Open-Cube: Towards an Open-Source Architecture

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ABSTRACT

Architecture is a means of production, a means of spatio-temporal intervention, a use of force against what already exists in natural and cultural environments. "In addition to being a means of production," as Henri Lefebvre subtly puts, architecture is also "a means of control, and hence of domination, of power." Architecture thus, is ontologically a political endeavor in the original sense of the word politikos, since it simply affects the everyday life of citizens and the way they interact with their social and spatial environments. ABOUTBLANK's experiment in this regard, is positioned in the liminal space between architectural design theory and practice. The experiment is, (1) about overthrowing the problematic structure of power and the elitist hierarchy inherent in the profession among spatial actors, (2) about dissolving the antagonistic relationship of architecture with time, change, and movement, shrouded by its fetishistic preference for atemporality, inertia, and permanence, and finally (3) about a radical pursuit towards an Open-Source Architecture which, contrary to the exclusionary nature of the conventional profession, empowers all spatial actors to become creative architectural co-producers within a horizontal, performative, and process-driven network. This theoretical framework was tested in Antalya, Turkey as an open-source architectural experiment during the summer of 2013, under the code-name "Open-Cube." It was attempt to defy the logic of pre-determined function, allowing users to activate cubes according to their needs and desires, to defy the logic of pre-determined static composition, allowing users to move, relocate, and displace cubes as mobile containers, and to defy the logic of pre-determined hierarchical power organization, allowing users to get rid of their subordinate position and empower themselves as egalitarian spatial actors in the architectural milieu. In Antalya, the participating spatial actors of this experiment started to realize in a preliminary but promising way, in good old Nietzschean terms, the transvaluation of architecture's problematic conventional values.

KEYWORDS: Open-source Architecture, Bottom-up, Process-driven, Participatory, Agency, Performative, Mobility

1   AN EXPERIMENT IN OPEN-SOURCE ARCHITECTURE: OPEN-CUBE

Open-source is a development model that promotes universal access via a free and common license to a product's design blueprint and its redistribution including subsequent changes and improvements by

any involving actor. *Open-source Architecture* in this context, can be defined as a model of architecture that opens its source codes to everyday spatial actors so that they can decide, co-develop and constantly re-define architectural codes of their own built environment. *Open-Cube* is a recently realized experiment in *Open-source Architecture* in selected public spaces of Antalya, Turkey, during the summer of 2013. Open-source development models, first established in software technologies, promote universal access and redistribution via free and common licenses to a product's design or blueprint, through subsequent changes, improvements, and manipulations by anyone. This constitutes the basis for our concept of *Open-source Architecture* that attempts to provide a bottom-up experiential process that potentiates everyday spatial actors to mutually shape and constantly redefine architectural codes and urban configurations according to their ever-changing needs and desires. Designed and constructed by ABOUTBLANK, an inter-disciplinary architecture office co-founded by Gökhan Kodalak, Erhan Vural, Hasan Sıtkı Gümüşsoy, and Ozan Özdilek, as part of Antalya's 2nd International Architecture Biennial, the project consists of a swarm of mobile open-cubes hijacking the voids in the existing urban matrix including the terrace of Karaalioğlu Park and the entrance of historical Hadrian's Gate. Technically, open-cubes are constructed as 2,5m x 2,5m x 2,5m cubic structures, made inhabitable by removing their front and rear faces to provide an adequate interior volume, and mobilized by inserting four wheels under their base surfaces. **[Figure1]**

Figure 1: Open-Cube Diagram: A swarm of habitable open-source structures

On a warm September morning, these open-cubes were released to Antalya's public squares without any prior elucidation, as an open invitation for all the spatial actors to activate these constructs with their own performances. Open-cubes became accessible for a month to a multitude of different people visiting these urban juncture points, from local residents and urban actors to national and international tourists. We monitored how open-cubes were utilized by everyday people as three team members with cameras in hand, through random monitoring during different times of day and night. Random monitoring was part of the spontaneous structure of the experiment itself, as by experiment, we mean exactly the opposite of controlled laboratory experiments: Open-Cube in this sense, was an ethnographic field experiment to challenge the notion of control to begin with. During the first week, the

interaction with open-cubes could be defined as a bilateral acquaintance. Inside open-cubes, to name a few examples, white-collar workers read their newspapers, an old lady prayed in tranquillity facing towards the sea, two students spent a whole day with their laptops for some kind of research, and a homeless man spent two nights while listening to his small worn-out radio.

Contrary to problematic traits of the conventional architectural profession, such as exclusionary authority, functionalist expertise, and atemporal conception of space, *Open-Cube* features *horizontal agency* through participatory and collective frameworks, *performative program* through modifiable and differential spatial codes, and *dynamic temporality* through process-driven and mercurial operational modes. The elaboration of the primary features of *Open-Cube* then, shall go hand in hand with the critique of current profession's problematic traits about architecture's relationship with power, function, and time. [Figure 2]

Figure 2: Open-cubes at Karaalioğlu Park, Antalya

2 HORIZONTAL AGENCY

2.1 Critique of Architectural Hierarchy

The built environment is a contested field on which a multitude of forces encounters each other at every turn, forming alliances and assemblages while simultaneously contending and disintegrating one another. Insofar as architecture is defined as interpreting, constructing, and shaping this environment on any actual and virtual milieu, architecture ontologically becomes a political endeavour in the original sense of the word (*politikos*), since it affects—and is in turn affected by—the everyday life of citizens and their socio-spatial interactions. Not all spatial actors however, share the same degree of power and agency in decision-making processes of shaping the built environment. In the current architectural profession,

spatial actors are fixated in a hierarchical organizational structure according to their degree of agentive power. At the top of the pyramid rests the client, who commissions the architect, located immediately below holding an intermediary position, to design an architectural structure and organize its construction with the relevant workforce, while at the bottom lie subordinated users, who are excluded from participating in decision-making processes altogether, and forced to "passively experience" whatever is "imposed upon them" (Lefebvre, 1991). This is why, according to Georges Bataille, architecture has never been the expression of societies themselves, but rather the symbolic demonstration of dominant powers, who articulate "authoritative command and prohibition", inspire "good social behavior and often even genuine fear", group "servile multitudes under their shadow, imposing admiration and wonder, order and constraint," give rise to great monuments and "speak to and impose silence upon the crowds" (Bataille, 1992). In this pyramidal diagram the alliance between the client representing authority and the architect representing expertise dominates architectural decision-making processes, by excluding the participation of everyday spatial actors, and rendering them obedient end-users. However, the fact that users are forced to obey whatever is imposed upon them, does not mean that they passively experience pre-determined orders of hegemonic structures without any resistance. They have indeed, almost always actively manipulated any given framework, however, to use a Spinozist terminology, through these structurations, *their degree of power and agency has been reduced* (Spinoza, 2000). Thus, they have been subordinated to self-proclaimed elites and experts in matters of deciding the articulation an organization of their own built environment. Their capability to use, experience, and interpret architectural constructs starts with pre-determined and restricted options, only after clients and architects decide and complete their the architectural production and put it into service. Architectural constructs in this way, are imposed upon users as a *fait accompli* without their ability to substantially intervene and participate, without their commentary and feedback, and most of the time, even without their knowledge and approval. Excluded from these processes, users are left with the necessity to adapt their spatial needs and desires to ready-made architectural apparatuses, and make the best of them with minor decorations, which are predominantly organized in the first place, as unbending Foucauldian cages, conversely to shape, regulate and channel their needs and desires (Foucault, 1980). This is why, *Open-source Architecture* pursues to transform the organization of architecture from a linear model of *top-down imposition*, into a multi-modal system of *bottom-up co-ordination*.

2.2   On Horizontal Agency

Open-Cube advocates horizontal agency and defines an egalitarian layout in terms of spatial participation and decision-making processes. It defies the pre-determined fixity of hierarchical power structures that shape the spatial milieu, and instead presents a rhizomatic system, which encourages if not empowers subordinated spatial actors to occupy, displace, change, and program these structures with their spontaneous performances. Contrary to the exclusionary nature of the conventional architectural organization, *Open-Cube* empowers all spatial actors to become creative co-producers within a horizontal, participatory, and process-driven network. Everyday spatial actors abandon their imposed docility and compliance and acquire a new role of unearthing differential architectural trajectories within an emerging heterarchical matrix. Open-cubes then, as flexible frameworks with modifiable source codes intentionally produced to be occupied, organized, and modified by spatial actors according to their variable needs and desires, *increase the degree of power and agency of their spatial actors*. [Figure 3]
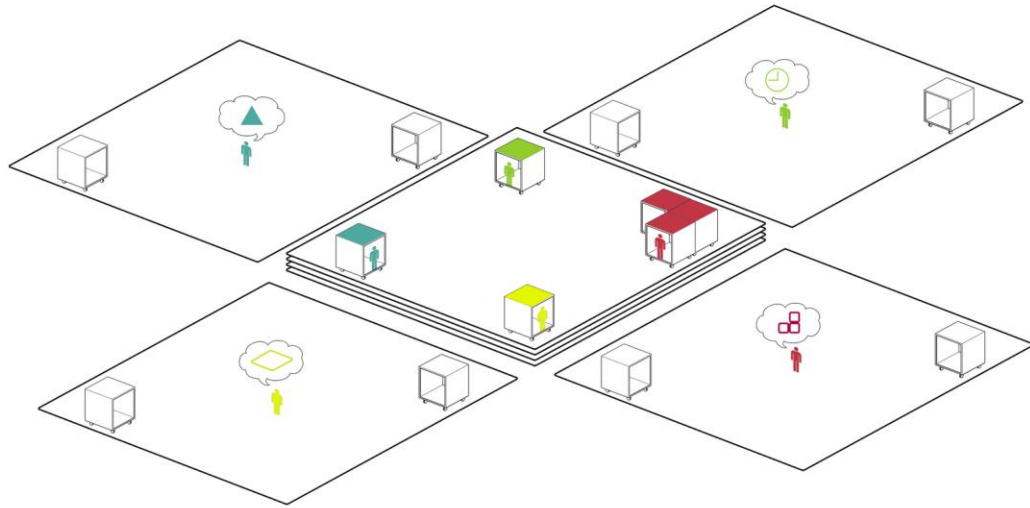
Figure 3: Open-Cube diagram: Horizontal Agency

In Antalya, these spatial actors became *vectors of deterritorialization* as they started to take a set of regulatory and disciplinary measures away from the spatial territory and decontextualized the relations that anesthetized their creative intent, by utilizing the horizontal multidimensionality of open-cubes (Deleuze and Guattari, 2005). During the second week, the interaction with open-cubes could be defined as a bilateral adaptation. Inside open-cubes; a nervous couple, after moving one of them to a relatively less visible spot, kissed each other probably for the first time for a few seconds, a brownish street dog sneaked in and lied down before being thrown out for no reason, and a multitude of protestors converted open-cubes into micro-quarters of civil disobedience by painting them in colour in support of the Gezi Event, until the municipal police arrived. *Open-Cube* in short, potentiated everyday spatial actors to become creative co-developers by capacitating them to produce new and ever-changing spatial experiences for and by themselves. [Figure 4]

Figure 4: Open-cubes at Karaalioğlu Park and Hadrian's Gate, Antalya

3   PERFORMATIVE PROGRAM

3.1   Critique of Architectural Functionalism

Throughout history, function has always been an important architectural component, although it was utilized differently within diverse temporal and cultural contexts. For Vitruvius in his famous *De architectura* for example, function as in *utilitas*, was one of the three primary qualities of architecture, along with stability (*firmitas*), and beauty (*venustas*). For modernist architecture, to jump closer to the contemporary condition, function was more than a quality, it became a straightforward obsession. Form started to follow function, houses began to transform into machines to live in, and cities appeared to be rigidly planned according to functionalist zoning principles, as in Athens Charter, dictating people where to live, where to work, where to recreate, and where to circulate. Since the second half of the twentieth century, function has lost this fetishized ideological status, however, it is still utilized within the same organizational logic, that is to say, the function of a building or an urban zone is still decided behind closed doors based on an alliance among state apparatuses, private clients, experts, and architects, to be fixated once and for all, until the building completes its life cycle, or something goes financially wrong. One of the few significant improvements about this structure, has been the dissemination of multi-functionality within spatial formations, which has ironically become nothing other than coupling every program with the shopping function. This is why, *Open-source Architecture* pursues to open spatial compositions to a myriad of possibilities to be performed by everyday spatial actors through constant and ever-changing modifications.

3.2   On Performative Program

Open-Cube advocates performative program, serving as a loci of becomings and events rather than harboring objects of enclosure. That is to say, it presents a programmatic changeability constituted by the interaction of its spatial actors. Open-cubes are rendered volumetrically and programmatically blank to avoid any possibility of pre-determined function and fixed content. Instead, open-cubes invite their spatial actors to inject their own ephemeral and mercurial programs and decide the functionality of open-cubes themselves. This can be deemed as an affirmation negation, for it exposes open-cubes to endless potential uses and variations decided by its spatial actors, while simultaneously resisting hegemonic constructions of any pre-determined meaning and fixated function. *Open-Cube* then, promotes relationality of the event over form, and mercurial change over cohesive fixation. Interactive, constantly regenerating, it rails against conventional architectural logic by placing subordinated users rather than authorities and experts in the creative act, and differential spontaneity rather than predetermined regulations as its primary focus. While architectural constructs conventionally "allow their designers to determine the meaning and expectations of others," and deny the same capability to those who use them, *Open-Cube* overthrows this frigid confinement to "give each person who uses them the greatest opportunity to enrich the environment with the fruits of his or her vision" (Illich, 1975). **[Figure 5]**
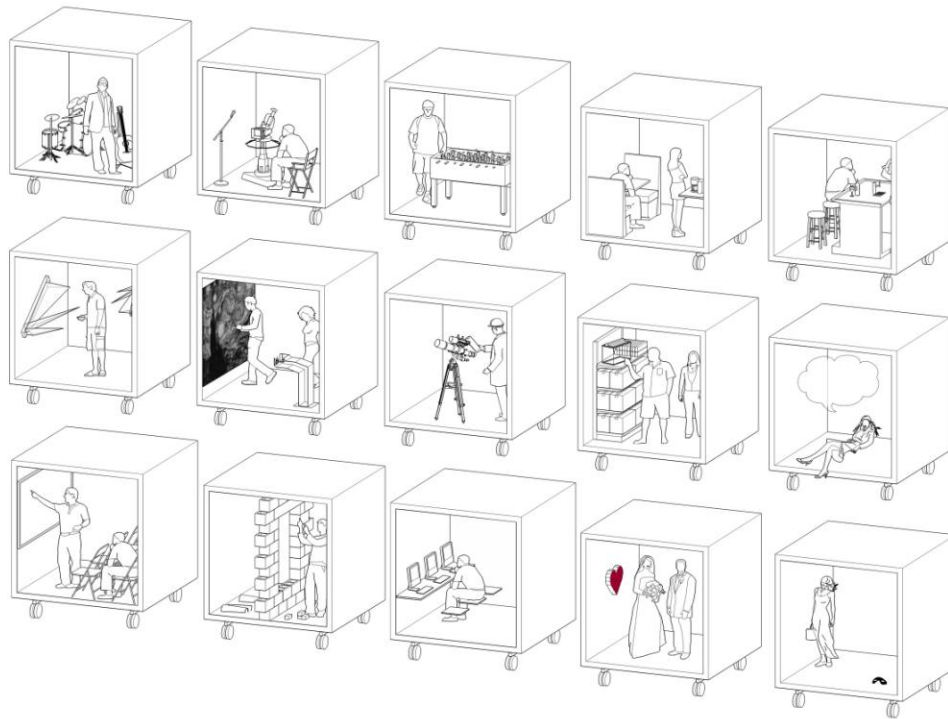

Figure 5: Open-Cube diagram: Performative Program

In this sense, *Open-Cube* functions just like John Cage's famous composition called *4'33"*, which was a musical performance of silence that asked the audience to fill in the auditory gaps with their own noises and everyday sounds (Cage, 1988). *Open-Cube* also responds to Robert Rauschenberg's *White Paintings*, which were empty canvases presented as blank paintings, asking the viewers to fill in the visual gaps with their own shadows (Cage, 1974). *Open-Cube* further functions in parallel to Antonin Artaud's *Theatre of Cruelty*, which was simply an empty stage presented as a carnivalesque "theatre of action," beseeching spectators to fill in the experiential gaps with their own performances (Artaud, 1994). Finally, *Open-Cube* functions like Cedric Price's *Fun Palace*, which was an open structure, presented as a

"laboratory of pleasure" that asked its spatial actors to fill in the programmatic gaps with their own needs and desires (Price and Littlewood, 1968).

In Antalya, *Open-Cube* encouraged using architecture as a temporal medium, expressing affirmative relationalities through endless rearrangings, and granting spatial actors the ability to alter their environment through collective action. The improvisational power of variability inscribed within open-cubes invited spatial actors to constantly reinterpret their spatial dynamics. During the third week, the interaction with open-cubes could be defined as that of a bilateral transformation. An open-cube was appropriated by a hawker for selling flowers, another was found heavily damaged, got dismantled, probably to be sold as second-hand construction materials, and the other was moved by street musicians to different spots of the park in accordance with the direction of the urban flow as a mobile stage till they collected enough money for a few more wine bottles. *Open-Cube* in short, transformed the architectural milieu from its strictly separated, regulated, and fixated roles, programs, and processes into a non-alienating playground with participatory, differential, and generative becomings. [Figure 6]

Figure 6: Open-cubes at Karaalioğlu Park, Antalya

4   DYNAMIC TEMPORALITY

4.1   Critique of Architectural Atemporality

The history of architecture brims with stalwart commitments to atemporality, inertia, and permanence, while radiating passionate oppositions against transience, motion, and change. During Antiquity, palaces, monuments, and places of worship were deemed the most notable works of architecture within emerging urban frameworks in many civilizations, symbolizing a will to eternal

stability of the existing hierarchical structures, by referencing divine authorities. Modernity ushered in an age of scientific reason that reformed and sustained this atemporal structure by discarding the celestial reference, and instead incorporating a Cartesian perception and comprehension of space, as an infinite mathematical construct detached from time, and located within a Euclidean vacuum. Although Cartesian spatio-temporality has been challenged by the advent of epistemological breaks backed by evolutionary biology, quantum physics, and continental philosophy among many since late modernity, the professional and discursive milieu of architecture has stood firm—from modernist vanguards to your favorite contemporary Starchitect—architects have continued to proudly boost with their ability to grasp and mould space through quantifiable measures and static models sustaining the illusionary atemporal, homogenous, and isotropic character of space frozen in time.

Against this atemporal perception and construction of space, Michel Foucault suggests that "we do not live in a void," but rather "we live inside a set of relations," (Foucault, 1986) which Gilles Deleuze expands by adding that "space itself" is not only "based in things, in relations between things," but also "between durations" themselves (Deleuze, 1991). Taken together, Foucault and Deleuze suggest a combined spatio-temporal relationality that may prove to be quite useful for the contemporary architectural milieu. Architecture needs to be neither fixated to the final moment of completion, nor fixating any spatio-temporal dynamics. On the contrary, architecture has the potential to become a catalyst to enrich spatial and durational relations by affirmatively integrating itself to the ever-changing spatio-temporal stream with no frozen beginnings or ends, and consciously situating itself always in the middle, between things, simply as an interbeing, intermezzo. This requires not only to realize the inseparable interaction between space and time by leaving behind the prevalent perception of space as a timeless vacuum, but also to create new possibilities for dynamic architectural assemblages by crossbreeding previously separated processes. This is why *Open-Source Architecture* shall stand, as the renowned modern Turkish literary figure Ahmet Hamdi Tanpınar delicately puts in his famous poem, "neither inside time; nor completely outside," yet shall reside "in the indivisible flow of; an integral, extensive instant" (Tanpınar, 1976).

4.2   On Dynamic Temporality

Open-Cube advocates dynamic temporality, challenging any form of spatio-temporal fixity, and instead promoting mercurial experiences in relation to constant positional shift and mobile fluidity. Open-cubes are agents of displacement, for they not only change their location and re-define their context perpetually as mobile structures, but they also symbolically displace one of the conventional foundations of architecture itself, that is, the prevalent belief that architecture is and needs to be static, permanent, and bound to a fixed location. *Open-Cube* defies the pre-determined fixity of location, time, and context within the architectural milieu. It is not structured as yet another sacred Cartesian monument which excludes temporality out of its divinely and geometrically fixed spatial coordinates, but rather signals a process-driven and mobile architecture, whose spatial positions and relations can be changed instantly according to the needs and desires of its spatial actors. This constant displacement opens up a variety of differential possibilities for spatial actors in terms of experiencing space through movement, perceptual fluidity, and temporal acuity. The displacement of *Open-Cube* is not solely limited to its mobility though: it is rather "always displaced in relation to itself" (Deleuze, 1990). In Antalya in that sense, the contingency of *Open-Cube* was grounded not only in its interchangeability of location and orientation, but also in function and most importantly, in its interactive per-formation. [Figure 7]
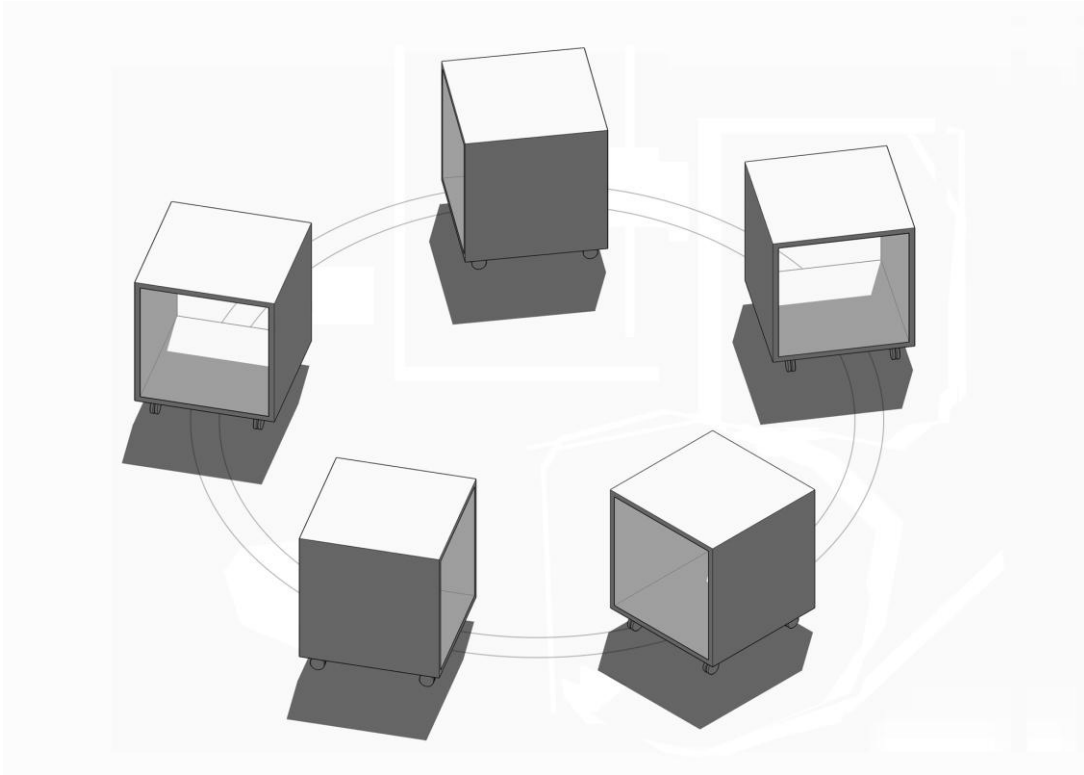
Figure 7: Open-Cube diagram: Dynamic Temporality

During the fourth and final week, the interaction with open-cubes could be defined as an affirmative valediction. Neighbourhood kids had fun becoming pirates while pushing and pulling open-cubes around, skate-rollers and skateboarders invented new tricks using open-cubes as non-sentient companions until they got exhausted, and an open-cube was loaded on a van and carried away, probably to be attached to another building at the periphery of the city as an expansion module. *Open-Cube* in short, expresses the emergence of a new architectural swarm, which transcends the problematic of context altogether, by inventing its own context every time blank-cubes move and change their spatio-temporal relationship with their environment, and adapt the intensity, distribution, and diversity of its performativity according to surrounding dynamics. [Figure 8]

Figure 8: Open-cubes at Karaalioğlu Park, Antalya

5   OPEN CONCLUSION

In Antalya, *Open-Cube* gave its spatial actors the ability to choose, create, and alter their built environment. It also proved how differential combinations of spatial experience can create ever-expanding potentials by discarding pre-conceived spatio-temporal limitations and exclusions. There were two primary limitations about the experiment; first, the budget limited the quantity of open-cube constructions, second, the cubic framework itself was deemed constant from the very beginning for similar concerns, and thus the alterability of form has become another aspect to experiment for our future agenda. Despite these limitations, open-cubes that were situated at Karaalioğlu Park and Hadrian's Gate empowered their spatial actors on a horizontal level; everyday users engaged and interacted with these structures and altered them via their spontaneous performances. As a non-linear system, *Open-Cube* engaged with "participatory open ended situations," to provide the capability to "change in indeterminate ways over time, continually manifesting new properties" (Banham, 1969). *Open-Cube* consisted of combined activities of all spatial actors and environmental actants, the fluidity of time and durations, the multidimensionality of material and immaterial relations, the alterability of locations, positions, and contexts, the diversity of desires and affects, the unpredictability of spontaneous events and situations, and the differentiality of ever-changing connections, combinations, and hybridizations.

At the end of his *magnum opus,* "Towards a New Architecture," that has been one of the most influential texts written about modern architecture and it still maintains its hypnotizing power, Le Corbusier provided a choice: "Architecture or Revolution," he said, and insofar as architecture is utilized, by taking the side of authority and expertise as a regulatory apparatus to discipline the masses, "Revolution can be avoided" (Le Corbusier, 1986). We prefer to conclude this paper, not with a cynical rhetorical choice, but with the radical possibility of a monstrous alliance.

Architecture *and* Revolution.

Revolution can be incorporated.

6   ACKNOWLEDGEMENTS

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