TETRAPOLIS - an exercise in building the complexities of proximity space

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Abstract. It is often said that the precarious state of Eastern European public space is a direct consequence of the poor communal and social bonds that the communist governance of space inadvertently put forth. Communal spaces belonged to all and to no one at the same time- were, and many times still are, devoid of anyone's responsibility towards them. With this premise, we experimented with our first year architecture student's intuitive ways for understanding these vicinities, their physical and symbolic proximities, through participatory tactics and certain poetic/architectural tools required in the phenomenological build-up of space. We thus devised the TETRAPOLIS game, through which, our students were able to work both autonomously as well as in teams, with the task of building a communal setting. Our paper discusses the methods used by this community building game and our findings regarding the student's abilities to intuitively understand the complex nature of proximity.

Keywords: Tetrapolis, architectural tools, students.

1 Problem statement

In Architecture schools, more so than in other academic fields, the first year of studies is the moment where the groundwork for entire curricular study is laid. For students coming mostly from the standardized branched training so typical for high school curricula's, this can turn into a really confusing experience. Their expectations of what it means to be an architect and how architecture is to be understood and practiced are from what we surveyed mostly at odds with the practice itself. Mostly perceive architecture as a marriage between art and engineering which although true to a point is an incomplete definition. Fascinated by the concept of architect as demiurge few have any ideas of how architecture affects the life of the user/users, or its cultural, social, and political discourse. Although all these aspects are covered in the five or six years of study, considering our new social economical paradigm of a post crisis world, we noticed the need for a better understanding of these topics even from the first projects that students are faced with.

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In a typical architecture school, as was in the case of our only a few years ago, the first year projects usually tackle the abstract and philological problems specific for the architectural vocabulary, morphology and syntax. These linguistics exercises, though important in their own right are however many times devoid of real world problematic. Their outcome is often times purely formal, teaching the young architect to perform within a universally accepted set of linguistic rules. How do they fair when put in context, when related to the realities of the world? As we have by now only too often seen, even in the case of the most talented students, they can create the myth of the architect as *Artiste*, of architecture as a purely expressive formal discipline, devoid of any responsibility toward the social aspects of its context. This only exacerbates the image of architecture that the students are equipped with in the first place. It is by all means an architecture that operates solely on the principle of figure ground relations, where the expressive architectural figure is set against a neutral background whose sole purpose from now on is to emphasize the first one. In this mode of understanding so typical for modernism, where architecture assumes the role of the figure the background or surrounding space becomes the negative. How does one make this surrounding space a positive and why does it matter in the first place?

As stated above in this papers abstract, Eastern European post-communist public space, the space we all publicly and socially inhabit is mostly negative space, a direct consequence of the poor communal relationships and mentalities that the communist model inadvertently put forth through poorly designed modernist schemes. Following the intense welfare building programs of the sixties and seventies Romania quickly turned from a mainly agrarian society into an urban one [1]. In this artificial transition both rural as well as urban community bonds and their typical spatial use patterns were lost. The new urban dwellers unaccustomed to urban dwelling were unable to truly make their own the spatial structures envisaged for them by the state. In a society with no real private space where public space belonged in theory to everybody, no one really wished ore dared for that matter to appropriate anything. As no man's lands [2] communal spaces and especially micro vicinities, spaces that ironically belonged to all and to no one at the same time, were and many times still are, devoid of anyone's responsibility towards them. Furthermore this lack of communal appropriation was made worse in the transitional, post-communist years of Turbo-Urbanism, so typical for the Balkans, when the private property and private developments manifested themselves with total disregard of any societal, administrative or cultural norms. Once the subdued desires of individuality where released, new shows of identity building, status and power came to be, mostly at expense of the few remnants of unity and clarity that public space still possessed.

It is an undercurrent of thought that unfortunately still flows in perception that many Romanians have towards architecture and space, being them either private or public. It is no surprise then, that the typical first year architecture student has a cultural predisposition towards this line of thought. From the questionnaires that we hand out in the beginning of the academic year we noticed that in most cases their experiences with space are profoundly vitiated by this status quo. As Bourdieu would put it [3], most of them are the victims of an *illusio*, the illusion of either the cultural group or social strata of which they are a part of, towards architecture's role in this type of culture. To only and to this, one might argue that architectural training itself was until not so long ago the victim of just such an illusion, the illusion that oftentimes the aesthetic quality of architecture itself has miraculous healing powers, that localized infusions of greatness can by means of trickle down tactics change the context in a good way. Though sometimes successful this strategy has none the less proven to be ineffective, actually widening the gap between the so called good and the bad, between the planed and the organic, between the conceived, the perceived and the lived space [4]. So how does one plan for the lived qualities of space

without using his own theoretical or linguistic predispositions [3] towards that space. Understanding the language of this space is not just about syntax and grammar, but mainly about the cultural and social parameters that define the context. One needs to know and understand these parameters if he is to operate within the context. Are they as students aware of how these parameters have shaped them thus far? We argue that in the case of first year architecture students these parameters can be tweaked towards an intuitive response to architecture's problems. This can be best achieved not necessarily through the abstract exercises of a newly acquired language but through a guided play highlighting the multiple meanings of the already known language.

2 Purpose of study

First year students are ideal for just such an exercise for they can provide the context. It is they who can create the social milieu that can be subsequently modelled intuitively into an architectural model. Their lack of any in depth theoretical knowledge concerning either architectural theory, urban planning, economy, sociology, or the more subjective issue of the phenomenology of space, can be turned on its head by applying these concepts through means of intuitive study, without the need of ever directly postulating any of the known dogmas specific for each of these fields. Bourdieu notices [3] that often times the illusions that we project upon concrete realities are born from the predispositions of the field from which we operate. These predispositions often lead to solutions that are right only when viewed from that specific operating field, and incomplete when viewed from all others. We thus consider that in order to compensate for the distortions typical for these viewpoints, even before they are well established by the acquisition of specific theoretical knowledge, one can experiment intuitively, without a clear field type goal in sight. In this respect the method and the process of learning, and not necessarily the final outcome, become the dominant undercurrent of the whole experiment. What we wanted is to see how much of the individualist cultural model already described above translated into their work, if this affected it, and in which way. How are they going to shape space, both private and public, using only intuitive methods, past experience, channeling their unbridled desires? Will the individualist cultural model already described above translated into their work, will it affect it, and how?

Moreover by working in teams as opposed to individually, ideas and findings are shared democratically between the participants, just as they are in real life situation. Ideally a process of maieutic searching is ensued, where ideas flow freely from one peer to another. Participants are however left to their own choice whether they wish to cooperate or not, and at what intensity. We were thus able to see in what manner the students were accustomed to collaborative design processes so far, and their willingness to do so not necessarily for their immediate own benefit but for the benefit of their teams. It has to be stated that the potential success of their individual outcome depended in equal measure on the group's total response. In this respect we consider that laying the groundwork of their negotiation and collaborative skills is not only important their practice in the future but mainly for establishing methods of understanding and empathizing with the needs of their end-users/clients.

By abandoning the framework of the typical philological abstract study of space, materiality and form, we experimented for three consecutive years with our students within the game world of the city of Tetrapolis. Although it is built like any game around a few fixed principles that serve as guidelines, the final and most important parameters of the resulting game world are dependent on the type of response each group of students puts forth. So how does it work?

3 Methods

The premise is the following. The year is split into four groups of roughly 25 students. Each group has to build one of the four neighborhoods that encompass the town of Tetrapolis. They do so using a gridded board upon which each student places his lot. The lot has four 5 by 5m squares shaped like Tetris bricks : L, T, I, Z. Out of the four squares allotted to each plot at least one must be given to the neighbourhood as public space (Fig.1). The rest are to be used as intermediary space and as private space.

Fig. 1. The allotted plots and the game board

The students are also assigned two of three possible artefacts: a bench, a tree, and the element of water (fountain, pond, spring). Out of the two one must be given to the neighborhood one must be kept private. The neighborhood is built by using the material found on site, meaning that each student can produce building materials by digging on his plot for stone or clay but no deeper than five meters. This has to be carefully planned between them since uncoordinated digging can collapse their plot borders. Considering the tightness of the plots and their shapes the students are faced with the problem of finding the best possible position for their plot, in regard to one another, taking into account the terraforming process, the need for roads, the possible larger public areas, as well as the direct physical contacts between the built object. Thus the students are forced to cooperate in one form or another if they are to build a coherent structure. However once these general decisions are made they will work individually on their plots coordinating with their immediate neighbors. A chain reaction follows, as each individual decision has the potential to alter the context. What is particularly important is the way in which they relate to the public space that they thus generate, since the artefacts dotting this space can generate places of certain interest. This is in fact the basic theory behind the artefacts, since each one of them has imbedded multiple purposes: functional, symbolic, poetic,

compositional. A bench is a place for socializing, or for resting and observing just as a fountain can be, or the shade of a tree for that matter. Since the spatial, functional and symbolic qualities of these elements are often neglected by the general population in present day Romania, these artefacts are in many ways testing our students understanding of the principle of commons. These elements are thus to be used as place generating tools.

In order to understand the importance of such features, in preparation for this project students are given a two week assignment in which they are supposed to make a critical analysis of three different public spaces from Timisoara, our schools hometown. Following DeCerteau and Debord advise to walk the streets [5], [6], to view the city from the pedestrian perspective of the flaneur students are encouraged to experience these spaces during different times of the day, in order to distinguish the relations between the forms of the architectural space, and how it is affected by light, texture, complexity or simplicity, patterns of movement, daily use, sound, noise and other phenomena. These studies are also based on Pallasma observations on the nature of perception [7], and emphasize a multi-sensory experience. The methods of observation are similar to the ones implied by the situationist derive. In fact the whole hidden purpose of the Tetropolis game is to produce a situationist city, akin to the one envisaged by the situationist architect and artist Constant Nieuwenhuys as a city of play and movement, free of physical borders and fences [8]. This is especially important since Romania as much of Eastern Europe is also a country of strict fences and limits, where private property is clearly defined- perhaps one of the many reasons for the dissolution of public space.

The Tetropolis game ensues afterwards and lasts for six weeks. Students work in groups for most of the game, finishing their project individually in the final two weeks. It is at that time that they apply onto their solution the basic elements of architectural language acquired thus far, focusing on form, light, the materiality of space, while solving the links between the public and the private area. The game is arbitered by 8 teaching assistants, two for each group. The arbiters are seeing that the rules are respected, but mainly help in the exchange of ideas and concepts. In the final stages they oversee the detailing of the individual solutions.

4 Findings and results

The findings of our exercise where from certain aspects surprising, especially in the first and the third year of the game. We will continue by describing separately the results for each year since there are important differences. We must also note here that this exercise takes place in the second semester of the academic year. This is important since by that time we already have an idea as to how each study group performs in general. Some of the groups already had academic leaders, other charismatic leaders, and there were a few without clear leadership. Some of the groups were already clearly defined as micro-communities with an internal hierarchical structure, others were not.

What we noticed in the first year of the exercise was the different approach each of the four groups had toward the assignment. Some of the groups left the process of decision making to its leaders, while others produced an anarcho- syndicalist mode of decision making (Fig2). The ones that based their decisions solely on their academic leaders were to our surprise unable to produce a viable working model, since the weaker links felt left out, working by solely the numbers, not caring of the outcome. Cooperation between the higher strata of power and influence and the lower tier was weak. These neighborhoods were subsequently disjoined and split up between different factions and modes of work, as was the case of group B and C. In one case that of group D two of the students with better academic results were left out of the general plan due to their lack of social skills and somewhat stubbornness toward other ideas. In all these cases the qualities of the public

space and immediate vicinities depended on the ability of each of these factions to interpret it. Much to our surprise the most interesting result came from what proved to be the less performative group of the first semester. In the case of this group there was only one clear academic leader, and many charismatic leaders. More over this group, that immediately adopted the anarchic model of participatory decision making, was well aware of their inherent weakness. This however proved to be the engine of the group as a whole. Their level of involvement and participation was at such high such levels that other groups felt somewhat beaten halfway through the exercise. To our surprise we found out that this experience tightened this group so much that in the following years it became somewhat of a brand, others trying to emulate its spirit. The neighborhood that they produced, although not having the best individual solutions, was however the most complex and grounded in the requirements of the game. Public spaces were well distributed and vicinities carefully micromanaged among neighbors.

During the second year the experiment produced somewhat similar results, but unfortunately no group managed to surpass the success of the previous' year group A. What happened was a clarification of the relationships between public and private spaces. What we noticed was that in spite of actually playing some of the students were simply simulating their response trying to emulate what was already done, or at least what they thought that was expected of them. A level of conformity became evident as some solutions were simply treading on known ground. This might explain to a certain degree the modes in which certain tried and tested features and typologies are transmitted throughout generations, as was clearly the case here. However due to this issue nothing really stood out as original.

We tried to correct this in the third year introducing a new element in the logic of the game. Now each student had to build a "house" for a fictional literary character of his own choosing. Thus the city was inhabited by a more complex set of characters each with his own specific back story and atmosphere. The houses and the physical relationships they maintained between them had to somehow reflect the nature of the chosen characters. This was a good decision since again the students were forced to find new justifiable means of expression. It was in many ways a renaissance of the exercise. Again it produced surprises since what we considered to be one of the best group of students that we had seen in the past few years performed poorly. It was the case of group B this time, a group filled with personalities and notable students that once faced with the task of cooperating choose to downgrade their skills to some sort of common denominator. Thus none shined and all solutions looked similar, so much so that you could not clearly perceive the different narrative of their characters. Much to our surprise the group wilfully chose to produce a unitary formal concept that practically annihilated what gave them strength in their first place: their personalities. And again, the group that performed poorly in the first semester managed to outperform its competitors, this time not through grand scale common strategies but through successful micromanagement among individual neighbors. They were thus able to maintain their narrative stances individually while achieving complexity and order on a large scale. It was the most altruist mode of operation that we had seen thus far, perfectly describing the tit for tat logic of the prisoner's dilemma. Despite not getting along with one another, as prisoners of this game, they cooperated to get the best possible outcome.

Fig.2. Working on the game board and detail of the model

5 Conclusions and recommendations

We draw our conclusions by observing the progress of our witness students through the following academic years. We were thus able to see how this experience affected their performance in the second and third year of studies. We noticed that the students with good cognitive skills, manifested even from before the game, continued to show good responses towards their subsequent academic tasks. Upon individual questioning they considered the game as positive experience. Only one student from our first batch had mixed impressions since he felt ostracised by his group following his poor communication skills with what he considered to be inferior peers. In general we consider that these students would have performed well in any circumstance, with or without the game. The most surprising results came in the median area, where we noticed the forging of strong bonds between students. As we have already shown the students who were able to properly understand their individual weaknesses, were able to outperform others simply by combining their skills. This peer to peer exchange was the not only detrimental in their learning processes but in the final outcome of their projects. Through cooperation and micromanagement towards a common goal, these projects supplied the most adequate solutions for the public/ private space problematic. As a general observation we can thus conclude that in the case of our experiment the most engaging learning processes were observed with the groups that chose a participatory *modus operandi*. The trickle down tactic, or top down approach, where an established elite somehow gives the tone of the entire setting has produced poorer results than expected. In this respect this gives an interesting interpretation on the insular nature of the built environment. It also give some measure of a response to the question Lefebvre raised concerning the right to the city [9], on who is more entitled to symbolically appropriate the communal effort, the resulting neighborhood, its public and private spaces. In this respect we can argue that individual quality and singular expressions are not enough to establish or maintain a complex and democratic larger context. Participation can be achieved between similarly skilled peers, but is best manifested when all strata communicate on the top down / bottom up vector of decision making.

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