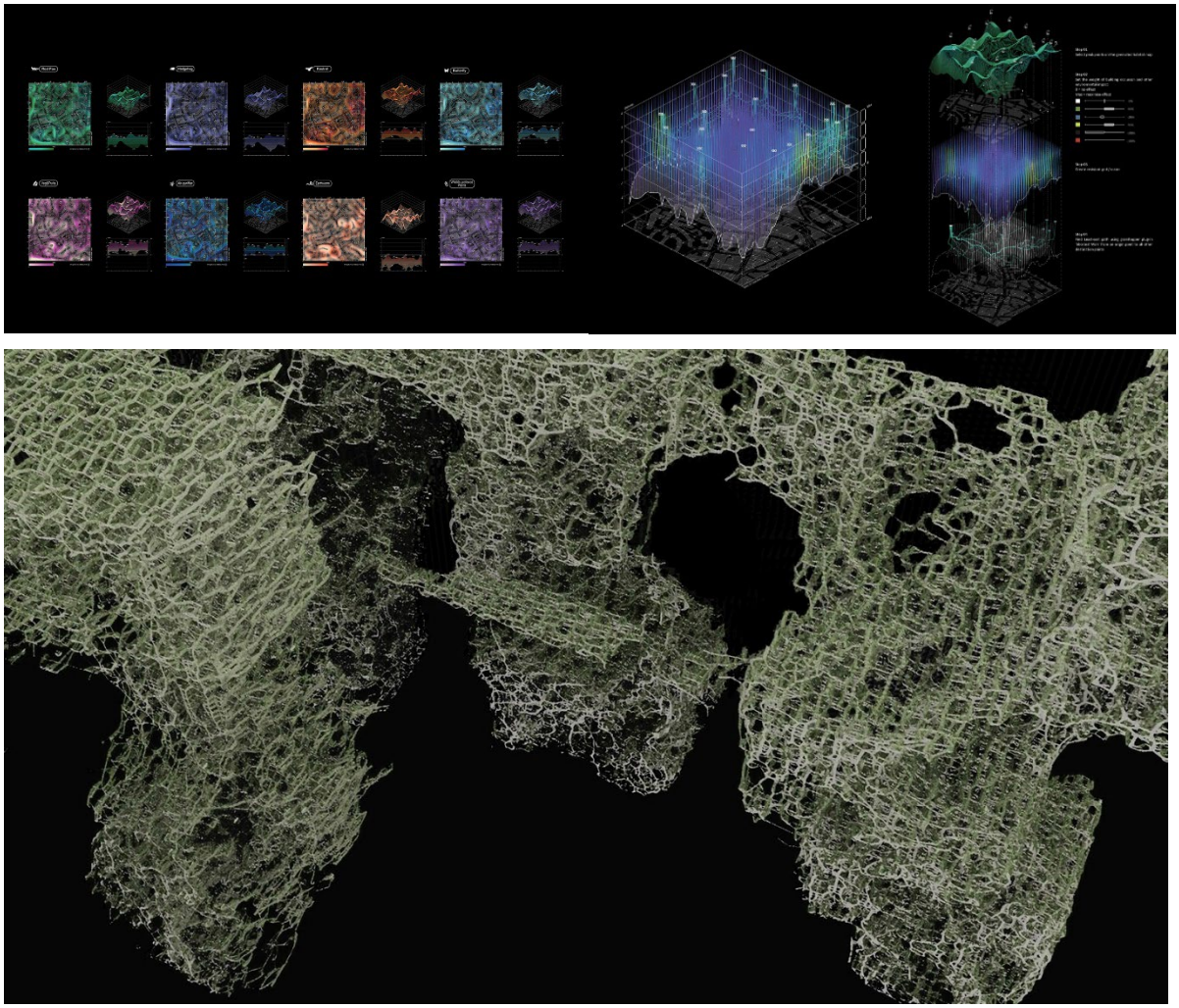

Figure 5-7: Ecognosis (Kehan Cheng, Divya Patel, Hui Tan), The Bartlett School of Architecture, B-Pro MArch UD, Research Cluster 15 2020-21 (Tutors: Annarita Papeschi, Alican Inal, Ilaria Di Carlo, Vincent Novak).

TOWARDS CO-CREATIVE AFFECTUAL PRACTICES

Along these trajectories, when approaching world and space-making strategies, design processes are translated into an 'entangled' construction of space, time, value, and resources, which are critically defined by the very processes of their formation. In such a perspective, artificial intelligence has the potential to become the enabler, the instantiator of a new wider democratic process potentially able to disrupt existing power structures giving a voice to what now has none: all the non-conscious agencies different from humankind or his direct will.

This is a new form of authorship which translates the question to the final user so that the inquiry is not so much what the user wants from the environment but what can the user do for the environment, an idea that reverts the role of the final user from consumer to service provider. A new form of authorship that takes place in a symbiosis of computational and non-computational forms of thinking as a hybrid of the diverse modes of cognition, resulting in a new type of synthetic ecology, the one that the designer enables.

In such a context, digital design platforms work as *co-evolutionary cognitive infrastructures* dealing with an amalgamation of different types of resource thinking: the thinking coming from the machines, the thinking coming from human participants and the one converging from other ecological intensities.
This is a type of *transindividual subjectivity*, that formed as an ecology of diverse forms of cognition, is choral, decentralized, and inclusive and has the capacity of being able to transmit tacit/informed knowledge exposing new models of democratic collective decision and sense-making. In this process, all the participating forms of cognition have the potential of learning from each other and composing unexpected dialogues and collective knowledge, what we call 'interfaces [i/f], physical/virtual devices, a platform, enabling communications among entities of different kinds each one with its own protocol of communication, knowledge, and values'[37].
This is an approach to collective creation that, drawing on alternative ideas of communication and power between the participating agencies, maps the emergence and evolution of patterns of informed feedback, outlining the connections with ideas of learning and performative collaboration between human, synthetic and biological agencies.
In the exploration of these new forms of authorship, designers face the challenge to orchestrate a process able to build fruitful associations between machine–computation, genuine human understanding and *non-conscious* cognitive agencies, a challenge that should be taken as an opportunity to construct open processes of self-reflection and learning.

The resulting *Transindividualities*, which are digital participatory scholarships to ecological and post-humanist theory, create the potential for the affirmation of novel mediated narratives[38,] which by challenging the responsibility of authorship bring along a new definition of the Human, bring along and the need to reframe the question of the design of our cities and territories towards a *Pervasive Affectual Urbanism*, , that points toward the urge of new ethos and new aesthetics.

The challenge will be perhaps best approached by objecting to the idea that the designer is exclusively, and ultimately responsible for the design process, and by sustaining the hypothesis that the symbiosis between all the different types of ecologies inhabiting the space could welcome all sorts of different agents through a creative process that embraces indeterminacy.
It will be about the belief that open-endedness, contamination, interaction, machine learning and genuine human understanding are not so much about consensus but about layering and celebrating differences to best use all of them as resources toward the participatory project of space-making.
It will be about praising quality as sophistication by acceptance, negotiation, exploitation and rhizomatic contaminations of multiple resonances and superimpositions where the value of the project will lie in the exchange of information which is not just exchanged but used to create again.

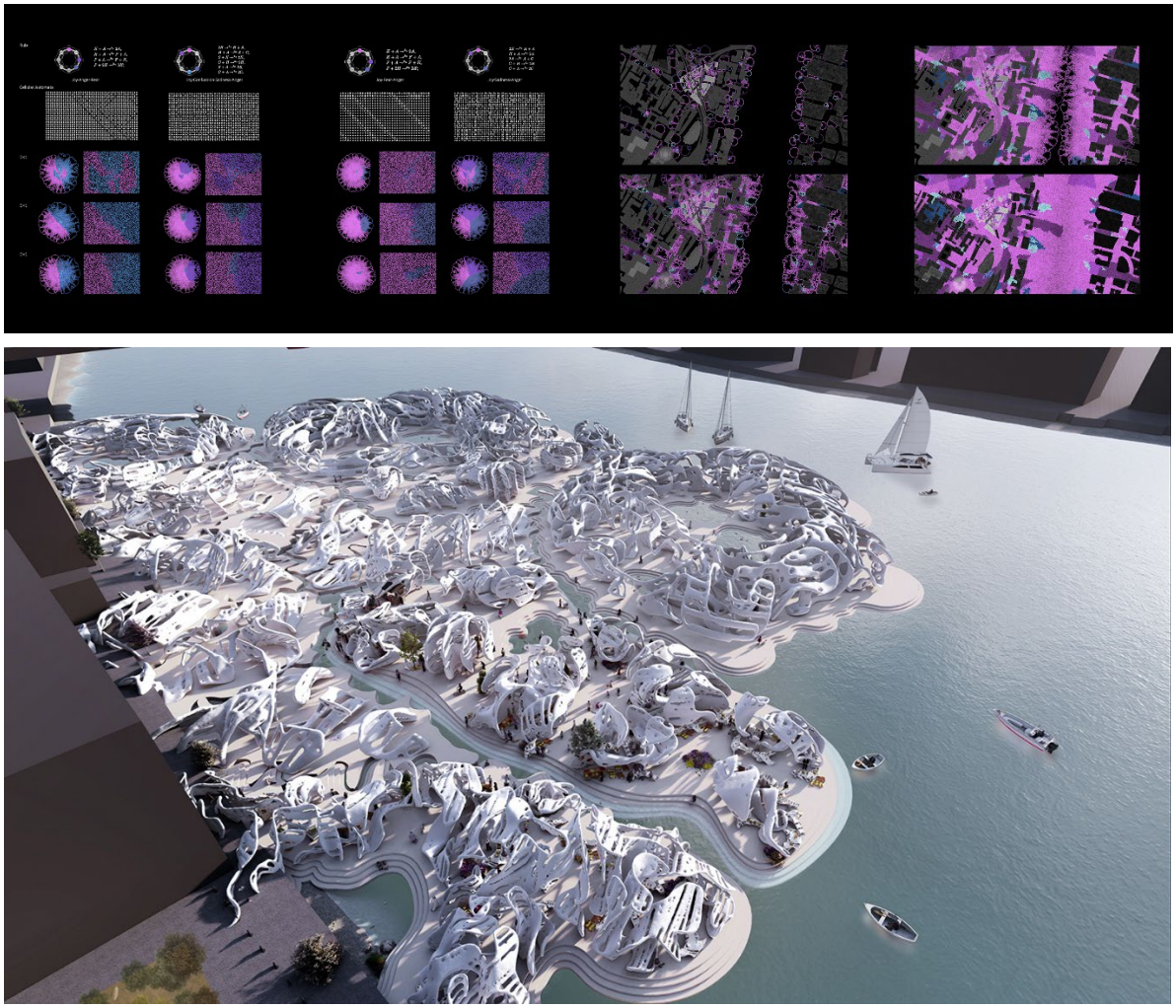

Figure 8-10: Emotional Dynamics (Xuanbei He, Zixi Li, Shan Lu), The Bartlett School of Architecture, B-Pro MArch UD, Research Cluster 15 2020-21 (Tutors: Annarita Papeschi, Alican Inal, Ilaria Di Carlo, Vincent Novak).

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