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## Arcade games as a qualitative urban weave

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*ABSTRACT. The representation of the urban environment is investigated through the technologically mediated world of videogames. The idea of space in videogames is regarded as an exceptional, fully potential dynamic of contemporary design evolution. Videogames offer the possibility of reconstructing realities, desires and collective experiences of either existent or non-existent places. Drawing from earlier game generations of video games, namely arcade games, city representations are observed and re-interpreted through the concepts of 'control', 'motion', 'capture' and 'contact'. The digital identity of the city does not solely exist in a discontinuous electronic video-world, but it appears to have educated us through the years. The designed experience of the represented urban spaces constitutes an act of play 'direction' that weaves spatial qualities into our ongoing understanding of the city.*

*KEYWORDS. videogames; representation; classification; experience; direction*

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## 1. Introduction

Historically, videogames have held a unique place in culture. This place is nowadays becoming increasingly stronger and ubiquitous. They constitute a special cultural landscape, a landscape in the context of technological advance, which mirrors aspects of the phenomenon of 'digitality' from which they evolve. Additionally, the cultural landscape of videogames is full of spatial qualities. One could reflect on their relation to the urban landscapes and the communicative channel that can potentially open between those two. Neil Leach explained: "If the analog model of the city follows certain logics of development that are commensurable with the operations of digital computation, then digital simulations can offer certain insights into the behaviour of the physical city" (LEACH, 2007. 330). Videogames constitute a technologically mediated world which can be particularly observed in terms of the city representation and the spatial qualities this observation consists of. The idea of space in videogames is regarded as an exceptional, potential dynamic of contemporary design evolution. Correspondingly to urban environments, they have their own vocabulary and syntax in order to constitute a functional whole. Furthermore, they offer the possibility of reconstructing realities, desires and collective experiences of either existent or non-existent places. This is accomplished through the illusion of decision's effectiveness, the sense of interactivity with the digital environment and the plurality of possible outcomes in the constructed reality of the game. All these factors create the setting of a digital environment which goes further than a fixed point of view. The formulated setting resembles an active, rather than a passive experience of a city, as if talking about a real city.

## 2. The digital vessel

Digital visualization can go further than the mere imaging of urban spaces and describe identities, symbolic actions or other concepts concerning a city. The focus of interest, using the image as a starting point, moves towards the accompanying visual or non-visual narratives about the place depicted. Gamespace is not static, but is transformed into an operational space through the means of interactivity. This space is regarded as a kind of performative space, a 'landscape of performances' acted out by the player as a digital citizen. This characteristic offers the player the possibility to act and develop a more intimate view of the city in personalized terms, such as his own understanding, memory or spatial perception.

Videogames constitute a tool to re-read the city, to identify the visualization gestures that result in the formation of meaning of the urban environment. The digital city is also seen as a form of spatial narrative, a diegetic fabrication or a vessel into which things happen. Bernard Tschumi refers that "Architecture is not simply about space and form, but also about event, action, and what happens in space"<sup>1</sup>. The interest lies in the form, but also in the story behind it.

Both living in the real city and the represented city imply a mnemonic act, a construction of a collective memory, through the aggregation of individually personalized lived spaces. What Kevin Lynch called 'imageability'<sup>2</sup> of a city, one could possibly understand in this context as a legible composition of mental spaces, imaginary architectures or, as a mnemo-technique, a composition of urban loci (YATES, 2011). Going further, this common 'sense' of the city leads to another kind

of collective phenomenon, the collective 'vision' of the city, a mutual imaginary possible future which is a well established driving force in architecture. Daniel Libeskind referred to "the need to resist the erasure of history, the need to respond to history, the need to open the future: that is, to delineate the invisible on the basis of the visible" (LIBESKIND, 1999. 127). It appears that design is an envisioning process which is tightly bound in the already lived experience and understanding of the city as if being in a continuous loop.

However, this power of collectivity which affects all three temporal levels (past, present, future) is actually a power of representation, a representation which abides by the rules of digital evolution and which affects culture as much as it is affected by it. Technological advances are increasingly affecting all aspects of visual media, that in turn affect all aspects of city imaging and consequently, the way the city is being read and collectively reproduced. Jean Baudrillard explained that: "the territory no longer precedes the map, nor does it survive it. It is nevertheless the map that precedes the territory -precession of simulacra- that engenders the territory" (BAUDRILLARD, 1995. 1). Digitality becomes an urban element itself. The experience of the urban environment is not solely born by the direct contact with it but is complemented by all forms of visual reproduction of the same environment or its representations.

### **3. Learning from arcades**

The body of a research project called "The Urban Landscape in Videogames; Representations and Spatial Narratives"<sup>3</sup> has formed a new form of 'playground' which brings together videogames and the urban environment, through a process of detection and collection according to date, genre, platform and urban references. This program aims at the creation of a database developed online, as a kind of digital library of urban representations in videogames.

Special interest was found in the first generation of videogames, the arcade games, where digitality was basically encountered for the first time. Arcades, in terms of representation, are mainly characterized by their level of abstraction. The prematurity of their design visualization appears as a subtractive informational factor allowing for observations to be made clearer. "While in today's graphically advanced titles we are not imagining a space like we used to in the 8-bit era, player engagement is still essential. Projecting ourselves into the game's abstract elements still means that the player is engaging by reasoning with an image." (JEFFRIES, 2010) This reasoning interpretation of the urban environment in arcade games is what one could find really appealing. Gaston Bachelard attempted to describe this as a continuation of one's own imagination, or in other words, a continuation of 'exaggeration' (BACHELARD, 1994. 227). Abstract elements were opening the way for interpretation of what is missing, stimulating the participatory nature of the player's mental state. This power of abstraction is actually stimulating the potential of identification. One does not necessarily identify with a high resolution, realistic avatar, but on the contrary, as the fictional character Adam Pennyman describes: "A Pac-Man... is just a mouth. I have a mouth. You have a mouth. We all have a mouth." (WEISS, 2003. 66).

The function of abstraction in videogames reaches a peak in the case of the film 'Tron', in which an ultimately abstract space of a videogame was invented in order to express the blurry idea of 'entering' cyberspace. Scott Bukatman comments on the fictional qualities of computer-generated space by raising issues of familiarity and recognisability of forms. He explains that the visual vocabulary is constituted

by: "constructions build up from a collection of previously defined "primitive" geometric shapes" (BUKATMAN, 1993. 217). The space of Tron encourages new perceptual dimensions which can be regarded as fluid, or related with representations of deconstructivism or even experimental cinema, such as the case of Viking Eggeling's 'Symphonie Diagonale' in which a kind of "diachronic code through abstraction" is explored (PAPADOPOULOS, 2007. 92). In such cases, abstraction is undoubtedly employed during experience so that the human subject's imagination becomes indivisible element of the space and the city itself.

One could observe different spatial descriptions of the arcade cities stemming from this level of abstraction. Their common characteristics could be organized in the conceptual typologies of control, motion, capture and contact.

### **3.1. 'Control'**

The ground plan view has been extensively used by arcade videogames (e.g. Pac Man, Armored Car) offering the so called 'supervision' of the screen, and thence of the urban area. Its great success was based on the not so usual chance of viewing the city from above but also, on the possibility of exercising authority over the gamespace, an act which was imposed by the designer of the game. This kind of granted power is actually a power of gaze, a gaze that bears the strength of a panoptic view, which according to Michel Foucault deviates the 'subject seeing' from the 'object being seen' (FOUCAULT, 1979. 200).

This kind of supervision which is not only met in ground plans but also in any kind of sections or other non-static, camera dependent views, manifests gamespace as a corresponding territory of social control: the gamespace is an area of enclosure and the player is moved at a distance, acting like an invisible master. The panoptic space of the videogame is also capable of revealing multiple, parallel events, which is most of the times based on a road network or any other urban system with its own typology.

At the same time, the notion of control is expressed through restricted possibilities of choice concerning destination which are left to the player (usually left-right and down-up, e.g. Moon Patrol, Crazy Climber). These movement restrictions as well as restrictions due to the imperfection in the design of control mechanisms or other interactivity flaws (e.g. Firetruck), are the exact challenges and therefore, the exact elements of interest during play which defined the quality of the game's playability.

Yet, as every sense of control, issues of safety are raised. The well supervised space has always been connected to secure space, reminding of the phenomenon of CCTV observation system in public spaces. Hence, the digital city of videogames which was broadly permeated by violence narratives and other criminal acts (e.g. APB, Dead Connection) can be regarded as a place where danger is abolished under the ultimate supervision of a shopping mall. The videogame city in the first generation of videogames is a place of utmost security where violence can be acted out without taking any risk.

### **3.2. 'Motion'**

The notion of the imposed control in videogames, is basically what architectural organization imposes on physical space. Focusing on control in terms of movement, one could observe that an extended and recurrent phenomenon in videogames is

the road (e.g. Turbo, Street Heat). More specifically, the road, as a motion track or as a channel into which action has to take place and cannot diverge from it. A plethora of arcade games have been developed under the scenario of a linear movement, usually depicting a vehicle travelling through or towards a city.

Michel de Certeau described that every story is a 'travel story', a 'spatial practice' (DE CERTEAU, 2011). Either by walking or navigating any other vehicle, or by becoming the vehicle himself, the player moves into a city which is becoming in its turn 'a walking city'. This city creates a narrative based on a track. The player travels within it by observing abstracts of a blurry, indefinite and possibly endless city which solely makes itself apparent in the screen frame. According to De Certeau, this act of walking always suggests some kind of loss. For every movement taken, an abstract of space is lost. Bobby Sweitzer mentioned: "The space traversed is often ignored" (SWEITZER, 2009. 11). The city image appears to be an obscure ambient environment which is never actually fully observed due to the action of movement.

The urban gamespace in this context is transformed in a conduit of vehicles or even in a conduit of bodies. This city can be regarded as limitless, since its boundaries are never crossed and its distracting view creates a strong resemblance with innumerable other cities. Italo Calvino referred: "Traveling, you realize that differences are lost: each city takes to resembling all cities, places exchange their form, order, distances, a shapeless dust cloud invades the continents" (CALVINO, 1978. 137). The city is no longer a mere form, but the spatial relations developed in a motion-based context.

### **3.3. 'Capture'**

This act of navigation in an arcade city acquires topological characteristics, since space is bound to a body in motion. The spatial organization is also met in terms of city fragments experienced separately during play. The digital city is a collage of urban abstracts visited, it is never experienced as a whole (e.g. Riding Hero, Art of Fighting). This fragmentation could be observed through the use of topological maps. Maps that reveal diagrammatic connections and encoded relations between represented places. Instead of offering a sense of orientation, they transform the city into an exploration vehicle.

The representation of the map is never the represented city in the same way Alfred Korzybski explained "the map is not the territory" (KORZYBSKI, 1994. 58). There is always an interpretational distance inserted through the act of representation. Thus, one could also observe a phenomenon of double representation: the representation of the already represented urban territory, a kind of encapsulated space, a space within the space of the game. The map is by far an instrument of successive interpretations, which result in the construction of a mental continuity of spatial experiences - a continuity between places of a real map, between game stages or between the player's experiences.

The composition and recognition of the provided urban fragments creates the impression of the city. In most cases, the components resemble the physical world, implanting in this way the existing impression of a real city in gamespace. These constructed impressions tend to familiarize the player with the digital environment through the use of a visual narrative (e.g. Super Pang, City Connection). This is actually an act of textual or visual representation which often includes references of famous landmarks or well-known locations. Transference of mental images, memories and other personalized information is taking place through the use of

symbolism in design. Spatial stereotypes and clichés are far too common in gamespaces, while being at the same time a tool for intimacy evocation or direct identification (e.g. Cruis'n USA).

### **3.4. 'Contact'**

The city experienced is usually an impenetrable city. It is basically composed of mapped surfaces which are never traversed. In most cases the city is a set, a theatrical scene behind the event, a kind of moving stage effect (e.g. Tokio). The urban environment represented usually remains an intact surrounding or spatial context into which events take place. All information behind the false building facades of the street views, are a series of subsided layers that give the illusion of a pseudo 3d environment (e.g. My Hero). This phenomenon of subsidence is actually related to the subsidence of spatial information. This is also met in cases of actions taking place in one of the horizontal layers of the city, which usually are organized in patterns like the pedestrian, the underground or the rooftop layer (e.g. Dragon Master).

The few cases of surface penetration allow the interior view of a building, offering an additional scale of spatial comprehension (e.g. 005). Equally, in the few cases of surface contact (e.g. in platform games), the city transforms in a tool with the help of which the avatar's body can move around. This resembles the idea of the medium, which according to Marshal McLuhan acts as a form of continuation of the player's physical body (e.g. Numan Athletics). Wandering in this kind of urban environments transforms the city in a parkour practice, and its elements become the obstacles that determine the player's performance (e.g. Strider 2). It is interesting to note that parkour is usually defined as the 'art of movement', a characteristic that well befits the playability nature of platform games.

This kind of cities is always represented through a body-centric point of view - a screen frame which is always attached to the avatar's movement. The urban landscape is never visible, unless the avatar's body inhabits it. This body is carrying the space with it, while becoming a camera itself (e.g. Bonanza Bros). The impression of the city is constructed in a cinematic way, like an aggregation of camera shots.

## **4. The Weave**

The representation of urban landscape in arcade games has already shaped an order - an order as an urban referential system which has educated us through the years of digital culture. Some of its qualities are re-interpreted through the filter of videogame representations. The conceptual interpretations describe the player as citizen of the imaginary game cities. But one could also regard the player as moderator, or the experience of the game city as an act of direction itself. The quartet of 'control-motion-capture-contact' and its theoretical implications could well form a cinematic point of view which gives insight in urban qualities found in the cities of arcade games.

Directing the new urban order constitutes an act of qualitative weaving. Weaving as interlacing the two 'threads' of videogame spaces and physical city spaces, which though running at a different direction, are capable of creating a hybrid fabric on the field of urbanity understanding. Or going further, weaving as an act of moving

from the one side to the other, from the digitally represented city to the analog city, through any encounters with one another, in order to progress.

The arcade-born urban experience is endless. Even though there is always a 'game over' reminding that the temporarily purchased urban experience is running to an end, one could 'direct it' after the provided time limit. This experience is a set of arrangements, decisions and actions that not only take place within the lifetime of a coin, but also extend beyond it, as if an infinite cinematic act.

## 5. Notes

1. Abstract from "The Manhattan Transcripts", Bernard Tschumi, online at: <http://www.tschumi.com/projects/18/> [consulted in May, 2012].

2. Imageability described as: "that quality in a physical object which gives it a high probability of evoking a strong image in any given observer" (LYNCH, 1960. 9).

3. Research project entitled "The Urban Landscape in Videogames; Representations and Spatial Narratives", taking place in the Department of Architecture, University of Thessaly. Research team: Spiros Papadopoulos, Giorgos Kalauzidis, Giorgos Loukakis, Angeliki Malakasioti.

The program aims at creating not only a point of reference, but also a historic database, a kind of library in which multiple informational layers concerning these games can be accessed and interpreted in a new way. The Multiple Arcade Machine Emulator (MAME 0.145) was used for the purposes of the program, offering access to more than 7000 videogames through the computer. The detected videogames with reference to the notion of the city have been around 900 covering the period of 1976 to 2005. The data bank is currently developed further by making additions of city representations found in videogames of other platforms, e.g. Xbox Kinect. The database can be accessed online at:  
<http://www.arch.uth.gr/UrbanLandscapesInVideoGames>

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## 7. Biographies

Spiros Papadopoulos is an architect and director of documentary films. He holds a PhD from the Polytechnic University of Madrid (E.T.S.A.M., 1997). At present, he is Associate Professor at the School of Architecture, University of Thessaly on the fields of Architectural Design and Contemporary Communication Media. He is also teaching in graduate and postgraduate programs in Greece and abroad (University of Athens, Polytechnic School of Madrid, University of Alcalá, University Camilo José Cela). He is actively involved with audiovisual media and multimodal design in the fields of architecture and visual arts researching the interdisciplinary interaction among contemporary urban design issues and new technology. His work has been presented at several exhibitions and documentary festivals. He has been the scientific coordinator and the director of the television program "Metalocus" which dealt with the contemporary perception of visual arts and urban culture (Channel Seven, 2000). Since 1999 he has also been the co-editor of the international journal "Metalocus", which has been awarded for the dissemination of architecture.

Angeliki Malakasioti is an architect, graduated from the School of Architecture, Aristotle University of Thessaloniki. She has completed the postgraduate MArch Architectural Design course of the Bartlett School of Architecture, (U.C.L., 2008) and she is currently a PhD candidate in the Department of Architecture in the University of Thessaly, working on the field of digital technologies, on the subject of "The Anatomy of the Digital Body". Her work deals with architectural projects,



experimental short films and digital imaging. She has also been tutor in several design studios. Her interests revolve around the themes of cyberspace, digital experience and fictional spaces. She has participated in international scientific conferences, exhibitions and festivals.