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On the Liberation of Space in Computer Games

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Introduction

Research conducted within the context of Multi-User Dungeons (MUDs) has shown the potential of multi-player online games for creative and communicative togetherness (see Rheingold 1993). Massively Multiplayer Online Role Playing Games (MMORPGs [1]) seem to offer an even greater potential for new forms of inter-personal interaction (see Manninen 2002, Oliver 2002).

This usually is attributed to technological advancements: The interactive and graphical features of MMORPGs along with novel network applications and the ubiquity of high-speed internet connections enable the leading-edge entertainment experience of our times. But looking at computer games as a socio-cultural phenomenon, we cannot solely concentrate on technological features.

In a world where reconfigurations of time and space are of vital significance for communication processes, a consideration of these dimensions is inevitable for the investigation of the cultural potential of computer games. Without a preference of space over time in general, I will concentrate on the interrelations of space. The discussion in this article arises from the idea that the increasing popularity of MMORPGs is an effect of new spatial concepts, which offer players freedom to construct their own space through communicative means. While in the early age of computer games space primarily caused specific interpretations and acts, the latter give rise to indefinite, heterogeneous, and relational places.

To address this issue, I will discuss approaches in the sociology of space and planning theory. I will take a look on Euclidian concepts and their reliance on space as a “container” for human action. I will then reconstruct a relational understanding of space which assumes that different notions, experiences and representations of space coexist and overlap. The thesis is, that the design of environments in computer games follows the same evolution as planning theory: After the object-centred and deterministic view on space was dominant in most urban planning practices, “relational” planning aims to replace generalisations about desirable spatial forms into a pluralistic and culturally-sensitive appreciation of the relation between social practices and material facts (Graham and Healey 1999).

Chapter One

Theories of space have been out of fashion for some decades. Ironically, it was the advent of new information and communication technologies and their persistent orientation on spacelessness which reintroduced the discourse on space to social sciences – both as an object of study and a new conceptual tool for social and cultural analysis (see Maresch & Werber 2002). Social sciences thereupon highlighted the spatial aspect in the development of societal processes and social experiences. Despite networking and digitalisation, social life retrieved its geography: milieus, immediate locales and provocative emplacements (Soja 1993).

German sociologist Martina Löw (2001) has identified two basic threads in the theoretical conceptualisation of space: *Absolute* and *relational* space (see Löw 2001). The ancient idea of *absolute space* is an object centred, Euclidean conception, constituted by hard (material) facts. As in the theory of Newton, spatiality is nothing but an abstraction used to compare different arrangements of bodies, a geometry of things in themselves (Lefebvre 1991). In urban planning theory, this idea has lead to the assumption that space can be treated as an a priori entity, manifesting itself as an inert container for what may be ascribed to it. The shaping of space is hence understood as an act of placing things that can be objectively definable, accurately measured and addressed to planning instruments (Graham & Healey 1999).

Although post-structuralism and critical postmodernism have been influential in generating a view on space as diverse and heterogeneous (see Foucault 1986), the object-centred Euclidean view on space is still dominant in urban planning practice and management. According to Graham and Healey (1999), planners implicitly assume that space is independent of its content and the relations between whatever exists within. Moreover, social dynamics were assumed to be tightly determined by physical space: social and cultural realities were reduced to geometries. Social geographer Edward Soja has lamented that these approaches “treated place as the domain of the dead, the fixed, the undialectic, the immobile – a world of passivity and measurement rather than action and meaning” (Soja 1989, 37).

Fortunately, innovations across the social sciences have offered potential for revitalising the way we think about space. They undermined the idea that places cannot simply be generalised as a unitary phenomenon. From this point of view, the Euclidean “container” does not exist on its own, *but only through the context given by the relations and interactions of the actors and objects within*. Lefebvre (1991) hence speaks of intertwined layers of physical, mental, and social space. Space is not simply a specific location, but is a product of interrelated dynamics and actions. Challenging the implicit generalisation in a unitary conception, the *relational space* stresses heterogeneity of time-space experiences (Chettiparamb 2004). Unlike the instantaneous concept of absolute space, relational space incorporates cultural orientations that are rooted in processes of signification and semantic framing of action and perception. A concept of relational space in general should not define space solely in a territorial manner, but also take into account the complexity of its cultural construction. This means to look at the processes in which a particular space is constructed.

From a micro-perspective, personal images of space vary greatly depending on the information acquired through spatial travel, image-like representations, and verbal communication. Spatial context, cognitive processes and behaviour are hence inseparable and cannot be considered in isolation. Spatiality influences the definition of a situation as a syntactic order, *in* which and *through* which an action obtains its meaning (Funken 2003). But our involvement with spatial contexts manifests itself not only at the level of individual understanding and behaviour, but also at the level of large groups of people. That means that our presumptions about the meaning of an environment extend beyond our practice as individuals; such presumptions are always socially dependent and always refer to collective practice. At the same time, space is shaped in the course of this process, individually appropriated, intersubjectively verified and negotiated -and thus continuously anew. Mental and social spaces are 'projected' onto the physical space, presented via signs and accessed via actions that perform as interpretive devices. The structure of the mental image transforms as familiarity with the place grows and the meaningful relationships between components become established (Roudavski & Penz 2004).

Actors hence communicate both in and about space, while at the same time space is constructed by communicative means. Löw (2001) has described the constitution of spatial references by individuals and groups as "spacing". "Spacing" tries to transcend the dichotomy of materialism and discourse while quoting space and communication as two dimensions of everyday human practice (Geppert et al. 2005).

The notion of space as a social construct, the duality of what we call things and what lies between them, builds the fundament for the reconstruction of spatial semantics in computer games. As we have seen, space can both shape the background of social interactions and can be shaped in the course of this process. By the time we start playing a game, the planning and constructing of places has already been done, in the strategic design of houses, roads, dungeons, and wilderness. The focus hence is on the internal dynamics of games and the contexts in which space achieves its particular meaning. We will look to what extend these contexts influence the definition of a situation as a syntactic order and thus frame actions and perceptions.

Chapter Two

"The unique position of computer games as a cultural genre follows from their preoccupation with space" (Aarseth 2000). More than time, events, and goals, almost all computer games celebrate and explore spatial representation as their central theme. Even in text driven MUDs, actions always had a material or spatial reference: On our way through medieval fantasy worlds, we had to put away obstacles, jump over gorges, search castles and dungeons. This led to the well-known assumption that the internal structure of computer games is primarily based on the progression of places, and not actions (Adams 1996). More than being a background or surface on which the the game's action takes place, space is a protagonist, or even antagonist. From textual descriptions in the early adventure games to sophisticated 3D in the late nineties, there seems to be a clear opposition between the player and the virtual environment (Aarseth 1998). Hence most computer games can be described as, to borrow a phrase from Gould (1963), "man against his environment" approaches, and

the history of computer games reinterpreted as the mastery of virtual space, or, following Mertens (2005): As we played, we were space invaders. This fact can be revealed with a short view on some classical one-screeners: *Spacewar*, *Pac-Man* and *Breakout*.

In *Spacewar*, the first graphical computer game, two players attempt to shoot one another while navigating their spaceships around the gravitation field of a star, placed in the middle of the screen. First attempts show that the first challenge of this game is not to shoot, but to avoid being absorbed by the gravitation field. In *Pac-Man*, the player manoeuvres a yellow circle through a maze while eating pills. Four ghosts act as agents of the maze, trying to catch Pac-Man. They are released from a pen as Pac-Man is eating dots – being transformed from placeholders to space defenders (Mertens 2005). In *Defender*, the player manoeuvres a spaceship – but being unable to choose an individual direction, he is forced to float through a horizontally scrolling landscape and to defend the planet from the enemies crossing his predetermined way. In *Breakout*, the player has to prevent a ball from falling out of the playing field - by bouncing it continuously against a number of bricks. Striking a brick causes its disappearance . When all bricks are gone, the player (prisoner) can move onto the next level (breakout). In all of these classic examples, a single fixed screen-space constitutes the entire game arena, within which the player has very little room for any activity other than immediate response to the central game task.

First-Person-Shooters [2] like *Wolfenstein 3D*, *Doom* or *Quake* are a good example for the persistence of these conditions, despite all advancements in computer technologies. The environment of most First-Person-Shooters are mostly indoor settings, separated into a number of rooms by thresholds, passages and various zones of transition in which events are provoked. The mission of the games thus is not to find your way out of the labyrinth (there is none) but to find and shoot the other inhabitants before getting killed by them. The clash with the enemy is programmed, since the arrangement of rooms and objects does not admit any other outcome; no matter whether we play a single- or a network game. Under topological considerations, the arena is a long corridor. This meets the traditional definition of the labyrinth, which originally used to be a one-way system, as opposed to a multiplicity of junctions and dead ends. Even though the latest games attempt to be more complex, their maps are still based on the topology of a one-way-labyrinth (Günzel 2005). The gamescape “consists of seemingly endless sequences of corridors, ventilation ducts, stairwells and laboratories, through which the player is encouraged to move in a primarily linear fashion” (King & Krzywinska 2005) [3].

The paradigm of "man against the environment"-approaches has not significantly changed till today. We are still running through hostile environments, killing zombies, aliens or other players, that try to thwart us. Variations were only possible by changing the allegiance – with ourselves becoming space agents. And just like the aboulic ball in *Breakout*, players feel being pushed around by the forces of the space that surrounds them (Mertens 2005). And like the ball in *Breakout* obeys the physical law of angle of incidence = angle of reflexion, the actions and perceptions of the player are directed by the affordances of the given environment. This is especially true of what Jasper Juul (2002) terms ‘games of progression’, typically shooter or action-adventure games, in which the player’s primary role is to perform a predefined set of actions: “This leads to the infamous experience of playing a game “on a rail”,

i.e. where the work of the player is simply to perform the correct pre-defined moves in order to advance the game. Progression games have walkthroughs, specifying all the actions needed to complete the game" (ibid., 324). Moreover, the game environments remain unchangeable for the player throughout the game: In most cases, the object of manipulation is rather changing its status than its functionality - like a door that can be locked or opened (see Aarseth et al. 2003).

One important feature of these games is that they yield strong control to the game designer. Adams (2002) describes the role of architecture as follows: "Architecture establishes boundaries that limit the freedom of movement of avatars or units. (…) Architecture is used to hide valuable (and sometimes dangerous) objects from the player; it's also used to conceal the players from one another, or from their enemies. (…) Chasms to jump across, cliffs to climb, trapdoors to avoid -- all these are part of the peculiar landscape architecture of computer games".

As the examples above show, spaces in computer games most often are not subject to communication and interaction, but structuring boxes (Funken & Löw 2002). In opposition to relational concepts, where particular spaces are constructed by social processes, we still have absolute concepts of space. Spaces structure the actions of the player by either governing a contest between two human players or simply challenging the player through its implementation of algorithms to deduce and apply certain patterns of action. Space is reified as an automatic and deterministic force directly shaping the game world and game play in a deterministic cause and effect way. Spatial representations are used as a mechanism to set rules and guide human (inter)action. These mechanisms are "built" in the system as hard (material) facts, appearing on the screen as walls, doors and hallways that together build an arena for the "deathmatch". There hardly is anything else to see or do. First-Person Shooters are not designed to serve as a screen for the unique spatial projections of a mind. And it is hence only consequential, that we try all that is possible everything possible to fight these spaces and liberate ourselves.

Chapter Three

MMORPGs [4] are online computer role-playing games in which a large number of players interact with one another in a persistent world: the game exists and evolves even when the player is not logged in the game. To accommodate the sheer number of players (often more than 30.000 at one time), the worlds of MMORPGs are vast and varied. The length of time required to move through the world usually takes more than one week of real time. In contrast, the worlds of most standalone and local network games can only accommodate not more than 16 concurrent players in a space that can be traversed in a few minutes (see Yee 2005). In MMORPGs we can experience cities, villages, castles, dungeons, cemeteries, forests, rivers and open landscapes in real-time 3D. Sometimes players can walk through forest for several real-world hours or days before coming across a settlement.

So the story of every individual MMORPG experience begins with footsteps. Lets imagine that we find ourselves on a marketplace in a small village. While going around we can see some houses, possibly a blacksmiths' shop, a tavern, or a grocer.

People pace around without noticing us, some of them go to the blacksmith, talk to him and come back with a weapon. Other ones seem to talk to each other in front of a tavern, then, after a view words and a bow, they disperse in different directions. We follow one of them, leave the small village and enter a green valley, surrounded by a forest. We see dozens of humans and manlike creatures standing, sitting or running around alone or in groups, some enter the forest, some come out. Once again, no one seems to notice us, but even stranger for a computer game: the space around us seems to give no response to our arrival. While in other games some “local authorities” might have forced us to use the houses as a shellproof cover and the valley as a battle field we have to traverse in order to enter the next level or to “break out” of this world, this scenery makes itself available to different actions and meanings.

As we can see from the first steps we make, the worlds of MMORPGs can be broken down in public places and wilderness (see Oliver 2002). Public spaces, often represented by cities, villages or castles, are safe settlements where recourses (equipment, health, information, people, etc.) are most concentrated. Here one has the opportunity to get in contact with other players, to buy clothes, weapons, magic potions, deal with treasuries, etc. The wilderness is intended to serve as a hunting ground, a transit route to other settlements and as an environment for quests. The public and the wild are grouped around and in the initial stage of the game, players are moving from the known into the foreign, “from the safe into the dangerous as a kind of gamble of confidence that measures the user’s capacity to manage their player character” (ibid., 175).

Because of its size and the uncountable numbers of social actions within, Oliver (2002) calls the worlds of MMORPGs the ‘unknowable’. At the very beginning, we know nothing about ourselves [5] and the mechanics of this world. We find ourselves in a space that demands no action – expect its interpretation. The world of MMORPGs makes itself available to the diverse meanings – and as a result, meaningful relations emerge: relations between us and the virtual world in the very meaning of virtuality. MMORPGs are possibilities, constantly producing differences out of unity. In this way, MMORPGs harness the forces of not knowing into the formation of community and the construction of meaning. In contrast to the public opinion, MMORPGs are not only about materialistic character development. They are more about finding friends, expressing oneself, about hanging around, even about making love – about finding means to get along in a new world. MMORPGs are in this way less about performing a predefined set of limited actions, than about people trying to make a living using the context-extension of a virtual world and the “medium” of an avatar. These contexts manifest themselves not only at the individual level but also at the level of communities. Which means that our presumptions about the meaning of an environment extend beyond our practice as individuals.

The question is: How can these activities emerge in a space that was originally designed for hunting and trading? Answer: Through a meaningful reshaping. Though the different zones of the games world have their purposes, they are much less defined than in other games. The zones serve only as purposes for certain actions. Thus players often do something totally different and reshape the functions of these places. As the world inhabits more than thousands players at one time, the same place may be perceived and used in different ways. Different interpretations co-exist

and overlap over spans of time: “Within in-game chat and the practice of telling stories, we hear of the existence of other places with other people. That someone might be somewhere else doing something else, gives the world an extensiveness that can be felt from any occupied position” (Oliver 2002, 179).

One of the most popular examples are funerals for gamers that have died in the real world. Hills that served as hunting grounds become a place for the commemoration of a missing person. Hundreds of avatars kneel down under a sky that is illuminated by wizards as a collective expressions of grief. The hill is not only changing its status, it is changing its function from hunting ground to fane. But in the most cases, the reshaping of virtual space does not attract any attention: Places in the wild, where one can see the sun going up and down behind the hills, often serve as places for rendezvousing. This might not be recognised by passers-by, but it is present for the couple involved. Places like these have no original or determined meaning anymore and if they had a meaning, it was superposed by other meaning and different interpretations over and over again.

These meaning become real facts through communicative means and the interaction with other players. In terms of a syntactic order, space solves as a substantiation and confirmation of meaning in player interaction: Interactive fiction is based on spatial interaction. This is only possible if the players are able to reformulate the syntactic order of the gamespace. Although the object-centred Euclidean view on space was still dominant for designers of MMORPGs, they seemed to realise the importance of recognising the many value systems at play in mediating space.

In a developers' forum for *Star Wars Galaxies*, Creative Director Ralph Koster discusses his vision of places in MMORPGs:

> “I asked the team ... what their preferred metaphor was for a town in the game (…). Many different answers came up – what sort of organization or community do you see that feature of the game as being most like? OK, so one of the most frequent answers we got was “guild,” meaning people saw it as an alternate form of player association. We also got “staging area” a lot, meaning people saw it as a launch-pad to the “real game.” Some saw the metaphor as being “shopping mall” or “apartment complex.” My answer was kind of long and poetic, and people kind of looked at me strangely as I rambled. It went something like, “A 1950’s small town with a local hardware store on the corner where the shop owner knows what sort of paint you really need for your fence and an ice cream parlor where you can go to get root beer floats and sarsaparilla and a bar where everyone knows your name and where the people you see at the local grocery store are mostly people you know by sight if not by name and there’s a gazebo in the town square where sometimes they play live music...” (Ralph Koster in Oliver 2002, 174)

In this visionary view, parallels are drawn between real-world cities and virtual environments as vibrant gathering places of people who have a subjective view and a story to tell. Space is hence defined as a background of different stories and perceptions, “an amalgam of places and behaviours strategically reserved for interrogations and improvisations” (Oliver 2002, 176). By this, game design demands a point of view which displaces that of the ones who are “placing things” by that of

the “users”, that means the ones who live in-between these things. A point of view that is familiar to progressive planning theory (Graham and Healey 1999). Here design only offers an operable framework for social interaction. In this context, game design has an important role in helping to frame the communicative and interpretive processes through which collective meanings of space are negotiated and maintained. From this point of view, space in MMORPGs is not an antagonist, it is a place that is designed to be occupied. The main role of architecture in computer games hence should *not* be “what turns the bare space of the chessboard into the living world of the computer game” (see Adams 2002). It should *not* tell her “where she is”, but more than that, it should *not* tell her “what might happen to her there, how she should feel about it, and what she should try to do about it”.

The success of MMORPGs is hence not due to technological advancements, but to the replication of old virtues, that first was introduced in their text driven predecessors. In the later MUDs [6], users were to create and describe their own textual objects and in this way extend the game. Players were at the same times authors, at the same time consumers and creators of media content (Turkle, 13).

Conclusion

For a long time, space in computer games was an area with a limited set of possible actions. It was mainly a deterministic force directly shaping the players action in some cause and effect way. The space of calculated rationality did not need aliens or zombies; it was an enemy by itself. A close look on spatial representations in MMORPGs has shown that space became more and more indefinite: Oppressive dungeons and space stations resolve into vast landscapes without clear perceptions and actions in advance, with the real and the imagined intertwined. Insofar as the design of space in computer games loses its impact on the players’ perceptions and actions, players can produce different maps of individual and collective spaces that coexist and overlap. Footsteps and linking acts are hence liberating space from unilateral meanings and primary roles, giving “these great empty spaces beautiful names”, to borrow a phrase from Michel de Certeau (1993). It seems to be the mediation of the spatial concepts that can be found in Online Role Playing Games through which players can discover and construct their own objects and hence discover themselves as subjects. Therein lies the reason of the prominence of these games, from their text driven commencements to the leading edge 3D-games of today.

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Notes

1 By MMORPGs, I mean “any computer network-mediated games in which at least one thousand players are role-playing simultaneously in a graphical environment” (Filiciak 2003, 87).

2 A first person shooter is a game in which the player sees the action as if looking through the eyes of the character he or she is playing. Instead of being in the position of controlling the entire flat space of the screen, the player becomes involved in the game by being in the position of a character *in* the space: he or she is the “first person”.

3 This kind of restriction should not be understood only in negative terms. It is also the basis for many key gameplay effects, like the creation of pleasurable effects such as fear and suspense in horror-based games (see King & Krzywinska 2005).

4 MMORPGs constitute one of the most prominent gaming genres today. In June 2006, MMORPGs had over 12.000.000 active subscriptions all over the world, making them a true social and market phenomenon. As of June 2006, 94 % of the market felt into the category of Fantasy Role-playing Games; 4 % in Science-Fiction-Role-playing Games and 2 % in other categories. Games with the highest market share were “World of Warcraft” (53%), Lineage I and II (22%), RuneScape (6%) and Final Fantasy XI (4%) (Source: <http://www.mmogchart.com>).

5 The player experiences the virtual world by modifiable avatars.

6 MUDs were usually text driven fantasy role-playing games, where players read descriptions of rooms, objects, events and other characters. The acronym MUD stands for Multi-User Dungeon.