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Urban eco-acupuncture methods: case study in the city of Athens

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Abstract

The urban acupuncture theory is related to the creation of small-scale neuralgic interventions in the city that can have a direct impact on the urban morphology and life. Citizen's desires are taken into account in a situational and cultural context that focus on the social cohesion of the urban environment ; via the implementation of sustainable key points in the city, a network of interventions is established that would function as cores of potential energy healing the area.

After a brief presentation of the points of the urban acupuncture approach, the second part focuses on the city of Athens as a model for the implementation of three proposed case studies of this theory. The three small-scale interventions aim at the social enhancement, environmental upgrade and creation of functional public spaces, via the activation of missing links in a dense and decaying urban tissue.

Keywords: small-scale urbanism; urban acupuncture; sustainability; Athens; public spaces; green spaces; reuse

1. INTRODUCTION

The contemporary cities are facing a transformation; a mutation that demonstrates that the traditional methods and tools are inadequate for our perception for the new urban phenomena. The rapid changes in the city have an impact on the urbanity, sociological and spatial. The priorities in the conceptual approach of the design such as land use, mobility, environment, must be re-arranged and enhanced.

A long list of urbanisms (1) are formulated during the last sixty years, attempting to identify the problems of urbanisation and excessive urban sprawl by promoting solutions. The notions included in the definition of those urbanisms are related to sociology, politics, ecology, mobility, infrastructure, sustainability and energy; they gradually transfer their interest from a top-down to a bottom-up system of design; they use community participation, principles of social cohesion, by implementing new codes or combining the existing ones; total design and total architecture, usually being derived from top-down methods and a single, central vision is being replaced. In *Collage City* a critical analysis of the origins and ideologies of Modernist city planning is presented. In a Post-Modern reaction to the total-design approach, the urban design is considered through fragmentation applied strategically in order to allow the flexibility, adaptation and self-development of the city ; through bricolage that produce a functioning network of pocket utopias. (2)

For there exists a great chasm between those, on one side, who relate everything to a single central vision, one system less or more coherent or articulate, (...) and, on the other side, those who pursue many ends, often unrelated and even contradictory, connected, if at all, only in some de facto way, for some psychological or physiological cause, (...); these last lead lives, perform acts, and entertain ideas that are centrifugal rather than centripetal, their thought is scattered or diffused, moving on many levels, seizing upon the essence of a vast variety of experiences and objects for what they are in themselves, without consciously or unconsciously, seeking to fit them into, or exclude them from, any(...) unitary inner vision. (3)

The holistic approach by acupuncture strategies and micro grids give the ability to respond to

the risks of the 21st century and challenge the conventional infrastructure planning and design. The re-conceptualisation of the networks of infrastructure consist a response to an increased service demands from rapid urbanisation on the one hand and the imperatives for ecological and carbon footprint reduction on the other (4). The interdependencies of diverse, multiple, and even contradictory layers -energy, water, waste, information technology, mobility, social inequalities, political instability- point out the essentiality of the integration of multiple urban systems in locally oriented experimental approaches with the synergy of interdisciplinary visions. The boundaries of dipolar notions such as private-public, centre-periphery, built-void, city-nature, planned-spontaneous, permanent-temporal (5) are blurred and intersecting, thus creating interpenetrations that emerge new significations.

For example, Infrastructural Urbanism (1960s) with its mega-structures and futuristic cities, Parametric Urbanism as a replacement of modernism by a computer-generated script, Splintering Urbanism (6) as the fragmenting experience of the city by the use and non-use of infrastructures, including information technologies are only some of the adjectival urbanisms. Others include Emergent, Digital, Disconnected, Networked, Green, Ecological, Sustainable, Clean, Environmental, Traditional, New, Walkable, Participatory, Do It Yourself, Micro-, Pop Up ,Temporary, Everyday, Bricolage (a term applied to urban design by Colin Rowe and Fred Koetter in their book, *Collage City* (1979), to oppose the modernist assumption that existing cities should be demolished and their established communities displaced (7).)

At the same time, the adjectives describing the morphology or identity of the cities - like compact, diffuse, polycentric, linear, organic, sustainable, dense, ecological, intelligent, hybrid, digital, autonomous etc- are being also enriched while diverse notions and descriptions of urbanisms appear.

2. THE THEORY OF URBAN ACUPUNCTURE

The traditional urbanism has therefore expanded its skills and has enriched its approaches by working on the intangible dimension of places already built in order to generate desired uses. In this perspective, temporal interventions are transfiguring the social and urban reality by redefining the urban act. (8)The dimensions of sustainability, time, public space, participation and new technologies are playing an important role as far as the emergence of the participatory urbanism is concerned. The stimulation of the social is also among the basic aims of the urbanism that is 'acupuncture'. The intervention in the city is like a therapy that focuses on the time and the public space, searching at the same time for a validation by the collective use.

Explorations in micro-urbanism challenge the idea that space and size are related terms. Small scale strategic and neuralgic interventions are envisaged as key generators for new spatial conditions and habits. It is a concept and a strategy to deal with the complexity of the modern urbanity, suggesting a city design process that goes from the micro to the macro. (9)

2.1 Principles of the concept

The basic principle of this urban socio-environmental theory (10) is that the healing of strategic points-parts of the city can operate as cores that gradually heal the whole; it consists of small scale targeted interventions that progressively transform the larger urban context.

The origins of the concept are related to the method of acupuncture: thus, the application of pressure in specific points of the body in order to treat diseases or reduce pain. In a similar way, the urban acupuncture pinpoint areas in need of repair; the sites are chosen after a social, ecological and economic analysis of the wider context and through an interaction with the local community. Alike the action of the healing of the body, the urban acupuncture is a strategy that aims at the relief of the 'body' of the built environment. The small-scale interventions are

socially catalytic in the urban fabric; they release energy flows of relief by responding to localised needs. In other words, the revitalisation of the whole (city) is being achieved by the treatment and healing of the consisting parts (strategic points).

This approach, localised and communitarian, uses the methods of punctual manipulation of the urban energy flows in order to promote an ecologically sustainable development and reinforce the social coherence. The perception of the city as a living organism is therefore integrated with the notion of environmentalism and ecological urbanism, and correlated to the participatory and the pop-up urbanism.

In periods when economic and environmental crisis have a significant impact on the depreciation of the built environment as well as the void, the public space is more and more marked by the emergence of a participatory urbanism; groups of citizens that activate, use, occupy, share, remix the elements that define their involvement with the city and the parts of it that are in a decay; the neighbourhood, the blocks, the vacant spaces are becoming their field of reflexion, action, reactivation and reuse.

Participatory urbanism promotes thus a new relation, attitude, method for citizens to become involved with their city. (11)

2.2 Representatives and applications of the concept

Manuel Casagrande views cities as organisms in which different overlapping layers of flows are determining the actions of the citizens as well as the development of the city. By mixing environmentalism and urban design in the method of punctual manipulation of the urban energy flows he aims at the creation of an ecologically sustainable urban development towards the Third Generation City: the organic ruin of the industrial city that becomes true when the city recognizes its local knowledge and allows itself to be part of nature. (12) Manuel de Sola Morales' comprehension of urban acupuncture includes the perception of the project as a means of transforming neighbouring area. To act with punctures, pressures, injections is to distribute energy through the skin. It is the epidermis of the urban fabrics that enables us to transform internal metabolisms of its organism.

It is the urban matter that transmits to us, at its most sensitive points and its most neutral zones, the qualitative energy that accumulates collective character on certain spaces, charging them with complex significance and cultural references and making them semantic material, social constructions of intersubjective memory. (13)

The urbanistic form can at times be that of the whole urban fabric, that of the major morphological orders or that of the primary structure of the city. Sometimes, too, it is the areas of growth, the extensions and suburbs that have served to create urban forms of their own; in other instances, however, it is the smaller-scale civic elements that, due to their location or form, assume certain urban transcendence. But whatever their size, moment or function, urbanistic forms endow the city with that wealth of signification that human thought is capable of producing in its endeavour to master an economic and social process –urbanization- and give it a chosen form and image. (14) Finally, for Jaime Lerner, the detached activities of living, working and leisure in a metropolitan area result in dormitory cities and inactive neighbourhoods; the urban acupuncture method is related to mixing and integrating compatible urban functions so as to effectuate changes.

It is important to have an integrated view of the city. It is like the Turtle embodying life, work and movement. If the turtle's shell is divided into different parts, it will die. (...) There is an absolute need to integrate compatible urban functions within the city. (15)

Sustainability

Water LA is a program that promotes an urban acupuncture approach to water sustainability in Los Angeles aiming at a climate resilient city. The strategies concern the capture, conservation and reuse of the local water resources in order to face the climate challenges of the city- wasted waters, and periods of drought and storms. The micro-scale approach to environmental regeneration focuses on the land use and develop tools of small bottom-up interventions from

the part of the citizens and the local community groups, such as rain tanks, rain gardens, parkway retrofits, greywater systems, infiltration trenches and permeable paving. The program was conceived by the *River Project* and activates a network of collaboration between non-profit, public and private groups; engagement of the community and the residents.(16)

In a project of Manuel Casagrande, the method of Urban Acupuncture is being applied in the scenery of the community gardens coexisting with surrounding industrial surfaces of a 'Third Generation City', Taipei: punctual interventions in the surface of the city aim to establish a contact between the urban collective conscious and the life-providing systems of nature. (17) The networks of illegal community gardens and urban farms of Taipei are the needles that transform the industrial city in an organic machine. Their spontaneous, unofficial and self-organized character represents an anarchy through gardening. The urban farms - emerged in abandoned construction sites and ruined housing areas, empty city-blocks or flood banks of the rivers- tend to occupy empty spots of the city, to dominate the no-man's land. (18) According to M. Casagrande, this transformation in Taipei is an inside-the-city result of self-organized punctual interventions; it makes the city readier for a larger change (19) of urban ecological restoration process. In his project *Ruin Academy* (Taipei, Taiwan 2010 -) the occupation of an abandoned 5-story apartment building in central Taipei is effectuated, with the interior walls and windows removed in order to grow vegetables inside the house; the building is penetrated with holes to let rain inside and promotes a communitarian living.

Time

Power is what keeps the public realm, the potential space of appearance between acting and speaking men, in existence. (...)

The word itself, its Greek equivalent *dynamis*, like the Latin *potentia* indicates its potential character. (...)While strength is the natural quality of an individual seen in isolation, power springs up between men when they act together and vanishes the moment they disperse. (...)

The calamities of action all arise from the human condition of plurality, which is the condition *sine qua non* for that space of appearance which is the public realm. Hence the attempt to do away with this plurality is always tantamount to the abolition of the public realm itself. (...) (20)

The event stimulates the assembly and activates the urban act. It gives a possible temporality to the function of a place by hosting the spirit of a collective use that influences its identity.

Such operations in the city's fabric usually demonstrate a political will to change the citizen's view on abandoned or less visited neighbourhoods by inviting them to their discovery or reoccupation. Collective spaces are being transformed into temporal public spaces, where the event is articulated between a time and a place. Public squares are hosting events for a preorganized period of time, under the existence of a specific theme, with free entrance.

For example, the *Plaisirs d' Hiver* (Winter Wonders) in Brussels, are temporal events that take place during five weeks - in the end of November until the first days of January- in the city ; streets, squares and vacant public spaces become hubs that host ephemeral events and actions. The streets leading to the heart of Sainte-Catherine area and the Place de la Monnaie are narrow; Christmas lighting becomes the link with the Grand Place of the city center; the Christmas chalets at the crossroads are forming articulations between different places and create an atmosphere of *flânerie*. The fest allows a different perception of the public spaces; they are not any longer only the receptor of meetings; the public space is the scene of an urban theatre, of exchanges, of attendance. A public Market is being adopted to the space and host multiple uses; the events are forming a narration, they explore the temporality of the ephemeral, where a meeting point/passage/corner is stimulating the social and mobilising the imaginary, repeated in every seasonal change of winter.

Another rhythm and time is created within the time of the city ; the selected area in dynamically impacting its surrounding as the focal points that are being revitalised provide new energy to the city during the process.

Public space

Park(ing) Day is an annual worldwide event where citizens and artists are collaborating and participate in the transformation of parking spots into temporary public parks; a critical debate on the creation and allocation of the public space.

In this way, new forms of public urban spaces are being created in neighbourhoods that lack public open spaces, consisting of interventions and experiments such as bench typologies, urban farms, installations, and acts with a political and social significance.

The most significant challenge of this bottom-up and participatory intervention concerns the revaluation and redefinition of the space in order to accommodate needs of the community. In addition, the emergence of the cultural expression and the socialising process marks temporarily the urban territory and transforms its connotations.

Moreover, the *Great Streets* initiative, envisaged by Los Angeles city mayor Eric Garcetti, concerns among others the transformation of the streets through the approach of urban acupuncture. The re-conceptualisation of the street is projected to be effectuated by the transformation of mayor boulevards into hubs of neighbourhood; the focus will be on the creation of a sense of community by the implementation of amenities and pedestrian spaces in selected areas of the city. More specifically, 15 major thoroughfares scattered throughout the city are selected, as the parts of the city where their small local changes could improve the overall street life, to reduce the traffic congestion and boost economic activity. The project envisages that bike racks, plazas, crosswalk upgrades and other amenities could draw in pedestrians and attract new businesses. (21)

Urban Acupuncture is the method of choice of the mayor of Los Angeles as 'the city lacks the money and the space to add the types of transportation that would significantly reduce traffic congestion.' Instead, he hopes that this kind of treatment will bring 'enough amenities to a neighbourhood so that residents stay closer to home and, quite possibly, avoid using their cars altogether.'

3. CASE STUDIES OF URBAN ACUPUNCTURE APPLICATION IN THE CITY OF ATHENS

As a significant majority of locations in the city of Athens present a considerable lack of green and open spaces, in addition to an intensely evident impact of the economic crisis in the urban and social tissue; the city has been selected as a model for application of the urban acupuncture approach through key studies.

The research area selected, the northern part of the wider centre of Athens, between Aharnon and Patision streets is an area that has sustained remarkable changes in its composition during the last decades. Its aging and abandoned building reserve, closed shops, low land value, absence of functional public spaces in combination with the lack of social and environmental capacitors lead to a decay. Moreover, the 6th municipal district where the research is concentrated, is the most overpopulated of the municipality of Athens. The transformation of its character and identity and the generation of social conflicts reflect the general economic and social crisis of the last years.

Small scale interventions in neuralgic points are considered to be of a direct significance in order to provide the missing links that would activate the area as well as the environment in which it is prescribed.

Thus, three small-scale interventions aim to contribute in the social cohesion and the environmental upgrade of the district through an urban acupuncture approach, while integrating green spaces and water surfaces in the highly dense fabric.

The reference to a 'stasis' in urban passages, indicates a notion of reactivation of the deactivated points in the city that ordinarily are only passed-by ; as well as the reuse of an area that is currently under the status of lethargy.

The application of the concept of urban acupuncture here is aiming at a creation of a wider energy flow in the area that would result in its gradual heal by implementing an approach with a low ecological footprint and economic cost.

3.1 Method

In the first place, a cartography of the empty sites, vacant and abandoned spaces, the assortment of residents' interviews, as well as a research of the land use, the density and age of the local population have been established; the terrain of the study was northern of Omonoia, between Aharnon and Patisision streets, and Victoria Square and Agiou Meletiou street (22). The collection of information -apart the bibliographic research- concerning the everyday life, the social composition and structures, was effectuated after encounters and exchanges with the residents.

In the second place, the selection of the sites that the urban acupuncture would be implicated has been developed: leftover spaces between buildings, in blocks characterised by a strong presence of children and elders are chosen, in order to be revived through the implementation of structures aiming to accommodate and inspire the temporal use, the interaction of the residents and the passengers, the generation of the nature. The programs hosted and the new use of the points selected are fruits of a thorough analysis and comprehension of the deficiencies in the urban fabric, the lack of social cohesion and the environmental degradation. More specifically, the residual vacant spots are programmed to host public, semi-public and private uses, applied in the context and the land uses that already exist.

The proposed interventions use the existing dynamics of the urban environment and are developed in tree axes: the soil, the walls, the roof of the existing voids and buildings; after having taken into account the urban identity of the area and the sociological, economical and environmental context. The land uses that are proposed, the use of materials, the type of vegetation, are selected in such a way as to respond to a sustainable approach through the time. The trees that already exist are maintained and reinforced.

The acupuncture method, developed after the examination of the area's present identity in a micro as well as a macro scale, treats the notions mentioned above: public space, time, sustainability in a social context.

3.1 First case study, Kalymnou street, Athens

During the cartography of this area, a remarkable lack of areas hosting leisure and cultural activities for the residents was observed. Moreover, there is a high density of children and elders. This acupuncture intervention aims at the creation of meeting points for the nearby inhabitants during the summer and the winter, intended to, enhance the sense of a neighbourhood, to invite the inhabitants to use the space and enhance their social bonding.

This block contains two vacant plots facing each other. The intention here was to unify those two empty spaces so as to create the widest public space possible. Thus, the road that separates the plots become their connector ; on the second hand, a diagonal axe structures the space so as to unify it visually, to define its uses and to permit a permeability in the horizontal and vertical axe.

In the first plot that is the smallest one, an open unit - a public library is proposed as a structure-passage-shelter that guides the user in the hidden garden in the interior of the block. The

diagonal axe is distinguishing here the passage - in the form of ramp so as to facilitate the access of elderly or handicapped residents and the baby trolleys- from the slightly raised reading area and the bookshelves.

In the opposite plot, the diagonal axe-continuation distinguishes also the uses proposed: one the one hand a Square is being created; a tall and big tree defines its space -reminding the Platanus in the middle of the traditional public squares. On the second hand, the axe is structured in a closed unit - a greenhouse; an urban garden as a participatory public space.

In this intervention as well, the space can be used totally as well as partly, in the diverse seasons and by a variety of age groups.

Finally, the lateral walls of the opposite blocks of flats, the boundaries of the walls that define the public and semi public space, are treated as parts of the scenery of the intervention; climbing plants are developed in their surfaces.

3.1 Second case study, Ithakis street, Athens

In this block, two vacant leftover and fragmented spaces, as well as a pedestrian street compose the scenery. The proposal consists of the creation of a public space, connecting two roads and creating axes.

Thus, the two vacant parcels are proposed to be connected so as to create a linear passage - pathway that involves the staying, connecting it at the same time with Eftichias pedestrian street.

The concept applied consists of the creation of three surfaces-rooms, as distinct entities of urban subspaces that are however part of the whole synthesis; to define the stay, the planting, the materials, the subspaces are created as superposed layers along the pathway. The first and the third subspaces have medium-height vegetation, while the second subspace, in the center of the space created, symbolises the void : the Square; it is a reference point; a meeting place of the residents with a water point setting a scene and defining the limit with the semi public gardens.

Linear elements (benches, axes of passage with different materials, rows of trees) are organising the uses of the space and structuring the boundaries of the public and the semi public gardens of the surrounding block of flats.

The limited space that is provided, in combination with the essential lack of public and green spaces in the area have contributed to the application of this concept that unifies separate zones by diffusing their boundaries: the parts of the synthesis can be read distinctly and also holistically; moreover, the uses combine the public character and the regeneration of the nature.

3.1 Third case study, Broadway Passage, Kefallinias street, Athens

Broadway is one of the first multiplex in Athens; it was created in the 1970's and comprised two cinemas, two theatres, an entertainment centre and 17 shops. Today, only 2 theatres and 4 shops are still operating. Its current state is characterised by the intermediate state of no use. This passage reflects areas of the city of Athens where a previous glory is replaced by a decline and abandonment under the circumstances of the general economic depression. Broadway passage has been for years a point of reference in the social and cultural life of the Athenians. In the context of implementing alternative economic models, the intervention in this point of the city focuses on the retrieval of a common space by the elaboration of the coexistence, participation, communication of the inhabitants, and the creation of the place as a meeting point for the public; the use and activation of the spaces abandoned, and principally the reopening of the open air cinema on the roof of the building are aimed to host the stay as well as temporal or permanent actions.

Furthermore, the conversion of the building's envelope to a vertical garden contributes in the energy performance of the building that is situated in the middle of a block and surrounded by other buildings. The vertical garden consists of an alternative method to enter natural elements in this highly dense area and in particular in this block where there is no possibility to create a garden in the ground.

4. CONCLUSIONS

After the reinterpretation of the response of large scale projects of urban design to the necessities and challenges that the contemporary city is facing, a new approach of urbanism has been emerged.

When the design of cities in an era of environmental and economic uncertainties is concerned, the method of urban acupuncture could provide the city cores of energy that would progressively contribute in its revitalization and reuse by the urban dwellers. The bottom up approach of this type of urban design demonstrates the residents and the users of the space as participators at the decisions being taken thus achieving a social enhancement in a context of a more localised and community approach.

In spite of its early promise, its frequent bravery, urbanism has been unable to invent and implement at the scale demanded by its apocalyptic demographics.(...) 'The' city no longer exists. As the concept of city is distorted and stretched beyond precedent, each insistence on its primordial condition – in terms of images, rules, fabrication – irrevocably leads via nostalgia to irrelevance.(...)Now we are left with a world without urbanism(...)

If there is to be a 'new urbanism' it will not be based on the twin fantasies of order and omnipotence; it will be the staging of uncertainty; it will (...) be concerned with (...)the irrigation of territories with potential; it will (...) aim (...) for the creation of enabling fields that accommodate processes that refuse to be crystallized into definitive form; it will (...) be (...) about expanding notions, denying boundaries,(...) about discovering unnameable hybrids; it will (...) be obsessed (...) with the manipulation of infrastructure for endless intensifications and diversifications, shortcuts and redistributions – the reinvention of psychological space.

Since the urban is now pervasive, urbanism will never again be about the new only about the 'more' and the 'modified.' It will not be about the civilized, but about underdevelopment.

Since it is out of control, the urban is about to become a major vector of the imagination. Redefined, urbanism will (...) be a way of thinking, an ideology: to accept what exists. (23)

The three case studies of small scale interventions in the city of Athens presented above has been developed after an in situ research of the characteristics synthesising the present status of the area; thus, as a surgical operation that impregnate the existing dynamics of the city with potentials that accommodate the use and the interaction of the inhabitants is proposed; with the social, environmental and economic dimensions taken into consideration.

The small scale approach is expected to activate deactivated points of the city and result in a large scale mutation.

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