The Future of Architecture is Between Oxman and Terragni

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Abstract What will be the future of architecture? Architecture is among the major culprits of the CO_2 emissions that cause the current ambiental crisis. The discoveries of coding, digital design and digital fabrication—including topological optimization, reactive skins, and lightweight technologies such as 3D printing of natural and environmentally friendly materials—are essential to finding an alternative path to those used so far. A road that not only addresses the "technical" issues of the climate crisis but is capable of proposing a new vision of the world, a spatial system that is structurally, physiologically and symbolically based on the concept of coexistence, of symbiosis, between the world of man, the house of man, and the rest of the biosphere. The work on biomaterials from the digital fabrication world assumes crucial importance in this perspective. It is the first research capable of demonstrating that the inert envelopes of architecture can become organisms and no longer in a metaphorical key: buildings like trees programmed to become skyscrapers, houses like pods and fibres that transport people by capillarity along with water and nutrients. Energy from domesticated photosynthesis processes, eyelids and hairs that grow to shield excess light. Architecture that reconfigures itself as a living form similar to what already happens in nature for the calcareous secretions that we call shell. Yet before we can indulge ourselves in transforming architecture within these new ways, there are at least two issues that cannot be ignored so as not to repeat the mistakes made by Modernism a hundred years ago.

Keywords Posthuman · Anthropocene · Ecologic · Regenerative · Computational

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1   Today as Yesterday. A Brief Introduction

The discoveries of coding, digital design and digital fabrication—Industry 4.0 foundations—are probably essential to finding a new road for architecture and design, a road that not only addresses the "technical" issues of the climate crisis—CO_2 production in the first place—but that is capable of proposing a new vision of the world, a spatial system that is structurally, physiologically and symbolically based on the concept of coexistence, of symbiosis, between the world of man, the house of man, and the rest of the biosphere. Yet before we can feel free to revolutionize architectural and design languages and tectonics, we must respond to some crucial questions so as not to repeat the mistakes made by Modernism a hundred years ago, when the discoveries of industry—for example, the mass reproducibility, that for the first time was free from size and cost limits—changed forever the face of the landscape and of the urban peripheries, generating immeasurable damage to human well-being and to terrestrial ecosystems.

Indeed, the profound changes that have affected Western society in recent years trigger an interesting comparison with the great transformations that took place in the first decades of the twentieth century. At that time, the Industrial Revolution changed not only the production method but the collective imagination itself: in the space of a few years, we have gone from a world of small and different architectures, made above all by hand, to a world populated by mammoth buildings children of the assembly line.

The architects of Modernism exploited these unprecedented production tools to give life to a new urban and architectural vision, formally based on the standard, of the repetition of simple and economic elements. But behind the desire for "a house for all"—a need that continues to animate a large part of the construction world, for example in China—and the figures and languages invented by the masters of the modern, there was not only the will to exploit new construction techniques to offer an architecture more suited to post-mechanization lifestyles nor just the intention to increase the size of buildings and reduce costs. Argan wrote in 1947:

> We can therefore consider the so-called architectural "rationalism" as a close analysis or critique of tradition, aimed at tracing its most authentic and original foundations, at restoring its essential values: therefore, it leads back, albeit against academic classicism, to an ideal classicism and against a customary naturalism at the very foundation of the idea of nature. When European culture wants to go beyond the rationalistic limit of scientific Cubism and the architecture that is connected to it, it has only one way: to overturn the problem, to oppose the value of consciousness to the value of the unconscious. It is the closed road of Surrealism. […] Wright does not know enough about the history of art to be able to give a precise historical objective to his irritated aversion to classical art and in general to the great Western figurative tradition; but he is keen enough to identify the cause of the aversion in the principle of authority on which that tradition is founded. But faced with the basic argument of the European anti-traditionalist polemic he remains doubtful: even mechanical civilization has its myths and its principle of authority. Wright sees the symbol of the principle of the authority of classical and Catholic civilization in the dome of St. Peter; in the skyscraper he sees the symbol of mechanical civilization. Wright does not flatly condemn the mechanical character of modern civilization, but he wants the machine to serve man in his work and not the other way around. [1]

The desire to re-propose and restore the essential values of tradition, of the anthropocentric law inscribed in classical tectonics—composed of orthogonal geometries, not existing in nature, and detached from the ground through the *crepidine*—is the deep cultural movement that constitutes the substratum, the humus from which the "abstract", "minimalist" research of modern architecture takes shape. A law issued by a world two thousand five hundred years old, in which man's main need was to be emancipated from the rest of nature, a hostile habitat from which to get out in every possible way, starting with the perceptual, cultural, and symbolic-spatial one [2].

Therefore, if it is true that the current urgency is, on the contrary, to find a way to coexist, a symbiosis between human civilization and the rest of the biosphere—the biosphere of which humanity is an integral part, of which humanity needs to exist while the opposite is not true—it would seem evident that the discoveries of digital design and digital fabrication brought by the great technological revolution of the last few decades are the key to overturning this relationship, transforming submission and exploitation into a harmonious and balanced relationship based on the idea of interdependence and non-differentiation between man and nature. A relationship that should be structurally different from that set up by contemporary society, based on the capitalist consumer economy. But in history it frequently happens that great transformations produce tsunamis and violent settlements and also involuntary self-sabotage, internal reactions that are contrary to the intentions made explicit at the outset. Just think of the damage perpetrated in suburbs by the naive claim to build buildings that were hundreds of meters long, without differentiations, unable to establish empathy and produce psychosomatic well-being, focusing everything on the use of structural elements (pillars, trilithons, etc.) and typological archetypes from the great Western architectural tradition that, alienated from decorations, materials, proportions, should have been enough to make the places thus obtained habitable.

For all these reasons, before concentrating the creative energies on the possibilities offered by the new tools, and looking for the ecological revolution we desperately need, it is necessary to ask ourselves about two questions. The first: is it just designing slicing, parametric arrays, and topologically optimized structures enough to produce an architecture that is in harmony with nature? And, even before that, what should we mean today by "nature"? The second: can we produce, in the name of coexistence and symbiosis, figures that are radically, epistemologically different from those shaping every urban scenario, proposing once again the cultural mechanism of the *tabula rasa*?

2 Parametricism and the Global Market Society

On May 6th, 2010, Patrik Schumacher, Zaha Hadid's partner and founder of DRL master at the Architectural Association, published in the Architects' Journal a long text entitled "Let the style wars begin". The text contains the description of Parametricism the German architect considers the next hegemonic architectural style on

a global scale. The article ends with a lot of details about the new language rules and a series of heuristic principles, divided into "dogmas" and "taboos".

More or less from the publication of this manifesto, many architectural practices belonging or tangent to the international movement (so far summarily defined as "digital" architecture) started to rally in the label coined by Schumacher.

However, after the appearance of Folding Architecture by Greg Lynn in 1993, all the subsequent attempts at defining Hadid's, Himmelb(l)au's and other post-deconstructivists' architectures had already changed their expressive register while abandoning the concept of the "fold" as an inter-individual continuity-complexity, a nature-culture continuum. From these attempts, several definitions of architecture came out: "blob", computational, algorithmic, generative, procedural or, simply, computer-aided. All of them lost sight of the profound reasons for a hybrid, multiple, open composition: they focused only on technique, therefore encouraging the mass distribution of mannerist-by-definition research. The result was a language accessible to anyone who, though in a lack of culture, talent, and sensitivity, can use morphogenetic software. With the coming of Parametricism—that in a very short time acquires global importance, transforming parametric architecture into a label known by most architects—focus definitely shifts onto the tools, and technology, in a perspective, that sees architecture as a technical affair devoid of cultural variables, in which the search for new architectural "phenotypes" can be carried out automatically through scripting and genetic algorithms. In this perspective a living architecture is being theorized but it does not represent the real change of a cultural paradigm, first of all in an ecological and therefore, as Edgar Morin clarifies, anti-capitalist key.

As a matter of fact, the term "parametric" refers explicitly to the information technologies related to post-deconstructive research [3] since setting those technologies as fundamental and characterizing reasons. So, this global movement is based on a design that comes from the selection and manipulation of numerous parameters that define the final status of the project. It is an architecture that becomes, according to Schumacher, an instrument serving customers, as if the only function of architecture should be meeting the needs of the dominant economic/productive model in the industrialized Western society. Schumacher says that parametric architecture is the most effective tool—he repeatedly underlines, in recent years, architecture is not art but a tool to organize space in the most "productive" way—to ensure better, faster operations of the contemporary production based on a network society.

So, architecture is just an instrument of "progress", which suggests a spatiality made to support, optimize, and maximize an economically intended "productivity", accepting that the architect's role is not to propose an innovative political vision or even criticize the socio-economic political existing model, but just improve the users' performances according to the needs of today's business production. From Schumacher's perspective, that appears to be very different from Zaha Hadid's vision (i.e. the MAXXI, the way it connects both with the city tissues both with the river), in other words, parametric architecture aims to "reinforce" and improve the processes of a society that Zygmunt Bauman defines, with a very different connotation, liquid [4]; i.e. it deals with those processes of post-industrial production in their hyper-capitalist evolution, which produce such phenomena of relocations as needed by a globalized

exploitation of human and natural resources, governed by elusive, constantly moving super-managers.

The target of Parametricism seems therefore that to give a physical body to a society in which competition and abuse between individuals, and multinational groups' power is encouraged and promoted at the expense of human relationships, happiness, survival of communities and ecological balances. It is interesting that the German architect, after having explicitly written about the attempt at approaching, through digital tools, the «compelling beauty of living beings» [5], decides to abandon this definition and names Parametricism the architectural style emerging from this research.

A choice that shifts the focus from an expressive nature referred to the living form—that evokes the need for negentropy, i.e. order and complexity as mentioned by Morin [6] and recently demonstrated by contemporary neurosciences as far as the deep bond between human beings and terrestrial ecosystem is concerned—to the technical, instrumental form, omitting the starting choice, the tendency towards a "natural beauty" that, detached from social and ecological thinking, would reduce everything to an ephemeral hedonism.

Similarly in the definition an aspect is minimized: the choice of "primitive" geometries (more or less smooth lines, curved surfaces, elements of which the spatial shell can be made) that determine the final appearance of a parametric project, that, instead, can take on both the characteristics of Malevich's Architektons and those of a cellular tissue during mitosis. Almost as if it were possible or desirable to bypass the designer's will, which instead remains central also for parametric design—since, paraphrasing Gianluca Bocchi, technology without man is stupid–, so as to emphasize this way the exquisitely technical nature of the latter.

As for the difference between architecture and art, Schumacher seems to suggest that the designer cannot act of his/her own free will because he/she should "inform" the computational tools of the right parameters as regards the activities and the project constraints. So, while the German architect describes the question of productivity, in the manifesto there is no trace of the term "openness", the concept of "urban carpet" and in general the concept of a private–public, outside-inside, anthropocentric—non-anthropocentric interpenetration. There is a neutralization of all cultural and political contents of the project—the critical elements regarding the organization of the contemporary architectural order—and of the rules concerning the external characteristics of the fluid and "internally correlated" language, where all the generative systems are an organic multiplicity, systems of correlated systems, the only objective of which is to ensure the readability of the three-dimensional spatial continuity to make it easily navigable by its consumers.

The character, at least ambiguous, of this formulation is already clear: there is no intention of defining a "parametric" architecture in a literal sense (because through parametric software it is, of course, possible to create any style and then any project including the traditional Mediterranean house with gabled roof), on the contrary it refers to a bio-mimetic language that would be able to organize the growing complexity of contemporary social systems that are increasingly interconnected,

dense and dynamic, and, we add, more and more competitive, egocentric and anti-ecological. For these reasons, this deals with the proclamation of a "biomorphic" architecture that, in full contradiction, expresses the post-Fordist capitalist economy, the engine of today's oedipal "liquid" and biodiversity-destroying society.

3   A Total Biomimicry: Renunciation of Complexity

Starting from the "post-factum" rules related to the work carried out in the past (such as "use elastic and non-rigid shapes" or "avoid repetition and standardization"), a checklist of "biological" geometries emerges from nearly thirty years of Hadid's design when the naturalization of the architectural language was instrumental as to a project that aimed at revitalizing and reconnecting parts of the city and therefore was freely inspired by the self-organized structures of living forms (to design them Parametricism was not needed, as shown by Michelangelo's projects of the Florentine fortifications in '500 and Paolo Soleri's designs, or Musmeci's work and Moretti's "parametric" stadium in the 60s). Yet these geometries, deprived of any relational desire, bring back the matter to a mere grammar, which can be used to say everything and its opposite. What therefore remains is the use of complex forms through a technological medium that would seem to guarantee the automatic success of the project, or, at least, the positioning of the project within the "parametric paradigm", as Schumacher himself defines it. The contradiction that results is very similar to that which gave rise to the reproduction of international architecture on a world scale starting from the famous five points for architecture by Le Corbusier: this simplification extends the contradiction to the very meaning of architecture, which this way has nothing to do with the themes of weaving city and landscape, regenerating biodiversity or generating bio-centric communities, and refers instead to a sequence of curves, "blobs" and other bio-digital images, as happens in the Chinese project Galaxy Soho dominating and crushing the humble context using some monumental convexities. These figures result in a machination which, by simulating the lines of the living world, in most computers of young designers inspired by this research, becomes a fetish, the illusion of a new computer-generated corporeity running away from the complexity and ecological, urgent needs of the real world.

So, the computational research chases, inside the computer, an intricate feminine sensual curvilinearity which seems to be an attempt at re-appropriating a missing corporeity/promiscuity, i.e., a missing contact with nature. They can catch a sterilized literalness of the biological dimension, enclosed in a virtual dimension: this refers to the process described by Bauman about the use of social networks, where new generations are trying, often unsuccessfully, to find contact with one another and with the body—as evidenced by the success of the online porn—which appears elusive in a real-world that is increasingly atomised, alienated from the body dimension. So, the results of this research represent a spatiality that, instead of regenerating a lost connection with the body-biological sphere, multiplies the distance between environment and building, megalopolis, and biosphere. It seems a new extremism that

to the "all culture" (as a drift of "humanization" the philosopher Roberto Esposito writes about) of historicism opposes an "all nature". As a matter of fact, it deals with the view of nature as a tool, a technique, once again an "object" in the human being's hands replicating its shape in the laboratory, through the most "advanced technology" (in line with the function of technology of a part of the anarcho-capitalist transhumanism), so as to put it at the service of his own individualistic utility. This brings to a construction that is also losing the uncertainty, unpredictability, and chaos that, in nature, contribute to determining the epigenetic landscape from which life emerges with its organized but never "perfect" structures, that are always unique, asymmetrical, rough, hybrid. In this reality as a network of unpredictable possibilities, algorithmic architecture replaces a hyper-deterministic scenario, locked in the mathematical values chosen by the designer, without capturing exceptions, without expressing any freedom and often producing an imitation of the autopoietic structures of the living world, pretending to be a sort of "second nature" [7].

The morphogenetic dream pursues rooms like cells, spaces like organelles able to correlate, open up to be penetrated by light and air through the right exposure; corridors as arteries and capillaries, structures like self-optimized skeletons, integrated to space divisions so as not to "drill" spaces/organs; a mediation space, like a nervous system, keeps everything together, interconnected, without a way out, without providing a coexistence of different solutions as happens in the ecosystem. So, from parametric masterplans (as, for example, the Kartal Pendik Masterplan by Zaha Hadid Architects) a new totalitarianism seems to emerge. It generates a reproduction of closed "perfect" systems, where no indeterminacy differentiates each body (think for example, on the contrary, of the imperfect symmetry of the human body), and where new buildings are indifferent to the languages, morphologies, typologies, chiaroscuro and even to the scale of the spaces in which they are settled.

On the contrary, each wild landscape is surprising because it is full of different characteristics and different unpredictable logic, as well as each living form is always at least in part different from the others. Even a bacterium is only a phenotypic "attempt" because the organic molecules that make it up are not generated by simple digital algorithms but by a complexity of factors and contributory causes—also random and therefore undeterminable—that it is not possible to predict any outcome. There are no unique solutions since life presents itself in a "rhizomatic" multiplicity of unpredictable phenomena in the same context: a form of life can proliferate in different habitats as well as the same habitat also belongs to an immense variety of different life forms as for structure, "seniority" and complexity. It is like an equation in which, even maintaining fixed parameters, there is not one only correct result—that is, "able to live"—but an immense wealth of compossibilities [8] all having an equal organic dignity, all having equal rights to exist in a perspective in which biodiversity is not only a variable but a real value, as well as ethology itself becomes a system of values in which every living being is autonomous yet linked to the fate of all the others.

Finally, even if we could plan a system containing the variable of indeterminacy as a random fracture of some logic, that is, even once an "artificial ecosystem" consisting of a perfectly optimized organic form, it is not certain at all that the human

being would feel at ease and choose to live there. The same could happen even in the presence of an exceptional natural environment, with beautiful landscapes, and even intimate and comfortable natural sites like a sea cave or a clearing surrounded by trees. A temporary enjoyment does not imply the will or ability to live in a place without making any change, i.e. without "humanizing" the environment by a "cultural" trace. Because the human species (and many scientists start thinking the same even for other species, respecting due differences) possesses an "external genetic code", handed down through language but even through the environment—architecture—which forms the main framework: an "exoskeletal" culture that can be certainly developed and transformed but cannot be ignored or bypassed. Even this—the set of external factors constituting the cultural code—is part of nature and in recent years, on the other hand, various scientific theories have shown that culture and in general experience, as an event external to the body occurring after birth, for example, a trauma, changes the genetic code itself handing down the change to offspring. This is left entirely out of the parametric/biomimetic system, which instead of triggering a transformation of the existing architectural language, provides for a replacement, ignoring that tabula rasa occurs in nature only on the occasion of tremendous disasters destroying entire ecosystems, bodies and their "cultural trail". Even in this case— think of the impact of the meteorite that, as it is assumed, almost completely destroyed the ecosystem about 66 million years ago—most of the next species probably would preserve a structure very similar to that previous, as if the earth scenario contained in itself rules and information that can shape the living structure. Recent research has highlighted, through studies on different types of samples, that the bony tissue of mammals is nearly the same in the different species as if there had been a topological deformation of one only starting form that modified only the extensive properties while maintaining the geometric relationships between the different parts. That's why the linear transposition of morphogenetic research in architecture is not only literal to a fault—it frequently shifts the focus from the relational issue generating introversion—but falls into the temptation starting "from scratch", excluding the existence of the starting point that is represented of course by the millennial architectural types, rooted, and developed in their epigenetic landscape. In this, it differs from the previous and current research of many other designers that hybridize and regenerate the existing such as, for example, in the BIG's Courtscraper, a typo-topological contamination between a skyscraper and a court. The types, that is to say, would be nothing more than a mnemonic registry, the code (DNA) of architectural species that the Earth's epigenetic landscape—bio-anthropogenic—has shaped with time, in a transformational continuity that was first triggered by the biological matrix (which originally turned primates' physical structure into that of the human) and later continued through the historical process, passing from the mutations generated by "primary" needs to those connected to the more and more complex, up to the "cultural" needs, that weave together biological, social and political necessities. This is the concept behind the chreod Sanford Kwinter refers to [9].

But to translate this concept is essential to broaden the speech to the multiplicity of factors in architecture that make up the landscape conforming to the anthropic space, without locking it up in the everlasting values—and then in the codes and conventions

developed over the centuries for psycho-social cultural needs of an earlier era—but even without reducing it to a purely biological process of the elementary forms of life, through a return to prehistoric origins that sets architecture in a "uterine" figuration, designed for a man-fetus with no memory. This shows the relationship between spatial type and geographical context, where geography is defined as a geo-political interlacement that contains both the factors related to the environment and landscape (and hence the natural peculiarities in terms of insolation, ventilation, humidity, etc.) and those related to the economy, politics, uses and customs of the historicised place. Once again, the appeal to the biological shape is not enough to produce architecture, since the latter, even and above all in the complex vision, can only be a hybrid architecture, linked to the present cultural living system of mankind, as a remedy for the self-destructive motion of marginalization from the biosphere [6]. Because space influences and simultaneously stimulates the sensory-tactile sphere of the body and memory.

The "systemic" changes of Thompson's deformations—that in the case of post-deconstructivist architecture are easily reproduced through nonlinear deformers (see modelling programs like Maya)—refer once again to a type of mutation that maintains its continuity, readability and recognition of the original figure, i.e. its geometric relations and maximum proportions, without interrupting the membership to its own epigenetic landscape, as happens in the vast majority of animals and humans, where the characteristic features of the face (two eyes, two cheeks, two ears, forehead, nose, mouth and their disposal) are always the same, making an inter-species empathy possible. This would suggest, instead of trying to start from scratch, a hybridization with the biological language that can graft onto the existing architectural code the characteristics of interactivity, openness, continuity, multiplicity, interconnection, flexibility, and adaptability which are now socially, economically, and ecologically necessary in a symbiotic vision. And this is the reason why we need to aim for something that is simultaneously sensual, that is psycho-somatic, cultural, and socio-political. On the contrary, the bio-mimetic way tries to appeal to a pure imitation of natural shapes and in most cases does not take into account the minimum energy-environmental issues (the renewable sources such as solar, wind, etc.), the bioclimatic essential mechanics (passive exploitation of natural resources to reduce consumptions), the necessary grafts of fauna and flora (to regenerate biodiversity) and does not look after the choice of eco-friendly materials and technologies (which would require the renunciation of double curvature) in favour of research fixed on the language.

From this perspective, the research on 3D printed structures in harmony with the physical characteristics of the materials carried out by Neri Oxman represents the apex of the discourse. Cellulose, chitosan, pectin, and calcium carbonate are among the most abundant materials found in nature and are biodegradable: their choice automatically solves all problems relating to pollution and CO_2 production. Yet, we must ask ourselves what it means "to design a culture attuned to the systems of nature", as Paola Antonelli writes about Oxman's research [10], when human "culture" is just a part of "nature", as all the other species' cultural forms.

Oxman is developing a way to "write" the genetic code of the building or the furniture, whether it is made up of the "recipe" of the biopolymer blend, the geometry of the envelope, the path that the robotic arm will follow to create the component: thus an organism is created capable of functioning in all respects as the exoskeleton of an arthropod, and therefore the final structure assumed by the project belongs to the same anatomical/physiological/aesthetic domain as the "biological" one. In this way it is certainly possible to satisfy the needs related to structural resistance—as bones and vegetable fibres do—or to thermo-hygrometric well-being—insulating membranes, more or less transpiring and transparent, which interact with solar radiation or with the need to look outside—but what remains of human expression that is intrinsically linked to the languages thus far produced and developed by civilization? In other words, also—and above all—in Oxman's material biomimicry there is no longer any trace of what is normally understood as architectural culture: if nature, understood as a non-anthropic domain, as a self-organized place, becomes the "primary customer", paraphrasing her writings, the planning operation necessarily transforms itself into the most radical linguistic and formal tabula rasa. The same attempted by modernists to historical architecture but even more absolutist, since, even in the cruciform skyscrapers of Ville Radieuse, there was an echo of classical tectonics, the formal system that has characterized architecture since the dawn of times. It is a very critical point. Because the human being is a 100% natural and 100% cultural animal [6]: he is born and grows orienting himself through the spatial structures he experiences, and it is in the relationship with those systems that his memory develops, its identity, its ability to feel at home in a given habitat. It could be said, then, that biomimicry replaces the anthropocentric system, where "nature" is simply the "outside" of the anthropic territory, the "other" space to occupy, consume and from which to differentiate in all respects, with an opposite—therefore formal—value system, where man is effectively cancelled from the equation. A cultural operation that evokes the dramatic results described in Kafka's Metamorphosis; as if, overnight, we were forced to communicate through a different body and a different language.

On the other hand, as we have seen with the so-called parametric architecture, the insertion of a biomimetic structure—both a piece of furniture among other furnishings in the home environment and a building among other buildings in a city—does not show any will of coexistence but re-proposes the simple juxtaposition. It is always the same separation logic—the Cartesian one between subject and object, mind and body, culture, and nature—which is the very basis of the anthropocentric culture responsible for the ecological catastrophe we are starting to experience. Just look at the images of the Aguahoja pavilion inserted in the museum environment to find this extraneousness.

Yet Oxman's invention is equally valuable because it is capable of showing a new path. Imagining an architecture where structure, spatial partitions, and casings are made with the same material as the shrimp shells is essential to shift the axis of design from anthropocentric ontology—the man who uses and consumes terrestrial materials without worrying about the ecological effects—to a different ontology.

4 Conclusions: Towards a Posthuman Architecture

At a time of profound change, characterized by economic, political, social, and environmental crises—inextricably linked to one another—shaking contemporary societies, it is certainly necessary to critically rethink the role of architecture and architectural research in terms of today's transformations. It seems evident that it is unthinkable to continue reproducing and representing the same traditional spatial model of settlement as if nothing had happened and nothing was happening, proposing again the Western split between culture and nature, mind, and body.

Therefore, in the perspective of a transformation, the problem cannot be to "eliminate" computational technologies from the project.

On the contrary, an architecture capable of supporting and promoting the creation of a community of men and ecosystems—a post-anthropocentric [11] community—as well as any form of art aiming at understanding, inspiring, and transforming today's world, can and must take advantage of the expansion of possibilities provided by 4.0 Industry computational technologies. In other words, the possibility to hybridize, and transform a space that so far has spoken about man, strength, and autonomy of civilization, into a crossbred *post-human* space able to cancel the sense of alienation towards the rest of the planet, to tell of weaving, interdependence and symbiosis. A road open to life but without amnesia, capable of recomposing the ancient contraposition between organic and rational, implementing the code rather than rewriting it from scratch.

An architecture that is capable of evoking the figures of history, talking about our deep need to differentiate and emancipate from the violent necessity of natural life, and simultaneously drawing from the negentropy of our bodies and the other natural structures, telling about our awareness and comprehension of our membership and interdependency with Earth, inserting a revolutionary element: mestizo tectonics, where the trilithon and orthogonal volumes would come to life, taking on mechanical strength, transforming themselves into light Voronoi conformations, paving the way for the use of zero impact materials and making it possible to hold the *two worlds* together [12–17].

This would be a biocentric ontology, in which man neither prevaricates nor cancels himself but establishes a fertile exchange with natural otherness; an architecture that is not just a temple or an exoskeleton but a hybrid space, a contaminated language, a meeting place.

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