2014, " The movida ! Towards an itinerant Structure of Urban Coproduction ", Paper presented at Fab 10, Barcelona, 2-8 july 2014, 17 mars 2014. Lien URL : https://www.fab10.org/en/papers/67

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▶ **To cite this version:**

HAL Id: halshs-01726385
https://shs.hal.science/halshs-01726385

Submitted on 14 Mar 2018

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THE MOVIDA ! TOWARDS AN ITINERANT STRUCTURE OF URBAN COPRODUCTION
PAPER PRESENTED AT FAB 10

Barcelona, 2-8 july 2014

Abstract

The current acceleration of technological innovations as well as the transformation of the economies, has a consequence on both the functioning and the construction of contemporary cities. Facing up these phenomena, imagining new urban and hybrid spaces, exploring the relationship between city, digital culture and common good, and playing an active role in the coproduction of the cities sounds like an emergency.

The object of our project lays both in the conception and realization of an itinerant digital structure of coproduction of the cities, labelled "Movida". Within the frame of the call for applications of Media Lab Prado ("Madrid Laboratorio Urbano"), our project will emphasis the spatial, programmatic, economic and technical conception of the Movida as well as the realization of a first prototype.

Keywords

Itinerant structure; Knowledge economy; Creative city; Open Innovation; Co-production

Introduction

The "Movida" is a project developed within the program "Madrid Laboratorio Urbano" of the Media Lab Prado (Madrid), by Jesús Ágreda Ruano (Architect, Urban Planner, Construction engineer) in collaboration with Raphaël Besson (Economist and Urban planner) and other architects (Juan Rodrigo Solera, Maria de Prado Navarrete, Tania Udaondo Bernau, Marta Vela Ibañez). This project wants to democratize the production, no matter if it is industrial, cultural, technological, scientific or urban, thanks to a travelling structure of co-production and rapid-prototyping. The "Movida" is an autonomous urban being whose goal is to empower citizens by supporting their individual and collective independent productions.

To seize the perspective of our project, we describe at first the contemporary socioeconomic phenomena, which lead us to say that it is highly urgent to imagine new hybrid and itinerant spaces to make possible the construction of the common good (1). Then, we describe the urban, economic and programmatic concept of the "Movida" (2), before presenting the architectural concept (3).

1. Technologies, New economy, Knowledge and Cities

Three contemporary phenomena lead us to plead for the creation of itinerant structures of urban coproduction and rapid-prototyping : the acceleration of the innovations (1), the processing of the economies (2) and the current development of the reflections on the knowledge's roaming (3).

1.1 From the acceleration of the innovations to the digital revolution

The integration of the technological innovations in the making of the city is an old phenomenon. Without going all the way back to the Antique time and the origins of the city, let's evoke the urban projects of the architects-urban planners of the beginning of the 20th century. Le Corbusier's Ville Contemporaine (1922), Franck Lloyd Wright's Broadacre City (1931), Manhattan 1959 of Raymond Hood (1929) or Tony Garnier's Cité Idéale stage systematically the last technological discoveries : integration of new building materials (steel, reinforced concrete), towering monolithic skyscrappers, obsession with the fast transports (elevators, suburban trains, cars), airviews.

Figure 1: Franck Lloyd Wright's Broadacre City (1931) ; Le Corbusier's Ville Contemporaine (1922) ; Viewing the World of Tomorrow, Futurama (1939)

The current period is part of this perspective. The digital technologies participate in an increasing way in the fabric and in the functioning of cities. The fields of application are wide and covers domains such as mobility, safety, town planning, environment ("smart grids"), sociability (borders of digital information), culture (digital valuation of the patrimony), or still the leisure activities. Local authorities try to intensify this process by planning projects of "smarts cities", technological districts, districts of science, creative or innovation districts. Those Cognitive Urban Systems (Besson, 2012), transform the cities's public space in laboratories of experimentation of the new technologies. With, between the lines, the illusion according to which that technologies would be capable of leading by

themselves some positive effects for the socio-economical and sustainable development of cities. Now the smart city creates a series of important issues.

The social fabric of the cities isn't always opened to technological innovations since they're not put in perspective towards socio-cultural, educational or still environmental ends. Cognitive Urban Systems such as 22@Barcelona, Buenos Aires's Distrito Tecnológico, or the Giant / Presqu'île project of Grenoble face multiple criticisms (on behalf of a part of the population). Among them, the input of technologies in the improvment of the prosperity, the risk of instrumentalizing inhabitants as well as the threats towards personal freedom. The dangers connected to health (waves, bio and nanotechnologies) are mentioned in rare occasions. From an economical point of view, the experience of diffusion of technological innovations through the traditional economical net of the cities is barely operative. The users feedbacks are exceptional and the appropriation or misappropriation process of innovations are almost nonexistent. This fact considerably reduces the field of possibilities and, in fine, also the process of production of innovation and of value creation.

1.2 The transformation of the economies

In parallel with this process of distribution of the technologies in the functioning and the fabric of the cities, we attend on the economic scene a double phenomenon. On one hand, a situation of persistent economic crisis associated to the emergence of anti-authority movements. And on the other hand, a process of transformation of the economies where the knowledge tends to replace natural resources and the physical work as tools of economic growth (Foray, 2000 ; Howkins, 2001 ; Scott, 2006 ; Boutang, 2008).
In this knowledge economy, the new ways of value creation based upon production and distribution of the knowledge, becomes fundamental. They question the shumpeterian paradigm of an innovation centred on the producers, to think an opened innovation, centred on the users (Von Hippel, 1976).

1.3 The roaming of knowledge

The combined phenomena of acceleration of the innovations and of transformation of the economies stimulate the reflections on the roaming of knowledge (3). We observe an exponential development of investigations on the distribution and roaming of the knowledges, either scientific,

technical or connected to know-how (Charum, Kaplan, Meyer, 2001; Jacob, 2007). The stakes in the raoming of the knowledge offers a field of considerable reflection, and concern questions as diverse as the knowledge networks, the carriers and the transmitters of knowledge, or the spaces (physical or virtual) convenient to the roaming of the knowledge.

These researches question the trend of our societies to concentrate and polarize the places of learning in museums, libraries, universities, "technopoles" or clusters. This process of concentration of the knowledge was initiated by the construction of universities in the Middle Ages, that have emphasized a long, cumulative, and standardized educational system (Jacob, 2007). It is accentuated by the Industrial Revolution and the increasing specialization of investigation and sciences.

However the process of concentration of knowledges corresponds to a very particular period of our history. Many societies had previously made mobility a major instrument of their development and an essential condition of their capacity to produce knowledge. The technicians, the artists and itinerant teachers of "Warring Chinese Kingdoms" (Vth-IIIrd BC), were considered as professionals of the roaming of knowledges (Lévi, 2007). By crossing multiple places without ever settling in, they played a fundamental role in cultural exchanges, the transmission of the concepts and the know-how, and consequently in the dynamics of learning, knowledge and the influence of the various Kingdoms. This is precisely Confucius's educational philosophy « which leads on the roads, and, following, multiple of disciples, roaming school where the essential becomes what you learn randomly on the roads » (Jacob, 2007). This principle is also reflected in Greece during the « hellenistic » period (from IVth to the Ist BC). The greek society largely based its prosperity and stability on the roaming of the greatest scholars (Euclide or Archimede) all over the Mediterranean basin.

Gradually, our societies become aware of the benefits of roaming, either in the dynamic of learning, hybridization and production of new knowledge. To the massive concentration of the last centuries, the current period witnesses the dispersion of knowledge.

1.4 Thinking the co-production of the Cities

The addition of those three phenomena has a strong impact on the functioning and the conception of contemporary cities. Citizens show their interest in being part of the urban answers to their needs and aspirations. Madrid's « Indignados » movement derives directly of these transformations : the occupation of public spaces finds its origins in the social crisis and in the economic transformations the country is currently going through. Besides, this movement is supported and fuelled by social networks.

Given such phenomena, it seems urgent to imagine new urban and hybrid spaces, to investigate the relation between city, digital culture and common good, and to play an active role in the coproduction of contemporary cities. Here so resides the whole stake of the "Movida", which will allow to bring over to the local civil society the activities of creation, of investigation and of industrial, urban or technological production to think collectivly the common good.

2. The Urban, Programmatic and Economical concept of the "Movida"

2.1 The urban and spatial concept of the "Movida"

Why to develop and to experiment the Movida in Madrid ?

Madrid arguably may constitute a privileged vector for the development and the experimentation of a structure as the "Movida". From decades, Madrid is the cradle of movements as the cultural creative movement of Movida in the 80s or the most recent phenomenon of Indignados. The city also develops numerous innovations, which are specifically numerical. That's why we can consider Madrid as one of the most relevant points of convergence of the city, of the digital culture and common good. An emergent laboratory of governance and civil innovation.

Madrid counts numerous open innovation spaces, a hundred of coworking spaces, as well as emblematic places (Utopicus, Hub Madrid). An incredible network of creative open spaces exists in Madrid (among them Media Lab Prado, Matadero, "esta es una plaza", the Tabacalera, Paisaje Tetuán, and many more), spaces which are outstanding opportunities to work cooperatively. There are many neighborhood associations that existed and developed in recent years ("El campo de la

Cebada")…, there are many people who are eager to develop their personal projects to margin Patterns. "

In Madrid there are many different and interesting urban areas to settle the "Movida ": central public spaces, suburbs, belt highways, cultural and scientific centers, wasteland and open fields, commercial and leisure districts, areas where work remains to be done (projects of urban rehabilitation, urban ghosts districts), urban parks, villages surrounding Madrid, public building with a usefull empty space (museum, library, industrial building, even somewhere in Atocha train station, etc.).
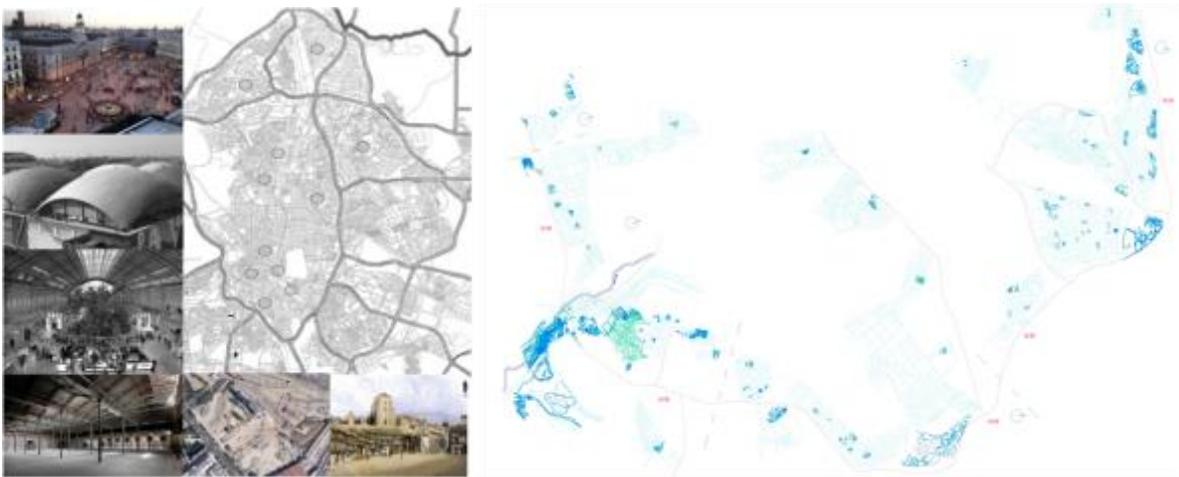

Figure 2: Madrid and the localization opportunities of the "Movida"

The "Movida" is an architectural system that wishes to have authority and independence to all these production processes through its public wandering the empty lots in the city.

Why a new itinerant structure? The spatial concept of the "Movida"

The urban and spatial design of the Movida will be guided by the following criteria :

•   The "Movida" will be an itinerant and nomadic space. In consequence, the structure must be easy to move and build (2 persons) and mustn't exceed a surface of 30 m2.

•   The "Movida" will be an architectural and spatial structure, flexible and variable enough as to be adapted to the project's evolution.

•	The costs of design, construction, deployment and removal of the "Movida" must be scanty and optimized.

•	The "Movida" will propose exemplary solutions in terms of energy, environmental, structural, constructive efficiency and of production (/ex-. No electricity is needed during the construction phase).

•	The urban and architectural design of the "Movida" will be artistic, spectacular and extraordinary, to provoke a both urban and social extremely unlikely situation. It is a "project event".
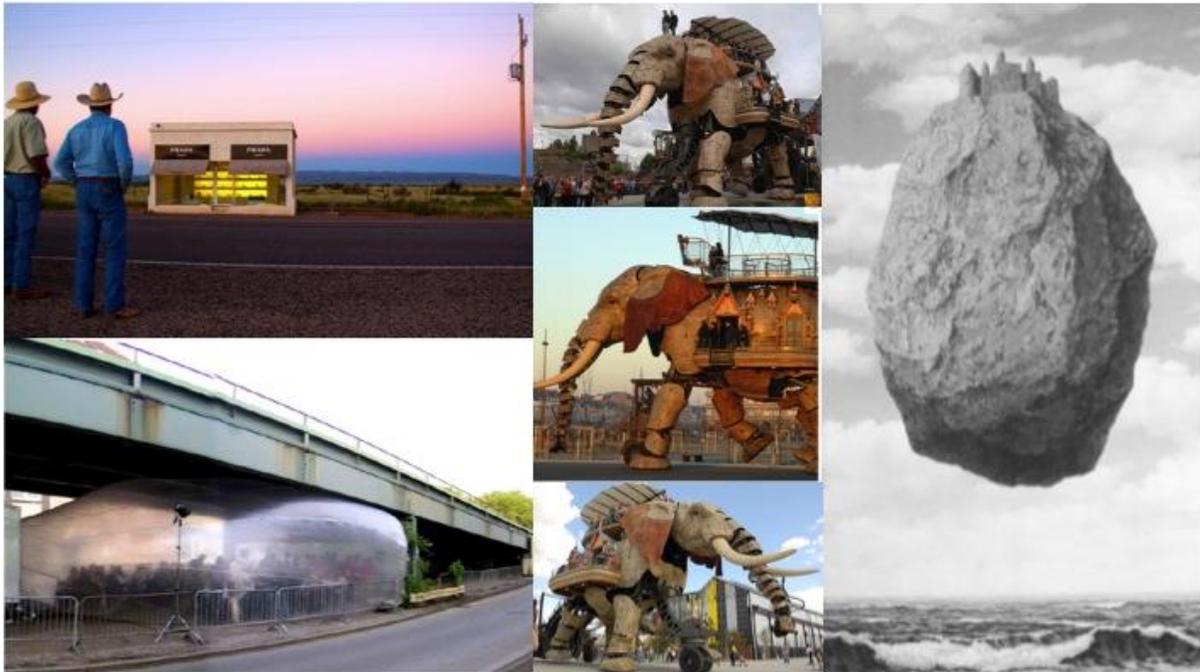
Figure 3: Prada, e-store, Texas ; The « Machines », cluster of creation, Nantes ; Space buster ; Magritte

•	The external architectural structure of the "Movida" will express both digital and numerical dimensions of the project. A digital screen, interactive and open to contributions might compose for example the external facade of the "Movida".

Figure 4: Rolex Learning Center (Lausanne); Greenpix (Chine) ; Media Tic Building (Barcelona) ; Cité du Design (France)

• The "Movida" must allow a rapid and ephemeral answer to both aspirations, problems and located needs, from the city center, the suburbs, malls, museums or even any urban under construction space. Then, the architectural structure should be adapted to very different and potentially irregular areas.

• The "Movida" structure will be provide with different facilities like machines, tables, screens and also for example computers or electricity in the façade of the structure.

• The "Movida" must be easy to reproduce by anyone. The Movida will schedule autoproduction workshops.

Along with these new criteria, we studied different architectural nomadic forms (sphere, tent, truck, yurt, caravan, etc.) to identify the existence of an optimum solution.

Figure 5: Space Buster, Yurt "Atelier Arts Sciences" (France), BiebBus " (Allemagne), "Camion des sciences" (France), Caravan « Les Badeaux Associés » (Nantes), Tent, The « Caravanserail » (P.Bouchain), Fab House (Barcelona)

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And it appeared that no structure was perfect enough to answer our criteria. That's why we needed to invent such a structure!

1. Itinerant and nomadic space	1	0	0	2	2	0	2
2. Flexible structure	1	1	1	0	0	1	1
3. Scanty costs	1	0	1	0	1	0	1
4. Energy, environmental, constructive efficience	1	0	2	0	1	1	1
5. Artistic, spectacular structure	1	1	1	1	1	0	1
6. Digital structure	1	0	1	1	1	1	1
7 Adaptability to irregular areas	0	0	0	1	1	0	0
8. Integration of facilities	1	0	1	0	0	1	0
9. Reproducibility of the structure	1	0	1	0	0	1	1
TOTAL	8	2	8	5	7	5	8

Table 1: Multi-criteria analysis

2.2. The programmatic concept of the "Movida"

The programming

From a programmatic point of view, the "Movida" will be an itinerant structure of 30 to 40 m2. It will welcome a wide range of complementary programs: a "Show Lab" (a space dedicated to the exhibition and test of digital prototypes, interactive urban models, etc.); a "Co-CreaLab" (another space dedicated to the open innovation, co working space, workshops, barcamps and debates); a "Fab Lab" (quick prototyping space); and an Urban Lab (which will be a public space allocate to the diffusion and evaluation of prototypes coproduced within the "Movida").

The intervention method. From the idea to the prototype in three weeks !

The Movida's experimentations aim to bring out ideas of renovation or urban development. Their relevance is experienced by means of three days of work by the environment of the prototyping and by the inhabitants' test in public spaces. The methodology chosen fits in the context of co-creation and opened innovation. A multidisciplinary team (of inhabitants, artists, designers, developers, investigators, town planners, engineers, etc.) encouraged by two designers and mediators, will have to formulate in a short time an answer to the problematic of a research program or of a neighbourhood (or of a public space of Madrid, of a cultural development project, etc.), before confronting it to the reality of its use.

In this step of the operation, the participants will be immersed in a random urban context of Madrid, which will be for a moment the laboratory in which their ideas will birth, be raised and tested.

The aim of this methodology is to support and guide the participants along the experimentation; it is associated with specific goals which aim is to help the groups in their progress towards the formalization of an urban device. This methodology follows eight steps:

• 1st step: constitution of a group of heterogeneous volunteers.

• 2nd step: The urban and territorial immersion in the problematical issues of a neighbourhood (social, urban, economic and environmental questions, of mobility, of use, etc.), of a public space with a project of investigation (research), of cultural development, of economic development or of a technological prototype. Time of free observation of the neighbourhood in the shape of article, photo, video, drawings, etc.

• 3rd step: the technological and numerical immersion in the "Movida": test of solutions and numerical prototypes, exposal of new concepts.

• 4th step: co-creativity session. Brainstorming, workshops, drawings, games, barcamps, post-its, mental maps, etc.

• 5th step: scriptwriting. Writing of a "pitch" (condensed history) that illustrates the experience the team may want to test among the inhabitants.

• 6th step: Prototyping of the script. The idea is to realize, with the elements available in the "Movida", an operational prototype of the project previously elaborated in group, with the help of two designers and mediators.

• 7th step: test, evaluation and life-sized debate of numerical devices installed in the public spaces of some Madrid's neighbourhoods.

• 8th step: the results. Restitution of the experience's results in the shape of publications (magazines, web pages), of public restitutions, of videos, of drawings, documentaries, etc.

The economic model of the "Movida"

The "Movida" economic model will be hybrid and will rely on the following financial sources: Public subsidies ; Corporate patronage and private foundations ; Rentals ; Consulting in open innovation ; Adhesions ; Crowdfunding etc.

3. The architectural concept of the "Movida"

The architectural and productive system of the Movida is based on concepts that partners generate a new Entity. Some were clearly deposited in agents that are very familiar:
• Circus: Worth it is a nomadic system that sits on undeveloped public space, which brings together a number of heterogeneous and autonomous agents.
• The clearing: the wildcard neighborhood, hosts a number of extra applications that overlap in time. As background, the various physical entities that are placed on it, trees, shrubs, ponds, remnants of furniture ... serve as unpaved space organizers poles.
• Silk Road: This trading system transcended the merely economic and became a powerful culture exchanger, manufactured products and architectures.
• Playground Public Plaza : The attitude toward self and others, in any field, generates forces territorialize space, human geography is generated.
• Rock-cave painting : human activity on the caves left printed up sampling beings, rituals, activities and beliefs that are the basis of knowledge base for the display of ancestral processes. Processes transmitted.

Constructively mobile factory is the sum of a structure-forming and a surround technology. The Nomad set is generated from structural units formed by three arches linked by mechanisms that allow us to deploy and fix the relative position thereof.
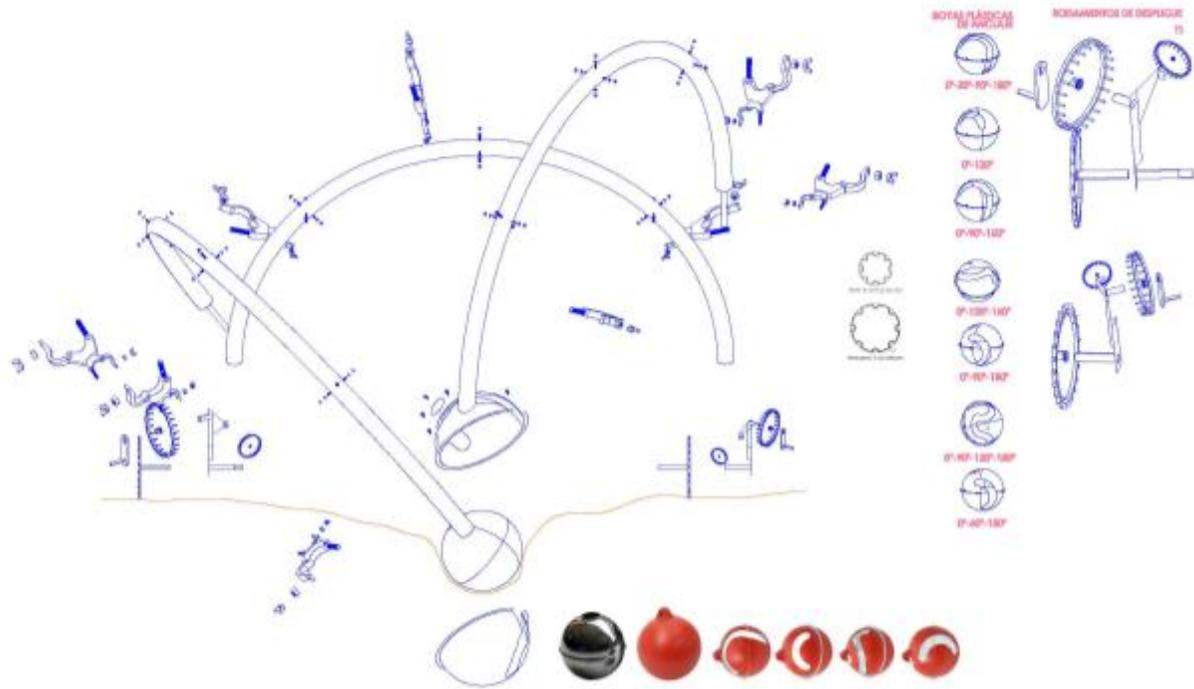
Figure 6: Jesús Ágreda Ruano

A secondary structure composed of rigid clamping and forming fabrics locks to different arcs forming the structural envelope of all space. From this time, the primary form defined a number of additives added-bound to provide habitable space, show the internal activity and serve as a technological tool users.

•Surround processor. It consists of a series of successive layers that contain information, data on the surface left by old people in solar and neighborhood processes above activities and as they transmit documents to our process technology. It should also allow the existence of small machine tools for cutting, packaging ... for handling products.

Figure 7: Façade digitale interactive (Helsinki) ; Université de Gotening (pays bas) ; Extrapolis (Théoriz Crew)

•Surround Bioclimatica. Human comfort is the main objective of the components of the skin. The mean and should know to interpret the temperature inside is always appropriate and is in sealing conditions.

Conclusion

All these components and the overall concept is currently being developed in the Medialab Prado in Madrid Workshop "Laboratorio Urbano Madrid" but the route of this system is comprehensive and need spaces that allow us to complete the final design of the building, which sponsor the materials and where situations raise the first transformation of the productive reality of cities.

Figure 8: Jesús Ágreda Ruano

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