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Introduction

In 1975 Branzi, who is one of the founders of Archizoom, remarkably explained that “the fundamental problem of architecture and of culture is that of freedom.”[1] That is quite problematic still nowadays for a design research community that cherishes multiple oversimplifications of its object of study and delegates many tasks to other disciplines especially in practice. Also education in architecture is in a stage of saturation. Redundancy or oversimplification of tools, information, and regulations lead to a big gap between the stage of knowledge formation and the reality of the discipline.

Affective experience in space triggers the known patterns of biological events and provides a solid ground for rethinking and remaking maps of experience. Possibly at the early stage of his formation, a prospective architect needs to experience by himself the fleeting combination of percepts, affects, and concepts of a still unbuilt space and eventually to use those tools for modifying the design.

The educational model Build Our Nation (BON) aims at promoting cross-cultural, problem solving through value-guided architecture. BON consists of an international research group focusing on the promotion of innovative educational processes linked to the Design Studio activities, while Taifa Letu Tujenge (TLT), which means ‘build our nation’ in Swahili, is the first application to a real-project in the framework of BON. The vision is to form highly equipped students by strongly challenging the core foundation of their education and instilling confidence in their own skills as future professionals.

In all the current talk concerning the need for know-how in dealing with difficult problems and radical change it has become urgent also in the field of architectural design to explore deeply the potentialities of design thinking. The territory opened by recent publications and papers by Brown (2009) and Dorst (2011) suggests that the cross-disciplinary engagements around this topic are transportable beyond the core of the design disciplines. (2)(3) This paper argues that the model used for BON and some results of its first application TLT have demonstrated an ability to challenge the boundaries of design thinking and they may be considered an experimental educational model of system thinking in architecture.

After a brief introduction of the theoretical assumptions of systems thinking relevant to the Design Studio setting, part of the case study TLT will be described. The ambition is to draw the attention in the learning process to the importance of affective experience in space and not only the conceptual in architecture. The authors patronize the opinion that the intersection of the conceptual and the affective on a collective audience is where architecture has a potential political effect.

Build our Freedom

Twenty years ago, schools had a clear focus: there was postmodernism and there was the reaction to postmodernism; there was poststructuralist theory; and there were strong historians. All camps – where to belong and with whom to be aligned – were unambiguous. These polarities created a positive scenario for pedagogy, because the influences were strong, making it easy for students to choose for or against.

We do not have the same clarity today. No stance has the critical mass to generate that kind of strong influence, or the strong influence to generate that critical mass. On the one hand, it is a liberating state, because new paths can be forged, not by choosing sides, but by developing opinions. But it is harder to see ‘where to go’ and to know ‘what to do’ especially in the often restrictive setting of the curricular activities in the Design Studio.

The theoretical platform of systems thinking provides a strong skeleton for experimenting with new paths. Gharajedaghi, who is one of the original contributors to the development of the third generation of systems thinking and the Institute for Interactive Management, states that the four foundations of systems thinking are: sociocultural systems, holistic thinking, operational thinking, and design thinking.

“The depth and beauty of interactive design and the magic of holistic thinking (iteration of structure, function and process) when combined with the power of systems dynamics, create a competent and exciting methodology that goes a long way in dealing with the emerging challenges of our time by responding to the operating principles of openness, purposefulness, multidimensionality, emergent property, and counterintuitive behavior of sociocultural systems.” (4)
In detail: the open systems are guided by an internal code of conduct/culture; purposefulness has three aspects: rational choice, emotional choice and cultural; a multidimensional system behaves as a mature system, searching for stability through change; emergent property recalls that what characterizes a winning team is not only the quality of its players but also the interactions among them; and finally the counterintuitive behavior of sociocultural systems requires the nonlinearity of systems, by escaping the boredom of predictability.

Apparently culture is the bound variable constantly mentioned for its fundamental role in systems thinking. In our liquid modernity, where following the popular definition by Bauman, “the social forms and the relationships no longer have enough time to solidify”, the possibility to get involved in every real-world project is a matter of competence. (5) And competence implies knowledge and both competence and knowledge are some of the most powerful tools of culture. In the meantime, the ability to learn and share knowledge enables sociocultural systems to continuously increase their capacity for higher level of organization.

Those assumptions represent the backbones for applying systems thinking to the Design Studio. The experimental educational model BON has been described in detail in a previous paper. (6) There are several participants comprising volunteer students of different disciplines, academic members and future users, who work together as an international iterative Design Studio and perform interchangeable roles of leadership in order to develop the specific real-project. The various activities comprising workshops, blogs, performances, exchanges and live events are mainly led by students in a highly motivated and ethical environment. Power is enhanced when it is shared, when the individual ego disappears in a collaborative team group and the students are more likely to implement an idea when they have had a hand in shaping it.

TLT, meaning ‘build our nation’ in Swahili constitutes the first live project set in the BON framework. Its beginning traces back to multiple discussions with the Congolese Sociologist Dr P.N. Kataraka about the social and economic marginalized position of the women within the society of the Democratic Republic of the Congo, in Africa.

The awareness of the power of gradual integration actions has led to developing a challenging cooperation process between students and the Congolese women. Their mutual goal is to develop a design for a women community centre in Bukavu. This self-built centre is commissioned by the local Action Solidaire pour la Femme Paysanne and it is meant to act as an incubator of entrepreneurial activities for local women from different backgrounds – urban, suburban and rural. Through small scale progressive interventions the centre would become a catalyst for social change through participatory actions involving around 1,000 women from the province.

The whole system of TLT is made by smaller subsystems, a set of distinct, but interrelated stages along with embedded extracurricular activities led by volunteer students of four EU HEIs and professionals. Each stage to date has hosted a set of special-purpose actions in relation to the project. The challenge of creating a valuable centre - of cultural impact - with very limited resources has led to perceive the lack of coordination, expertise, finance, time and so on as the trigger for creative thinking.

Scale-down, local empathy, permanent negotiation of differences and pragmatism became slowly new targets moving from the initial ‘large scale centre for the women’ to the ‘small scale process with the women of Bukavu’.

Our playground

In the experimental framework of TLT the parts operate independently with the ability to be relatively self-controlling and to act as responsible member of a coherent system. The relationships and the interfaces among parts must consequently be explicitly defined.

Being aware of the critical role of the context in defining the degree of influence the system plays in its containing environment, the first message to the students is: “This is a playground. This is our playground. We all together are the players. Once agreed the rules, the game must go on!” TLT began its activities in 2011 by introducing immediately the ground and explaining that every space (i.e. room for game) requires establishing some limits (i.e. prohibitions and opportunities for the player). TLT became a playground and the players were transformed into inhabitants of a new territory.
It should be acknowledged that some experiments of the Situationist International during the 1960s have inspired this approach. Because there is a specific common ground there is also an unpredictable transformation under the pressure of the forces that cross it. Knowing the factors that influence the process provides participants with the knowledge necessary to more effectively work within, manage and facilitate that process.

In playing, the spatial and virtual forms of the playground must be constantly redefined, by creating interfaces and/or giving form to a set of rules. That implies a demanding process of negotiation and common decision-making between players. That happened several times during the progression of the stages in TLT and radically influenced some of the project’s outcomes. It is also important to note that a competitive but playful context helps students to gain knowledge out of additional pressures.

The space in TLT, where the game of reality was taking place (i.e. real project’s issues), required the students to improve their critical thinking, competence, flexibility, counterintuitive behavior, and many other operating qualities related to systems thinking. Consequently several random - but of vital importance - discussions included the pattern of awareness of how arbitrary the rules and the unwritten but tacitly obeyed conventions are. It clearly shows the limits society has drawn for us in terms of designing and building. This educational model allows the players to have the power to question these rules and, if necessary, to propose new ones.

We mentioned that TLT became a playground and the players were transformed into inhabitants of a new territory. The nature of this new territory implied the question of geography. Not just to presume that there is a sort of image of endless globalization in which we are all going to be working around the world. There is actually a form of knowledge for architects to now bring back into the world. Ironically, geography is becoming one of the deep disciplinary domains, an additional architectural form of expertise, which will be just another means to bring architects forward to engage the complexities of our time.

TLT demonstrated that the formation of human identity can only be conceived as a social process and is triggered by the friction with the ‘other’. Not having a direct conflict with diversity though, is almost impossible because the formation of any kind of identity awareness is created through the process of comparison. It means that each and every one of us identifies himself through the honest recognition of what is different. (9) (10) (11)

During the entire process and some specific playgrounds of TLT the students became able to identify the dipole of
the same and the different. It happened in a social field where everyone was involved in a constant game of comparison and distinction in the quest of self-definition. Ethical criteria imply social equity and vice versa.

Our body

Affection, imagination, sociality are some of the basic mechanisms among human beings and their environment. Evolution and intellectual development can be regarded as an extension of the biological process of adaptation of human beings through the two processes identified by Piaget of assimilation and accommodation. On one hand assimilation implies a consistent response to a new event following a known pattern; on the other hand the process of accommodation implies the modification of those known patterns in order to deal with a new object or event.

Especially in children the two processes of assimilation and accommodation are deeply grounded in the gradual discovery of the body’s movements in surrounding space and the iteration of the processes is enhanced every time they play. McCormack in a recent publication reflects on affective spaces generated when bodies move, and points out the opportunities such spaces provide for rethinking and remaking maps of experience. (12) The affective experience in space triggers the known patterns of biological events.

For the purposes of this paper it is important to mention that in adults the affective experience is not only the result of innate mechanism, but also a “complex matrix of nested and interacting ideo-affective formations.” (13) It seems all too obvious that bodies move through and within spaces and it appears similarly obvious that certain spaces are designed explicitly to facilitate the movement of the bodies for a range of aesthetic, cultural, or political purposes. But for a prospective architect to be able at some point – possibly at an early stage of formation - to experience by himself, to observe and to identify the fleeting combination of percepts, affects, and concepts of a still unbuilt space, and eventually to use those tools for modifying the design, is another thing.

During the stage 4 of TLT the students of the four participating Schools had the opportunity to lead the two weeks intensive workshop in the vibrant context of 13th International Architecture Exhibition at the Venice Biennale. The predicted goals of this stage were to draft the first attempt for ‘Manual for Congolese women as self-builders’ using non-verbal communication techniques and the construction of the first modular bamboo real scale prototype of the centre. On a parallel track (observation and recording) a group of students worked on the web-documentary under the remote help of a professional film-maker.

Some very interesting dynamics were put in place; some of them already occurred in stage 2 but with a lower intensity. The main challenge was: how to compose the differences? Differences in students’ backgrounds (architecture, built environment and architecture-engineering), vision (students, women, users but also individual/collective), culture (Western, African) and so on. Is the simple summation of the ‘single ingredients’ making a new identity? Or are there tentative design solutions to be promoted because they pursue a policy of freedom? (14) Here we see the relevance of the sentence quoted in the introduction, that the fundamental problem of architecture and of culture is that of freedom, where freedom can be defined as freedom of acknowledging different opinions and the freedom to choose.

The first answer of the students to this radical note was to separately occupy the four corners of the huge room of Le Tese in the Arsenale by literally representing in space the conflict over the territory and communicating the general competitive feeling. It was only after one week through common affective experiences in space in relation to the project that the shared space of Le Tese became an effective playground. It started to be populated and became the common ground on which the possibility of conflict and the need for its resolution found a positive fertilized soil.

During the second week of activities the students approached the tasks of the manual and the building of the real scale prototype in a relational way. They realised that in designing both the skills of having “a thinking hand” advocated by Pallasmaa (2009), and that of being a good craftsman advocated by Sennet (2008), should be implemented also by a degree of experience in affective space. (15) (16) That is, this kind of experience involves non-reducible relations between bodies, and between bodies and other kinds of things, including artifacts, ideas and concepts where neither these things nor bodies are ever stable themselves.
Conclusion

Architecture often operates at the level of immediate seduction. Mesmerised by this objective, it seems to forget that it has the inner capacity to provoke our imaginations beyond the objectives of the consumer society. The obsession with professionalisation, which dominates architectural practice today, degenerates in focusing only on demand, by operating symmetrically with economic principles. The pervasive and fictitious power of the economy of finance prevents any change of behavior needed at individual and collective scales. One of the consequences of this wish to respond to expectations is the abandonment of everything strange, everything that does not fit into the established order.

This paper discusses how pedagogy and practice might intersect without translating to just professionalising the academy. The architectural discourse should be tied into a broader discourse: on the one hand, in architectural practice the very common criteria are barely financial driven - to finish the project on time and on budget; on the other, the curriculum driven education set in the Bologna Process is too restrictive. It is already showing its main limit of being designed to ensure comparability of standards. That is, students who submit to the standards of others for the measure of their own personal growth soon apply the same standard to themselves.

Between practice and institutionalised education the authors think that there is an area where pedagogy can be influential. This is a still unexplored territory of extracurricular activities linked to the Design Studio, but based on systems thinking model applied to architecture. While still dealing with the discipline and with forging a project, the freedom of developing opinions equip students with some knowledge of and respect for architecture. The currently BON and TLT answer to Branzi’s statement is that freedom in architecture implies gradual and solid knowledge.

In detail, the case study of TLT has been analysed in order to point out the importance of letting students work in autonomy on ethical playgrounds related to the project. In playing, the spatial and virtual forms of the playground are constantly redefined, by creating interfaces and/or giving form to a set of rules. That implies a constant demanding process of negotiation and common decision-making between players.

In the second subchapter body thinking has been introduced as a powerful tool in the dynamics of playgrounds. The body involvement and affective experience in space should be cultivated as part of the process of thinking in designing. It has the potential to trigger known patterns of biological events and also the complex matrix of nested and interacting ideo-affective formations of students. By engaging in this activity these experiences generate vague but tangible shifts, twists, and turns in the multilayered sensibility from which thinking takes place.

How do those educational live techniques have an impact? The global economy is a reality. So how do we find people who are intelligent and who are willing to take a risk on intelligence in architecture? The paper suggests that the intersection of the affective and the conceptual on a collective audience is where architecture has a potential political effect.

Here the authors refer to the definition of politics in Aristotele: “(...) decision making for the common good, for the way individuals and different groups of people can live together. Politics in this sense comes from the existence of the polis (...), the space that exists in between individual or groups of individuals when they coexist.” According to Aureli the term politics holds the possibility of conflict in the space of the city (polis) and the need for its resolution. (17)

Of course this argument needs to be verified with further theoretical material and practice research investigations, but the following student’s comment published in the ‘End of Year Student Book’ of one of the participating Schools of TLT proves that the direction is potentially interesting: “We can do nothing to change this, so let’s do something! The fundamental result and achieved goal of this enterprise was the equipping of future architects in the tools of generative design in a spirit of optimistic realism. If even a fraction of the
students in this workshop develop these themes in practice, many more people like the women of the DRC will be helped. One of the most valuable times in my education!

References