

Towards a search for socio-environmental commitment: Reflections on a pedagogical methodology in architecture and urbanism*

* The full article in Portuguese can be read on pages 120-133 of this issue.

Introduction: Some beginnings and endings

Here I am, says the builder, I am the act. You are matter, you are force, you are desire; But you are separated... But in the end, everyone will have won with my procedure. Sometimes I will make mistakes and then we will see some ruins; but one can always and with great benefit consider a failed job as a step towards the most beautiful. (Valéry, 1999, pp. 173-174)

If we consider architecture and urbanism as a system of science, art and technique to shape built and open spaces for coexistence, their framework -places- composed of matter and space, full of intense actions, are a way of revealing our relationships, pacts and conflicts. They are a territory of class struggle and in their simultaneous progress they show the state of environmental imbalance, issues systematically debated by literature (Bonduki, 2017; Maricato, 2015; Rolnik, 2017; Villaça, 1998). In the Latin American context, there is also constant debate on the tension between autonomy and dependence in the face of the hegemony imposed by the central countries (Oliveira, 2018).

In Brazil, the field of architecture and urbanism is academically connected with the applied social sciences. Therefore, in our vision we must understand this commitment and how inseparable concepts are established:

- Theory and practice: Once the state of the social sciences configures a condition of inductive and deductive abstraction in relation to the phenomena of human life, bidirectional paths arise between reality -as a source of knowledge towards theorization- and, complementarily, between concepts subjected to frightening real-world difficulties for validation.

- Praxis as production of knowledge: This principle derived from the previous concept, which equalizes the value of practice and theory. It means that the conception of urban architectural projects or landscape objects must be understood as such, and therein lies the term applied.

- The technical and humanist character: These characteristics preside over architecture and urbanism simultaneously, as a human, technical, social and anthropological science. It is the field in which the condition of art is implicit, understood here in its original matrix, of the techne that initiates in physis. From practical application, knowledge and dominion of execution, they are inexorably imposed as action on matter, thereby giving it meaning (Light, 2014).

- Artifact and environment: To extract and possess matter, to act on it or to discard its parts is an arbitrary choice. We understand that from the most violent or most stupid action of making architecture in the world, to a wise and balanced administration, mimesis will paradoxically preside because even the intervened matter will resist due to the behavior of the laws of physics. Matter will maintain its continuous flow of transformation, whether it is manipulated by us or not. The exponential limit of entropy remains beyond us. For the realms of physical nature, we create rare devices that, when they are wise, are artifacts made with art. However, the biosphere, as important as it is, does not have the same resistance. Living beings, in which we are included, painfully contemplate our most ruined devices from the perspective of each biome.

Here lies the commitment of architecture and urbanism as a human science; it is the space where its application, technique and art are taken to the limit. There is no building or city where total balance has been established regarding the availability of resources, such as waste disposal, energy sources or biomes; in the act of manipulating tons of matter in each human effort to conceive, to use, to make in the real world, indices of environmental imbalance and social inequality prevail (Davis, 2006; Marques, 2016).

The built cities and cultivated fields that put pressure on wildlife areas in simple addition and subtraction arithmetic, are the crude materialization of the man-man and man-nature relationships of dispossession, appropriation and exploitation that are proven with the human footprint (Wackernagel and Rees, 1996). We are immersed in an environmental crisis as a civilizing process and it is necessary to search for new paradigms in the man-man and man-nature relationships.

- Academic and popular knowledge: Given that architecture and urbanism are made for each other, for their appropriation and enjoyment, the imperatives of

erudition and experience overlap through the demands and popular, collective, traditional or non-traditional knowledge (Santos, 2019). Architecture and urbanism have existed since the first human being, when they took refuge; we do not even have to admit that caves were the first refuge (Rickwert, 1974). Architecture was founded on the act of living in the world. The world is the support. The act of choosing, determining, corrupting would come later (Luz, 2014; Viollet-le-Duc, 1986). We do not claim to minimize the social or civil responsibility of technical knowledge, but rather to propose alliances. At the same time, if the vernacular contains wisdom, architecture and urbanism are considered to exist in a broad cultural framework where all repertoires, in the effort of the constitution for millennia, are significant as references for knowledge; not everything is created from nothing. We are the product, in our positioning and choice, of the millennial soup and we are contaminated by the spirit of the era, the spirit of our time; we are better if we can transcend destiny by offering answers established a priori as a class position (Freire, 2013).

▪ The uncertainty of the human condition: In the face of Freud's doubt about our destiny, it is convenient that any human action avoid positivism, especially given our nature, which is divided between eros and thanatos, life and death impulses, a conflict to which not even he would have responded or could have fathomed. There is also the symbolic warning of Rousseau (1999) who condemned us to inequality and injustice when he inaugurated science and art in the early days. Thus, such a tragic teleology would seem to be confirmed. Perhaps overcoming our anthropocentric vision is the only possibility for remission (Marques, 2016).

Through these principles, the question arises: How can architecture and urbanism be learned? From the academic perspective, in our understanding two hypotheses are presented as fundamental matrices.

Firstly, the necessary distinction between research, teaching and outreach, and secondly, as a result, the imperative to carry out learning and training systems closely associated with real situations, when faced with performance at university, together with people, requirements and places that are always real.

Now, to form pedagogical methods, the unidirectional teacher-pupil relationship, as well as the professional-non-professional relationship dissolve into thin air. Henceforth, I propose a dialogue with the reader, in which I ask and answer questions in order to reflect on these issues:

Then, who learns and who teaches? I answer: Everyone (the teacher, the pupil, the community involved), and the reader who follows me in written words, even if he or she does not agree.

Let us say more adverbs, the manner, the time, the place...

When do you learn? When do you teach? I answer: They are simultaneous all the time.

Where do you learn? Where do you teach? I answer: Everywhere, since architecture and urbanism are, par excellence, intrinsically, qualifiers of place.

How do you learn? How do you teach? I answer: Methodically, by analyzing references, practicing, reflecting, dialoguing, enumerating and choosing, agreeing, observing past results, reviewing positions.

But the fundamental question is: *Why learn? / Who learns architecture and urbanism?* I answer: Fundamentally for others, considering the singularity of other human beings, with awareness of the diversity of living or inanimate beings of the kingdoms in which we interfere, animal, vegetable, mineral.

Taking into account the ability to corroborate the places where the conditions of life and the meaning are introduced, towards the greatest height they can reach, like the reopening of a locus, we had the persistence of the genius loci to guide us, which today could be translated into harmony with the pre-existing, which has prior rights because it preceded. We, in equivalence with other living beings, have the right to complete conditions of existence. In the mysterious dynamism of natural laws, we all have rights, which extends to the environment. As Serrano Moreno (as cited in Rocha & Gordilho, 2018) clarifies, environmental law is the right of those who have no voice.

In this biocentric paradigm, we would be something like guardians of nature but not sovereigns, guardians of humanity but not oppressors and oppressed. I believe this is the expected utopia of architecture and urbanism.

1 | We would like to mention the fundamental contribution of Antonio Fabiano Junior and Claudia Maria Lima Ribeiro, and the important collaboration of Wilson Barbosa and Débora Frazzato.

Methodology

The pedagogical methodology presented was gradually created in collaborative processes with a team of teachers¹ from two subjects in the Architecture and Urbanism program. In one of them, Object Design, elements of urban furniture are designed, and the other, Thesis Project, was conducted in groups with surveys, diagnostics, prognoses, guidelines, and multiscale urban design. Beginning with the regional scale up to detailed urban design, during the academic year individual architecture projects were accomplished that are committed to urban design and attentive to the collective dimension of the city.

The fundamental assumptions governing this methodology are:

a. Where to act:

- Choice of metropolitan territories on the edges of the urban fabric, bordering the rural and environmental strip, to reflect on these functional, socio-spatial relationships (Figura 1);
- Regions of socio-spatial and/or environmental fragility that lack quality infrastructure, services or public spaces and, in general, where there is no guarantee of land ownership and where socially necessary action is a priority (Figura 2);

b. With whom/for whom to act (Figura 3):

- Commitment to the local reality through community participation tests, represented by local leaders who accompany the research activities on site and are invited to present results at the university, with the right to speak and comment, thereby seeking to transform the teaching, research and outreach spaces through diversity within institutional boundaries.
- Offer the community study and project results as applicable knowledge in the fight for rights.
- Participation in local community events such as seminars and celebrations.
- The voluntary collaboration of teachers in technical consultancy, as independent professionals.

c. Commitment to/the contribution of constructive knowledge (Figura 4 y 5):

- Reflection on technical-building and structural systems that encourage experimentation with alternative low-impact solutions in comparison with high-performance industrial systems.
- Search for environmentally responsible and sustainable solutions.
- Awareness of resource management in view of the significant scale required by architecture and urbanism for the availability of materials, water, energy and the impact on biomes.
- Research possibilities that generate autonomy, training, work and income, in cooperative solidarity economy models.

d. Given the thematic dimension of the programs, appropriation, use and enjoyment (Figura 6 y 7):

- Research hypotheses emerging from perceived or manifest demands and contextual potentialities, avoiding preconceived behavior.
- Stop the notion of private property as the unquestionable matrix that configures urban spaces, reducing the premise of the public-private dichotomy under the protection of collective privacy and leading towards inclusive strategies in continuous landscape systems.
- Consider hypotheses in urban-rural-environmental relationships that prove unsuspected ambiguities and coordination.

The methodology thus covers the multi-sectoral research/identification of geomorphology, according to several criteria: topography and hydrography; vegetation; transport systems (road, road structure, individual mobility, by bus, rail, subway, river and lake, air, bicycle, pedestrians, rapid transport alternatives); infrastructure (energy, water, wastewater, solid waste, drainage, communications, gas); of urban fabrics and voids (morphological, social, and environmental characteristics); actual land use and occupation (housing, commerce, production, services); public and private facilities (education, health, sports, culture, leisure; systems of free public space and urban furniture); population (socioeconomic characteristics, origins, customs, community organization, leadership, autonomy and bonds of belonging, social vulnerability index, land regularization problems, ownership, property, exclusion, history of regional and local contextualization); of reference points (by scale, use, cultural appropriation and urban legislation) in addition to considering the master plan, land use and occupation and environmental laws at federal, state and municipal levels in analytical processes

on the potentialities and weaknesses that generate syntheses, predictions and guidelines to guide urban projects.

The architectural project methodology goes through development phases that relate aspects of context and form; use-form/ergonomics; form/structure; successive syntheses of form-context-use-ergonomics-construction/structure and detailing of construction components and their coordination. It is necessary to clarify the understanding of what is called 'form' and transcend pure geometry, because it is understood as the maximum and only intrinsic synthesis of architecture, since architecture acts only with incarnated forms and qualified and significant spaces. The function, the reason for being, everything is in the built form that things take in the world.

Results

The first irrefutable conclusion: The result of the methodological process described here is the students' creation of the projects. Apparently, the development of the projects would take precedence as the final result.

From the immediate point of view, an obvious result would be the author's ongoing research (Luz, 2018). Paradoxically, the result would be in the teacher's work.

Now, does that mean there are results for students and teachers? Yes, this is the second admissible conclusion.

However, it is a fact that community leaders can achieve subsequent results in their political action in pursuit of rights.

In addition, another question is asked: If the subject of a methodology or process is learning, how can the results be declared? The results are constant and continuous in the same processes, which involve people: teachers, students, communities, but are not limited by the time periods and means of the academic term. Therefore, it was decided that the images, photographs or drawings resulting from the work process constitute a common collection made available to all those involved for publication. If we learn that the collective territory is conditioned and eventually restricted by the notion of land ownership, it follows that public space should, for the same reason, be as inclusive as possible. We belong, in our academic microcosm, to a collective stance on the intellectual property of products because of their wide dissemination but, of course, while preserving individual copyright when appropriate.

The main result is interior, internal mobilization through the experience of each of the agents. During the learning process that occurs in the exchange of knowledge, of project tests, of experiences or of affections, there is a magic of transformation of each person into another, one who is renewed or reaffirmed, thus imprinting and expanding a vision of the world, a cosmology that can forge results in the future. These results are those that matter.

Discussion

This presentation was intended to present a methodological hypothesis for the disciplines involving design, through a conceptual approach to principles and purposes that are superior to the immediate concrete results.

The ultimate goal of action in architecture and urbanism cannot dispense with an ethic that guides the projects, since it is the embodied, specialized results of our ideological choices and social and environmental commitments that inform our vision of the world and imply a political stance.

Instead of dealing with practical results, which include a wide range of academic experiences over the course of more than thirty years, presented in a gradual and recurrent manner at conferences and seminars and in academic articles, on this occasion it was decided to establish the possibility of discussing what is constant, the foundations. They were considered in the approach to the method of design as a continuous process and a spiral of successive deepening phases, which begins in the identification of surveys and research briefly described in this text.

We believe that in analogous situations in dependent countries on the periphery of global capitalism and pressured by unfavorable geopolitical and economic decisions in the correlation of forces, the search for alternative visions and resistance is a necessary commitment and, here, the role of Latin America, which includes Brazil, is fundamental.

In this context, the issue of 'learning' has much to teach, starting with the role of the university which due to its scope has the function of opening, discussing and pointing out paths, paths that, in our opinion, begin by breaking down the walls that separate it from real life in an effort towards more effective action. If the current civilizing state is an indication of the social crisis and an already enunciated and foreseen environmental collapse, and if utopia involves the idea of something imaginary and ideal from a non-existent place, it corresponds to the field of tertiary education in architecture and urbanism to configure this place as an attainable utopia.

Conclusions

We conclude with a tribute to the methodology described by Oscar Schlemmer:

The knowledge of man as a cosmic being is indispensable for the "new life", which must reveal itself as a modern feeling towards the world and life. The conditions of this man's existence, his relationships to the natural and artificial environment, his mechanism and organism, his form of material, spiritual and intellectual appearance, in short: man as a corporeal and spiritual being is, to the same extent, necessary and significant in the area of teaching. This area is subdivided into three parts: the formal, the biological and the philosophical, which correspond to the graphic representation, the scientific-natural structure and the transcendental ideal, respectively. In the course, these three parts go parallel and alternatively, to finally unite in the totality of the concept of man (as cited in Wick 1981, 395).

This statement cements our certainty of the continuity of modern design, essentially as a cause and not a style (Koop, 1990). By admitting modernity in progress, we can affirm that we place ourselves in the modern tradition, even if this term is contradictory, that is to say, how can a modern tradition exist?

With conviction, we preserve its profoundly humanist and libertarian content, where humankind is understood as the being whose irreducible mission of rationality and active conscience does not presuppose the suppression of intuition and spirituality.

Let us maintain the imperative of formal and constructive refinement in the fields of technical and esthetic expression, whose ethic points towards a feasible utopia.

Let us add to this permanent avant-garde impulse the understanding that planetary resources are finite and currently scarce in the face of human greed, a subject that has historically been unattainable for modern pioneers, in a state of enchantment in the presence of the power of industry.

Let us continue to inquire into the attributes of matter, the revealed mysteries of the laws of physics, but consciously and perspicaciously knowing that matter, always the same, not created, not lost, but transformable, what we had learned from Lavoisier.

Let us add, above all, that humanism, faith in human beings, does not mean anthropocentrism. Let us articulate the ideological rigor of modernity with biocentric conviction, returning this humankind to its condition of living being subject to the laws of sovereign nature, just one of the living, placing us in the magnificent biological chain.

Perhaps, in this way, we will see a future for humanity. There is still time to learn.