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# Learning from Potsdamer Platz and Crisis

## Sensory and multimodal urbanism

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### Abstract

How is it possible to create a multimodal experience of a new urban space that appeals to all the senses that represent the spirit of the new “Urban Renaissance”?

This paper will explore some important aspects of the origin and the future of the recreation of city identity, illustrated through the examples of the square of the Sony Center and Potsdamer Platz. Using the Potsdamer Platz and the Sony Center cases as a learning tool in the design process might evoke a new kind of multimodal space representation.

The first part of this paper will look into the history of Potsdamer Platz and the origin of the “Panoptikon”. It will discuss the problems and advantages of the architectural, urban, social and philosophical context of “transparency”, as Baudriallard, Foucault, Nouvel, and Toyo Ito describe it.

The second part will look into the virtual and actual world of architects such as Marcos Novak, Usman Haque, OMA, and Kas Oosterhuis who create mobile, interactive, sensitive architectural objects for the future, which can interact with the environment and the users.

The third part will look into the intuitive sketch process and the “flow of becoming” based on a series of loops from the analogue to the virtual. This journey through the mind and work of the architect and artist generates a plethora of emotions, experiences and narratives.

The loops are from two workshops, a experimental workshop in experience design in 2007 at the Department of Architecture at Aalborg University, a workshop from the Axis Mundi Studio, the “Crystal Forest” project at the central station area in Aalborg, and a case study on the design process of “the writer’s path” and on the rules and design tools in new games such as “FarCry”, “Crysis”, and “Half Life 2”.

The intention of the workshops was to show how art can deliver propositions concerning the architectural design process in the architectural profession. The last part will be an analytical and methodological attempt to interpret, in a hermeneutic perspective, what really happens during the sketch process and the workshops, and based on this unfold a series of methodologies to reinvent, rethink and recreate the future city of Aalborg and other cities.

Keywords: Urban renaissance, panoptikon, transparency, play and interaction.



*Helmut Jahn Sony Center Potsdamer Platz 2000.*

## **Panoptikon and the Inverted Space**

To create this “Crystal Forest” in Aalborg we need to look at some important cases, analyze and learn from them, first Potsdamer Platz its origin, then Disneyland and the world of shopping malls. Then the new mediated architecture and its link to design of video games.

Potsdamer Platz was the busiest traffic intersection in Europe until 1945 when the square was almost destroyed by allied bombardments. After the war it became a wide no-mans-land running along the Berlin Wall and from 1961 it became known as the “Death Strip”. Since the reunification in 1992, Potsdamer Platz has risen from the ashes like a phoenix and has become a dens new dynamic urban center with both a traffic intersection of trains, busses and cars at many levels and a inverted panoptic urban space for pedestrians covered by a giant canopy designed by Helmut Jan. the covered piazza is the heart of the Sony Center. This gigantic transparent glitzy steel and glass construction forms a covered panoptic oval square - a space that is partly inside and outside at the same time. The roof structure is fastened to the surrounding buildings with steel frames and cable tie beams which support the tent-like glass roof of webbed fabric. The Sony Center could be interpreted as a high-tech neo baroque structure, because of the shape of the oval square and roof. The Oval is one of the most characteristic geometrical shapes of the

Baroque style, and one of the most important Baroque masterpieces is the oval piazza St. Peter’s Square in Rome, designed by Bernini in 1656-57. The fragmentary and kaleidoscopic concept of the center appears also through the exhibition of parts of the old “Kaisersaal” (Emperor’s Hall) placed in glass boxes as a permanent display of historic fragments and a part of the new building structure. The Sony Center contains and draws from many important architectonic archetypes just as the old medieval piazza and city square Piazza del Campo (build between 1292-1355) at the heart of the city of Sienna in Italy, with its round shell shape and the old buildings packed closely together that surround it. Other examples worth mentioning are the high slim bell tower “Torre del Mangia”, Piazza San Marco in Venice and Piazza Amphitheatre, but especially Piazza del Mercato in Lucca build in 1830 on the ruin of an old amphitheatre from the Roman period, which is characterized by its round shape and surrounded by medieval brick buildings,.

The covered square of the Sony Center has another important ancestor; Galleria Vittoria Emanuele II, one of the most beautiful galleries in the world, was built in Milan, Italy and opened by 1877. It was an enclosed pedestrian arcade separate from main street traffic connecting the Piazza del Dumo square with Duomo di Milano Cathedral at the south end of the Galleria with the La Scala opera house at the north end. The Galleria, which was designed by the Architect Giuseppe Mengoni, has the same sense of inside outside as the Sony Center but not the same sense of safety as the buildings surrounding the Piazza del Campo provide.

The Sony Center is an extremely complex architectonic structure, but before we go further into that, we must look at another example of how to decompose and reinvent classic architecture through the mind of the postmodern architect Charles W. Moore.

Moore designed Piazza d’Italia in New Orleans (1976–79) as a paraphrase of the old Italian Piazza.

The plaza has the shape of the Italian peninsula surrounded by columns. It is more an installation – a fountain than a piazza, but it is set in a composite area with skyscrapers and parking spaces surrounding the little round square with its five concentric circles, hemi cyclical colonnades that represent the five classical orders<sup>1</sup>. However, since the Piazza is also a significant retail

environment, the center also has a sixth order, the Deli Order, which is decorated with neon-lit capitals. They are stainless steel ionic capitals with the arches outlined in neon. Very postmodern and the highest level of kitsch. This is conceptual artistic inside formal and playful experiment which for non-professionals appears as a collage based on postcards from Italy, but for architects and designers was a mile stone in the rebellion against the white modernistic mainstream at that time.

Just as Moore's Piazza d'Italia is a masterpiece in a totally different scale so is Kyoto Station (1997) designed by Hiroshi Hara in Kyoto, Japan. The station is a cross between Galleria Vittoria Emanuele II in Milano and Piazza San Marco in Venice as it is transparent, covered, open and complex as a labyrinth at the same time as it plays with its classical references such as Piazza d'Italia. It is a high-tech, futuristic, panoptic space with a slightly irregular cubic steel and glass façade structure that run 70 meters high and 470 meters across. At the west end there is a gigantic, almost infinite stairwell and escalator structure that goes to the roof garden. It is a modern cathedral that expresses the beauty and fascination of velocity, transit and movement and turns it into a metaphysic experience, not unlike the early days of the steam trains when railway stations became cathedrals. These days it is the great shopping malls that become cathedrals, just think of Mall of the Emirates in Dubai which has a beautiful central dome, like Galleria Vittoria Emanuele II. However, the dome is still very small compared to the gigantic ski slope that is the main attraction of the mall. There is one a major difference between the Mall, the Galleria, and the Piazza; the mall is typical inverted, inward space more related to the concept of theatre, as it sets the perfect scene of desire and seduction with one clear objective – to make a sale.

### **Disneyfication and Disneyization**

Over time the shopping malls have learned from the "funscape" of Disneyland and all the big cities competing in creating bigger and bigger amusement malls and entertaining arcades and an interesting overlap of architectonic references, means and tools has developed. One of the biggest malls in the world in this category is the West Edmonton Mall in Canada

(1981-98). It contains 800 shops, indoor theme parks, cinemas, restaurants, a lagoon with Columbus ship and yellow submarines that dive into an artificial coral reef filled with mechanical rubber sharks. It has a Chinatown with pagodas, a Europa Boulevard and Bourbon Street. In 1993, "Mall of America" opened in Minnesota. The core of this center is an amusement park surrounded by more than 600 stores and restaurants – shopping, entertainment and leisure become one.

In Asia there is a building boom with enormous shopping malls popping up in China, Malaysia and the Philippines. The space devoted to revenue-producing operations like stores, amusements and food makes the continent home to nine of the world's ten largest malls, six of which have been built since 2004. This has added more than 27 million square feet of shopping space to cities like Beijing and Guangzhou in China and Kuala Lumpur in Malaysia.<sup>ii</sup>

In Los Angeles, which has become rich on celluloid dreams, and whose main industry is the world-wide film and media machine Hollywood, lies one of these "original" classic pleasure zones, Disneyland. The place mediates the dream of the eternally lost childhood. As adults we are only able to look back at the lost, fantastic world of childhood, because we as adults have arrived at "reality". Baudrillard explains:

"Disneyland is presented as imaginary in order to make us believe that the rest is unreal."<sup>iii</sup>

To Baudrillard, it is obvious that Disneyland is located in the most unreal, postmodern, and chaotic place. The city that is not a city, but a highway with warehouses, slums, and carparks: Los Angeles the contrast confirms the idea that Disneyland is fiction, that Disneyland is a dream machine and, therefore, completely "unreal".

Baudrillard views Disneyland as a deterrence machine that can sustain the idea that what is outside is the true "reality". He calls it a: "Deterrence machine set up in order to rejuvenate the fiction of the real in the opposite camp."<sup>iv</sup>

Viewed in this perspective, "The Matrix", with its dystopian vision of how simulation has taken over, could hint at a possibility of escape. When

considering everything, Disneyland may be more real than the matrix ruling outside.

Driving down the “Potemkin Corridor” of Sheik Zayed Road in Dubai and watching the skyscrapers rise up and out from the “desert of the real”, you wonder what is real? Looking at a map of Dubai, you see a gigantic grid of infrastructure of regular plots with names such as Dubai festival City, Dubailand, Business Bay, Global Village, Wafi City, Dubai Media City, Palm Jumeria, and Palm Jebel Ali. All of these places exist first in cyberspace as a project site, and if the concept is strong and it attracts investments, it will become real. But each of these areas, or “worlds”, is a perfect level design, just as if it was designed for a video game. The virtual image is bigger than the real.

As Boris Brorman explains it, the “EXPOisation and mallificated city in the city, and the architecture has, therefore, tendentiously become a Brand, which has loosened its association to the place as locus and operates in a neo-territorial connection: Genius Logo.”<sup>v</sup> This is the future of the global experience economy. The city becomes a video game, theme park, brand and logo, and the architect has a new set of tools in the design process, and he must learn from the game and level designer.

Dubai has becomes the mother of the simulated artificial experience city, and the city is a massive ongoing experiment and laboratory that challenges our imagination about how our future cities will look like. Ibn Battuta Mall, build in 2003, is the newest of the great theme shopping malls i Dubai with each section of the mall representing the six most influential countries visited by the legendary 14th-century Arab traveler, Ibn Battuta. The six courts of the mall are decorated in Chinese, Indian, Persian, Tunisian, Egyptian and Andalucian styles, just as Disneyland is build on a series of small themes related to a film or a fairytale. The tourism industry and the experience economy are going through a global transformation where everything becomes theme

parks, fun cities, event cities, leisure cities and experience cities.

Disneyfication and Disneyization become terms to explain what some see as the spread of Disney’s theme park concept to all corners of the world. Alan Bryman calls his book on the subject from 2004 “The Disneyization of Society”<sup>vi</sup> and in it he explains how the world gets an artificial, idealized and tourist-friendly veneer surface like “Main Street, USA” in Disneyworld. However, if we analyze Disneyworld through Kevin Lynch’s book on how to understand the city “Image of the City”, we will se that Disneyworld is a dense collage of cinematographical references not fit for a traditional urban analysis and we will realize that it is a “city of images” and only images. It is related only to films and games. In order to analyze this further, we need another set of methodological tools.

So where do all these “images” come from, these cities filled with cinematographical references, who started it? Herbert Ryman was one of Walt Disney’s lead designers or “imagers” as Walt Disney called them, He was involved in designing theme parks from as early on as the first Disneyland in Anaheim in Los Angeles, but he also made sketches for the covered shopping mall World Bazaar in Tokyo Disneyland that opened in 1983.<sup>vii</sup>

Disneyland has become “mallificated” and the malls “Disneyficated” and it has spread worldwide. It has become a core of the western culture which is increasingly infantile in its search for the fountain of eternal youth in experience parks, shopping theme centers, fun parks, and malls.

Fun parks and fairs are not new phenomena. The earliest pleasure grounds was London Vauxhall Garden that opened as New Spring Garden in 1660. From then on pleasure or experience gardens were established in many cities in Europe and later they spread to the USA where in 1880 Coney Island in New York was one of the most biggest and famous amusement parks. Parallel with the fun parks, the world fairs were developed, and in 1939 in New York’s “World of tomorrow” General Motors’ “Futurama” was a huge hit. So, when in 1955, the original Disneyland opened in Anaheim, it was based on a long tradition. In 1956, the first shopping mall in the world, the Southdale Center, opened close to

Minneapolis. It was designed by the Austrian architect Victor Gruen<sup>viii</sup> and represents the archetype of all shopping centers. Julie Holk explains: “Unlike the Middle Eastern bazaar and the Parisian arcades, which functioned as a urban “glue” – they connected different parts of the city – the mall is characterized by being a shopping island in the middle of an asphalt ocean, and it is not – physical, culturally, or socially – a part of any community. It turns it back on the world.”<sup>ix</sup>

The name “Gruen drift”<sup>x</sup> explains the perfect “Modus operandi” of impulse buying.

The modern shopping centers has a hard shell but inside it is soft and enchanted space - a stage carefully staged to bring on a sale, and it works best in an infinite, closed loop based on voyeurism and confidence. A mall is a soft labyrinth designed to get lost in, just a little bit. Nothing unpredictable happens here, the mall is architecture of reassurance.

It could look like that the shopping malls and Disneyworld has become one, and that it is the future for our cities, but that is not true the old classic Piazza has been reborn in Berlin and reinterpreted. Looking at Sony Center in Potsdamer Platz, it does not turn its back to the world, it is a reinvented modern public space representing the new “urban renaissance”, the reconstruction of the lost city of Berlin. The term “urban renaissance” was used by Richard Florida<sup>xi</sup> to describe the reconstruction of the old English industrial cities which has developed from a post industrial state to new cultural and knowledge based cities.

Helmut Jahn<sup>xii</sup> has designed a urban experience machine based on a transparent complexity, and the simultaneous reflections of TV screens, pedestrians, trees and clouds outside, the escalators and glass elevators with the contestant changing fountain at the ground floor. The circular space creates a kaleidoscopic hypnotic and enchanted space where everything reflects everything in this panoptic space. It’s a “seeing machine”.

The “seeing machine” accommodates Berlin’s cinema centre “Film Museum Berlin” the 3D IMAX cinema and over 40 screens in the bio centre. Beneath the central fountain, at the bottom of the center is a skylight to the underground cinema foyer with a carpet with a printed and enlarged part the original manuscript from Martin

Scorsese’s “Taxi Driver” from 1976. Fragments of the manuscript can be found reflected on many different surfaces all over the center. The center is a media machine and is more related to films and games than a classic piazza. In order to analyze this, perhaps we need to introduce another set of methodological tools.

## The age of Panoptism

An original genuine “analogue seeing-machine” was actually invented in 1787 by the British Jeremy Bentham. This is how he described it:

“The Panopticon is a circular building with cells where the wall to the main room is replaced by bars, and the cells are separated and isolated from each other and built in several stories, having external galleries for hall area. In the middle of the room lies the inspector’s residence. The bars in the cells make it possible to see everything that is going on in the individual cell from the inspection tower, and small lamps with mirrors convey light into the cells from the tower at night. A long pipe between the cell and the tower makes it possible to hear even the slightest whisper from the cell. At the same time, the guardian can give instructions and reprimands from the tower to the cell, without having to leave his post.”<sup>xiii</sup>

Bentham had the idea that this seeing-machine could be put to use in many places, e.g. in hospitals, mental institutions, schools, factories, and all other places that needed to control. A machine offered complete supremacy and was so simple that even a child could operate it.

In “Discipline & Punish”<sup>xiv</sup> Michael Foucault wrote on the panopticon; “The “seeing-machine” is a sort of model for our new society where an increasing amount of surveillance of individuals is required, and panopticon perfected the exercise of power, enabling a minority of the powerful to supervise a maximum of individuals. With no other physical means besides architecture and geometry, the panopticon has a direct influence on the individuals. It gives thought power over thought.”<sup>xv</sup>

When writing “Discipline & Punish”, Foucault called it “the age of panoptism”, but this “seeing-machine” (surveillance machine) is haunting us in several ways in the present, in the digital universe and in our vision of the future.

Staying at the Sony Center at Potsdamer Platz, we experience only very soft control as there is no inspector’s residence or surveillances tower. It is a fountain and the light from its small waves reflects in all the glass facades, together with the sound of running, falling water, footsteps, voices, coffee cups, and distant cars. The roundness of the center repeats itself in the tilted glass and steel roof, the soft dynamic mill wheel, like a gigantic floating, turning dandelion seed. A memory from a happy childhood summer’s day. It is a perfect abstract image where architecture, engineering and metaphoric forms create a transcendental experience.

### **The Immaterial Transparency**

Transparency and simultaneous points of view are two fundamental concepts that describe a phenomenology of the new architecture, both the physical and the virtual. The Japanese architect Toyo Ito explains it like this: “Starting with the decadence of postmodernism in the 80s, we are presented with tendencies such as the return to the modern stoic style, to minimalism, to an inclination towards localism, and so on, but I think that the main current in architecture is directed towards transparency given that society itself is becoming increasingly transparent alongside the development of information, and naturally all of this must be reflected in architecture.”<sup>xvi</sup>

The digital fabric possesses a transparency, and we exist in a world where everyone can watch everyone. The concept has several aspects. Two are the literal and the phenomenon-bound transparency. The literal transparency is the one we most frequently encounter in connection with architecture when we deal with a material-bound transparency in, for instance, glass and steel houses. With “Mediatek” in Sendai (1997), Toyo Ito has created a groundbreaking architectural

work; his point of the departure being a vision of the town as a “transparent forest”, where a sliding transition occurs between the inside and the outside and a sliding transition occurs between the virtual media, which is an integrated part of the Mediatek, and the tactile space, the physical reality outside.

Far earlier, in 1986, Toyo Ito brought transparency into the city space with his “Tower of Winds” in Yokohama (1986). A profane, 21 meters high tower made of neon, glass, mirror plates and steel, build in front of Yokohama Station, the tower has both physical and metaphysical functions and roles during the day. When the sun sets, the tower awakens and reacts to the wind and the surrounding sounds, creating an unpredictable transparent and floating light spectacle. The tower is a body that reacts to the city, its pulse and breathing.

Ito believes that future architecture should rely on brand new premises. Houses should contain rooms that can be modified over the course of time and serve new functions. Ito may be the architect closest to developing the new archetypes for a modern and future architecture. Ito’s Mediatek is an artificial forest, the building sits on 13 hollow towers or columns of net which are all different and bend or move like a bamboo forest, a bio-morphic structure like columns of plants that intertwine underwater. The house has lightness and elegance to it, and the light falling through the hollow columns blurs the boundaries between the inside and the outside.

Ito himself describes the Mediatek as fluid bodies and compares it to being submerged into another world similar to when we are sitting in front of the computer. To him the boundaries between the inside and the outside are blurred in the same way as, the boundaries between the digital and the physical spaces become fluid and the digital space gradually becomes more tactile parallel to the technological development.

## Transparency and Speed

The speed of electronic media takes us on a trip around the world; all events imposing themselves on us with the same validity or indifference. Absolutely, they are a part of our “reality”. We are constantly having new layers added to our reality and our focus is constantly changing, all depending on what screens or programmes we are watching or looking through. The moment you log onto the internet, you are open to the entire world. Everyone can see into your “house of glass”. You are sitting “naked” in front of your screen, you have no “curtains” in the house, and maybe/maybe not someone out there in the big black space is watching you. The TV-screens and computers are on, but you are afraid to turn them off, because maybe “something” will happen. In the meanwhile your private sphere is flooded by this “intrusive nothing”, an information vacuum has filled your house to bursting point. Soon the walls in our houses will no longer be brick, but become screens displaying images of an infinite number of opportunities.

“Architecture is just about to lose everything that characterized it in the past. Step by step it loses all its elements. In some way, you can read the importance given today to glass and transparency as a metaphor of the disappearance of matter”<sup>xvii</sup>, says architect, philosopher, and critic Paul Virilio about the new age when the media becomes omnipresent. The French architect, Jean Nouvel, has the same focus as Virilio. He works with glass that is programmable, and able to give a building different appearances, and he states: “I’m much more interested in the relation between matter and light exposed by the transparency or opacity of glass, for example, than by formal spatial parameters.”<sup>xviii</sup>

Nouvel works with vitality and appearance, and he wants the building to play with transparency effects so that ambiguity creates an interplay of multiple appearances. Nouvel declares during a

discussion with Baudrillard that: “I’m going to do something that won’t be seen, and I’m going to see everything through it. On the architectural level, it’s nothing but pornography...” To that Baudrillard replied: “The opposite of a secret, obscenity.”<sup>xix</sup>

In the future, when we are in our glass houses, we will not only be looking out. We will put on our virtual glasses and enter the parallel, electronic universe in cyberspace where we will meet people, shop, and be entertained. Or our “avatar”, our electronic substitute, travels for us. It might appear that we no longer need our bodies.

At the moment, scientists at MIT have made great progress in developing an additional layer of information to our “reality”, which they call “annotated reality”. Eyeglasses serve as a transparent monitor that can display information or video stored on tiny laptops. Next to your ear is a small earpiece, somewhere else on your body is a small powerful computer, and on your wrist a mini-keyboard where you can type all the letters by using combinations of the digits.

When you encounter other people on the street or at a meeting, information is shown on the inside of the glasses where you can check out everything the other is saying. But who is who, and are people sincere when they ask about your family and career?

The physical means of transportation and the increasing speed of the electronic means of communication have constantly been diminishing distances between people, making the Earth smaller, concentrating populations in urban areas and depopulating rural areas. But this has not necessarily lead to people becoming any closer in the cities.

## Methodology and Tools

What tools do we need in order to understand what we see at the Sony Centre on Potsdamer Platz? In the design process, it is necessary to be able to compare and analyze what other designers

do and how to approach the design process. Salen and Zimmerman make it very simple: “Design is the process by which a designer creates a context to be encountered by a participant, from whom meaning emerges.”<sup>xx</sup> Kevin Lynch from the Center of Urban Studies in Massachusetts states that the image of the city has its fundamental basic elements: “Path, transit routes, roads and lines. Edges, boundaries between two phases shores or walls. Districts, larger sections of the city. Nodes, strategic spots, junctions, places of break. and Landmarks, building, signs, towers, stores or mountains.”<sup>xxi</sup> Lynch is giving us a tool for analyzing what lies at the core of the context of the city.

If we look at a game from the conceptual designer’s point of view, we could use the five virtual aspects I used in “Place No Place”<sup>xxii</sup>. Each point represents an analytical tool for interpresentation of a given work of art or a possible design process.

1. Form follows function. Morphology, utopia/dystopia, movement/time, space/duration.
2. Style, history and context. Architectural tools and means. Quality/quantity, coherent/incoherent.
3. Social and scenography. Sacred or profane. The political and ideological meaning. Expression of power instinct and intelligence.
4. Intention of the creator. Conscious or unconscious embedded reference in the artwork. Instinct and intelligence.
5. Metaphysics. The experience of the subject of space experience and content.

These five points are very general and are an attempt to move towards an understanding of what game design is about and of course, very importantly, to discover and understand the

sources of inspiration from other media such as films, books, and comics.

There is a big difference between FarCry (FC), Crysis (CR) and Half-Life 2 (HL2). FC starts out as a utopian dream. HL2 is from the very start a dystopian science-fiction with a link to George Orwell’s “1984” and films like “Alien”, “Evil Dead 2”, and Zombie films such as “Dawn of the Dead”. FC is more linked to films like “Jurassic Park” and “The Island of Dr. Moreau”. The inspiration goes back to Jules Verne and his mad scientist Captain Nemo. It is almost a genre by itself; the lost island inhabited by mad scientists doing strange, forbidden experiments with monsters out of control.

In Gütler and Johansson’s definition, level architecture contains objects, collision points, orientation, and type as the four heuristics (methods) and guidelines that could lead to a better level design for practitioners. Tracy Fullerton believes that there are eight formal elements that form the structure of a game: “Players, objective, procedures, rules, resources, conflict, boundaries, and outcome.”<sup>xxiii</sup> Without these elements, it is not a game at all. In games based on emergence, the play is more like an open landscape with many possibilities and not, as is usually the case, based on a straight storyline. In FarCry and Crysis you can get that experience on some of the largest and most infinite levels you can do such things as driving, sailing, swimming, and walking just to explore the waste landscape; you can just level the mainstream of the straight storyline on which the game is based, and simulate a hike in nature.

A game designed for a single player is very different from a multiplayer game. The focus in this article is primarily on FPS single player games based on traditional progression. The objective defines what challenges players are to meet within the rules of the game and the level, and it has to end with an achievable outcome for

the player. Between objective and outcome, the art of level design and obstacles unfolds.

Tracy Fullerton uses ten elements to describe the substance and content of digital games and level design: capture, chase, race, alignment, rescue or escape, forbidden act, construction, exploration, solution, and outwit.<sup>xxiv</sup>

All these formal elements are important elements or “bricks” in level design, in the early stages of conceptual world and level design, and as tools in the analysis of game design.

The Dutch architect Kas Oosterhuis states that architecture is no longer physics alone. He explains: “We must look at the buildings as if they are instruments, which can be played in real time. These dynamic buildings I regard as running processes, which are continuously informed and which continuously inform other running processes. They are active nodes in a complex adaptive operational network.”<sup>xxv</sup> Kas Oosterhuis combines computer games and advance digital technology with architecture and art. It gives a new and totally different dynamic, interactive architecture. In the future, we will still build houses in “Real Life” but also in “Second Life” in cyberspace, in the new internet based, global, 3D, real-time, virtual worlds.

We must look at the new virtual and actual worlds of architects such as Marcos Novak, Usman Haque, OMA and Kas Oosterhuis who create mobile, interactive, sensitive architectural objects for the future, which can interact with the environment and the users. To Oosterhuis and Haque the rules and tools of “virtual games” have become a big part of the design process.

According to Usman Haque the architectural design process meets new challenges, such as a new world of flow and interaction. He says that “we make a distinction between “reactive” and honestly “interactive” environments. Reactive implies a one-way direction of cause and effect; interactive implies a circularity of iterations of cause and effect. When these iterations are cumulative and create a shared history, mutual

learning is possible and interaction may move to conversation.”<sup>xxvi</sup>

Behind all this virtual flow and interaction lies a new technology, a source code and geometry. Architecture is created out of complex geometric relationships and it is geometric form that is the foundation of architecture. The architectural design process stresses the use of standard geometry asking for non-standard generative geometric solutions, and computational techniques have become inclusive to the architectural design and manufacturing process. But today’s “open source” computer software with its source code made freely accessible to the designers and architects creates new challenging opportunities based on the principle of sharing new technology and collaborating across international, cultural and professional boundaries.

Today, it seems that the immersive computer games are on the edge of something new. In the future, we will see deeper simulations with levels that contain a greater complexity and interactivity for the player. Harvey Smith sees computer games as an expanding art form and says that: “The games of the future will rely heavily on much more complex, high fidelity world representations that will allow for more emergent behavior and unforeseen player interactions. Taken together, these next-generation design paradigms are not simply improvements over older models, but represent a fundamentally different approach to simulating real-world physics, handling artificial intelligence and interface usability.”<sup>xxvii</sup>

Games will allow players much more freedom of expression and will make the game experience more focused on the player, with deeper simulations and auto-generated content. Perhaps we will even see dynamically generated architecture, cities and landscapes.

The old psychoanalyst Carl Gustav Jung would have been delighted to experience the art of games we see today, because it contains such a rich

source of symbols and imagery close to our dreams.

It is not only the sci-fi films with their extremely complex virtual landscapes and worlds, it is also the games reflecting culture and expressing a state of mind.

By designing our own virtual worlds, we can “break the rules” and define new plays, rules, and cultures, because games become cultural environments that reflect the architecture and design of our new society “The dream society.”<sup>xxviii</sup> Designing games and cities is a multidisciplinary art form and platform of experience, pleasure and meaning that breaks the rules of the old western culture and challenges all of us.

## Case Study on the Crystal Forrest

We know from Kevin Lynch that the image of the city has the basic elements of Path, Edges, Nodes, Districts, and Landmarks, and we can use this as a great tool for analyzing a given context and city, but also as a constructive tool in the design process.

Using these tools together with the five points from Place No Place, it is now possible to decide how many different layers we have to work with in our design process. The layers and tools we are working with in our design process look like this:

**1st Layer:** Form follows function, morphology. Lynch’s image of the city.

**2nd Layer:** Style, history and context.

**3rd Layer:** Social and scenography. Mythology, sacred or profane, political and ideological.

**4th Layer:** Intention of the creator, Fullerton’s rules of games.

**5th Layer:** Metaphysics. The experience of the subject of space experience and content.

The tools we have used in the design process of the Crystal Forrest are Fullerton’s ten rules, capture, chase, race, alignment, rescue or escape, forbidden act, construction, exploration, solution, and outwit. Lynch’s image of the city, as well as the “Labyrinth” as the architectural archetype both for the narrative element in the writer’s path layer and as an aspect of the design of the water layer.

To use the term “Urban Renaissance” when describing Potsdamer platz and the Sony Center is very precise.

In old French, the word *renaissance* means “rebirth”. In Italian it is *Rinascimento* deriving from the Latin *re-* “again” and *nasci* “be born”<sup>xxix</sup>. Everything is reconstructed on top of the bomb site. Speaking of a multimodal experience at the Sony Center can to some extent make sense, when we experience all of the different mediated parts of this huge “seeing machine”. Modality is not only human-computer interaction, any human sense can be translated to a modality. In practice, the modalities of seeing and hearing are the most commonly employed. The major modalities are seeing, hearing, touch, pressure, taste, smell, heat, cold, pain, balance and body awareness.

In the Sony Center’s “seeing machine” seeing and hearing occurs fundamentally through multiple 2D and 3D screens at the IMAX, through the crystal mirror rooms at the film museum at the Sony game and new media showrooms, through the constantly shifting of multiple view points through the transparent building structure, and through an extensive use of escalators and glass elevators that also create a new and different body awareness. It is also about the perception through the mouth or the body – to taste, drink, smell and eat warm, cold, soft, hard, fluid, salty, spicy and sweet things.

If we combine these major modalities with Fullerton’s ten formal elements, which were introduced above, and implement them in the layers and the experience of the park and the Crystal Forrest, we should be able to create

something that speaks to humans of all ages and senses.

The area for the Crystal Forrest and the park proposal is located in downtown Aalborg. The railroad tracks cut the city in two parts. It cuts from the north to the south, and to the west of the tracks is “Kildeparken” that can be linked with the Kennedy Arcade and the new park in the east end of the goods yard on a rectangular area of the old, abandoned railway goods yard complete with old rusty tracks. To the north and to the east runs Jyllandsgade with its five storey apartment buildings. To the west is the railway station and the Kennedy shopping arcade, and to the south is another street, Østre alle. The whole area is cut into two parts by a concrete bridge that spans the old railway tracks, and the owner of the area is the Danish railway company DSB who is holding out for a business opportunity.

The proposal is to create a new “green city area” that connects the two city parks, Kildeparken in the west and Tivoli in the east and to connect the small river stream from Ådalen in the south to the harbour front in the north. In the center of the park there will be a lake with a boat house and an orangery,<sup>xxx</sup> and, thus, it will be possible to rent a boat and row to Tivoli or up the stream into the meadows and forest to the south. The flow of water is central for the park as it adds a sense of play and fiction. Through the park runs the writer’s path which is linked with a series of interactive installations and stages which can be used for any play or performative activity. Writers path is an open performative city-scape. It can be anything: fiction, mythology, music, gaming or any new art form. The park is a place that reflects the changes in the city.

To summarize, the “Green City Ring” is both a real park, the new “Ådalsparken” and a artificial “Crystal Forrest” that is a transparent public space with shopping mall, extended railway station,

offices and dwellings, and the main focus of this paper is the “Crystal Forrest”.

The proposal was presented in the local newspaper and discussed at an open citizen meeting between the citizens and the city officials. The response was positive but also sceptical. Among the comments were: “Nice but too expensive” , “We need that, but how can it be realized?” or “Can we finance that by building a group of high-rise condos in the east end of the park?” The presentation of the project was only a 2D plan with some photos of the existing area. That was the results of first sketch loop.

In the district plan the municipality proposes that the area can be used for recreation and leisure, but to sway public opinion and find a majority in the local town council is the next challenge. The first loop was 2D and photos, so the second sketch loop will be to create a model of the park in 3D and 4D with the “Sandbox2” program from the game CRYSIS. Thus, it will be possible to play and move around in the park in real time. This improved project will be presented to the public and the municipality in the summer of 2008. Hopefully, it will help provide some answers and decisions in the process on how to develop our future parks and cities with the help of new advanced interactive digital tools based on the new game technology.

Ole Pihl

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<sup>i</sup> The five classical orders are: Tuscan (Roman) and Doric (Greek and Roman, illustrated here in its Roman version); Ionic (Greek version) and Ionic (Roman version); Corinthian (Greek and Roman) and composite (Roman). The ancient and original orders of architecture are no more than three, the Doric, Ionic and Corinthian. As Vitruvius explained in his book “De architectura” also known as The Ten Books of Architecture.

<sup>ii</sup> [http://www.forbes.com/2008/01/17/retail-malls-shopping-biz-commerce-cx\\_tvr\\_0118malls.html](http://www.forbes.com/2008/01/17/retail-malls-shopping-biz-commerce-cx_tvr_0118malls.html).

<sup>iii</sup> Baudrillard: “America”, translated by Chris Turner. 1988. Verso (London and New York) p.12.

<sup>iv</sup> Baudrillard: p.13.

<sup>v</sup> Boris Borman Jensen: “Dubai – Dynamics of Bingo Urbanism”. The Architectural Publisher B. 2007. p.155.

<sup>vi</sup> Alan E. Bryman. *The Disneyization of Society*. Sage Publications. 2004.

<sup>vii</sup> The original Disneyland in Anaheim opens in 1955, in 1971 Walt Disney World opens in Florida, and in 1983 Tokyo Disneyland opens. In 1992 in Euro Disney opens in Paris.

<sup>viii</sup> Victor Gruen. In shopping mall design, the Gruen transfer or Gruen Drift refers to the moment when consumers respond to “scripted disorientation” cues in the environment. It is named for Austrian architect Victor Gruen who disavowed such manipulative techniques in 1978 two years before his death Gruen disavowed other shopping mall developments as having “bastardized” his idea.

<sup>ix</sup> Julie Holk: “Fun City” The Danish Architectural Press. 2007. p.159.

<sup>x</sup> Sze Tsung Leong “Gruen urbanism Harvard guide to shopping”. Tachen 2001. p.381-389.

<sup>xi</sup> Richard Florida: “The Flight of the Creative Class”. Harper Business. 2005.

<sup>xii</sup> Helmut Jahn (born January 4, 1940) is a German-American architect, designer of dozens of major buildings throughout the world. Sony Center on the Potsdamer Platz, Berlin, the MesseTurm in Frankfurt and the One Liberty Place, formerly the tallest building in Philadelphia, Pennsylvania, and the State of Illinois Center in Chicago.

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<sup>xiii</sup> Jeremy Bentham: “Panopticon or the inspection house.” “The works of Jeremy Bentham”. vol. 4. ed. John Bowring, Edingburgh. 1843. p. 40.

<sup>xiv</sup> Michael Foucault: “Overvågning og straf.” Det lille forlag. (1975) 1994. p.179 – 180.

<sup>xv</sup> p. 184.

<sup>xvi</sup> Toyo Ito: “2G International Architecture Rewiew”. N. 2 1997. p. 22.

<sup>xvii</sup> Paul Virilio in interview with Andreas Ruby i “The Virtual dimension.” Architecture, Representation and Crash culture. Edited by John Beckmann Princeton architectural press. 1998. p.181.

<sup>xviii</sup> Jean Baudrillard and Jean Nouvel: “The singular objects of architecture” University of Minenesota Press. 2002 p.61.

<sup>xix</sup> p. 62.

<sup>xx</sup> Katie Salen & Eric Zimmerman “Rules of Play Game design fundamentals” MIT press. 2004. p.47.

<sup>xxi</sup> Kevin Lynch: “The image of the City”. MIT Press Cambridge, Massachusetts. 1960 p. 47-48.

<sup>xxii</sup> Ole Pihl: “Place no Place.Aspects of the origin of the virtual architecture”. Axis Mundi art Press. 2007. p.73.

<sup>xxiii</sup> Tracy Fullerton “Game design Workshop Designing, prototyping and play testing games”. CMP Books 2004. p.43.

<sup>xxiv</sup> Fullerton: p.52 – 60.

<sup>xxv</sup> “Game Set and Match. On Computer Games Advanced Geometries, and Digital Technologies”. Kas Oosterhuis, Lukas Feieiss (eds.) Episode Publishers. pp 15 – 16. 2006.

<sup>xxvi</sup> Game Set and Match red. Kas Oosterhuis. Usman Haque/Paul Pangaro. “Paskian Environments”. Episode Publishers. 2006. p. 471.

<sup>xxvii</sup> Harvey Smith: “The future of game design: Moving Beyond Deus Ex and Other Dated Paradigms” 2001. [http://www.igda.org/articles/hsmith\\_future.php](http://www.igda.org/articles/hsmith_future.php)

<sup>xxviii</sup> Rolf Jensen: “The Dream Society” McGraw-Hill 2001. Rolf Jensen claims that in the future leaders have to become storytellers first and managers second. The book discusses how the coming shift from information to imagination will transform businesses and suggests how businesses can transform themselves in order to prosper in the 21<sup>st</sup> century.

<sup>xxix</sup>

<http://www.etymonline.com/index.php?search=renaissance&searchmode=none>

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<sup>xxx</sup> The “Orangery” was similar to a greenhouse or conservatory. The name reflects the original use of the building as a place where citrus trees and other exotic trees and plants from the south were often wintered in tubs under cover. The orangery provided a luxurious extension of the normal range and season of woody plants.

GAMES:

FarCry: PC.DVD: Ubisoft entertainment 2004.

CRYSIS PC.DVD: Ubisoft entertainment 2007.

Half –Life 2 PC.DVD. Sierra Valve Corporation 2004.

**Peter Skotte Sandbox Level Editor Course**

- Course One - Terrain Creation and Editing
- Course Two - Textures and Vegetation
- Course Three - Objects
  - Course Three A - Holes - Tunnels and Caves  
!! Transcript from the SandBox Manual !!
- Course Four - Simple SinglePlayer Level

Course Five - Adding AI, tweaking and Playing your maps..

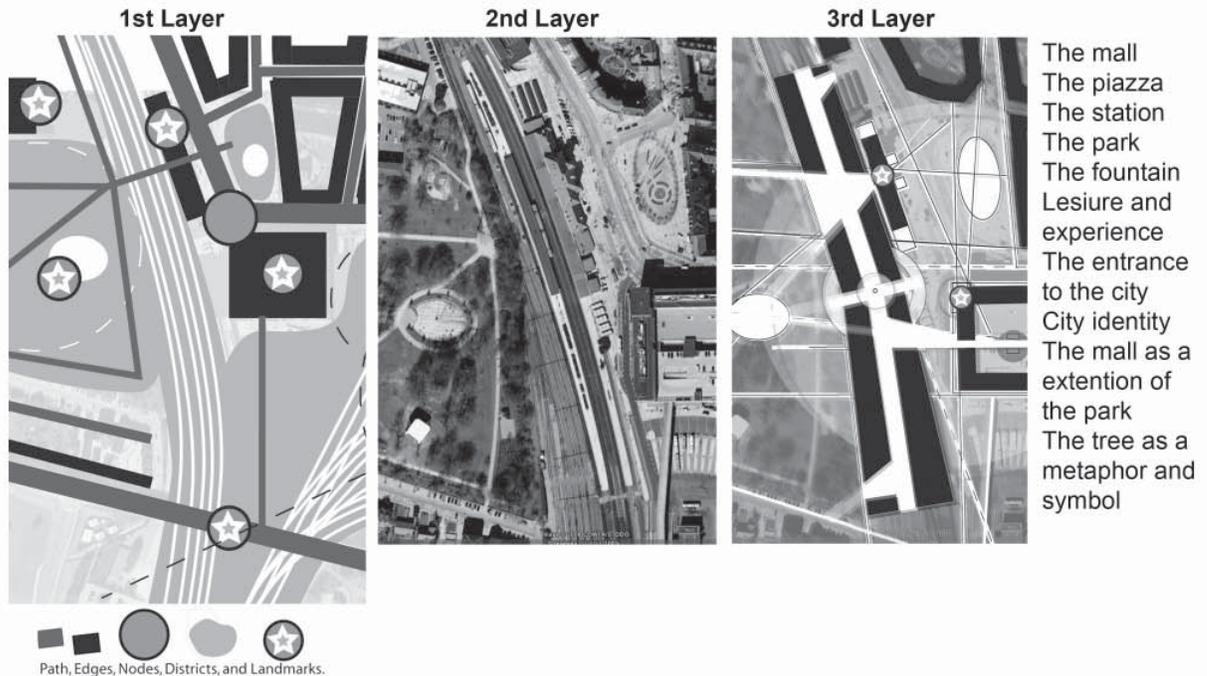
Peter Skotte

forum <http://sandbox.vrmedialab.dk/> ...

# Learning from Potsdamer platz Case study on “Crystal Forest”

Ole Pihl Architect. Associate Professor Ph.D. Department of Architecture and Design Aalborg University. Denmark.

## Loop 1 Analyzing the kontext using Kevin Lynch and the five layers of the design process



1st Layer: Form follows function, morphology. Lynch's image of the city.

2nd Layer: Style, history and context.

3rd Layer: Social and scenography. Mythology, sacred or profane, political and ideological.

4th Layer: Intention of the creator, Fullerton's rules of games.

5th Layer: Metaphysics. The experience of the subject of space experience and content.

### 4th Layer Fullerton's rules of games



The 10 rules:

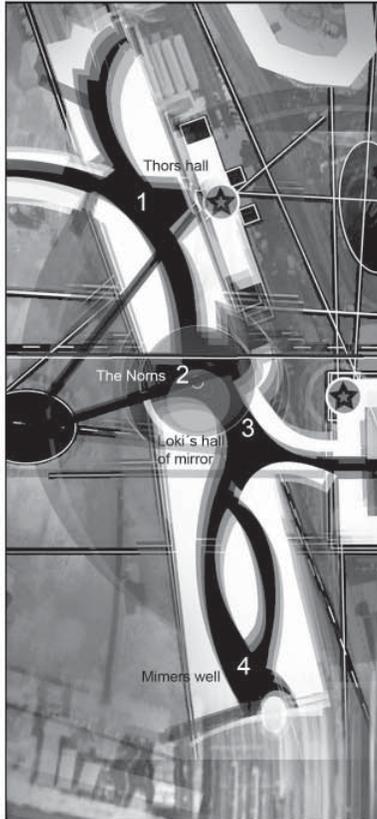
1. Capture,
2. Chase,
3. Race,
4. Alignment,
5. Rescue or escape,
6. Forbidden act,
7. Construction,
8. Exploration,
9. Solution,
10. Outwit.

The curved space is exploration, solution and outwit

Interactive installations is capture, alignment, exploration and forbidden act

Transit and flow is race, chase, capture, and solution

### 5th Layer



The major modalities are: seeing, hearing, touch, pressure, taste, smell, heat, cold, pain, balance and body awareness

Four Interactive installations is fire and water light and water smoke and water smell and sound

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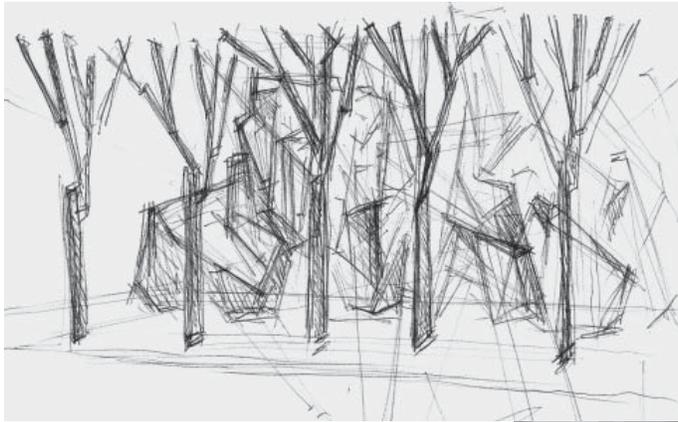


Loop 2 Analyzing the context using Kevin Lynch and sketches from Kildeparken and Tivoli.

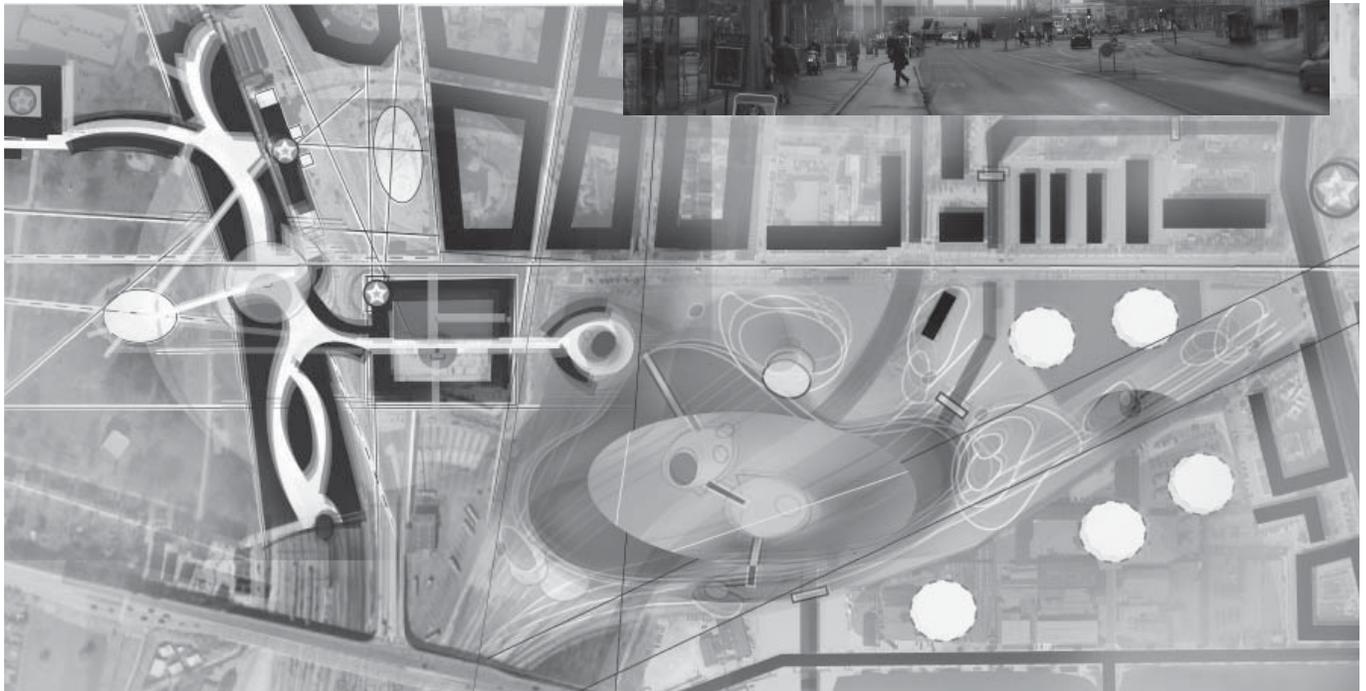


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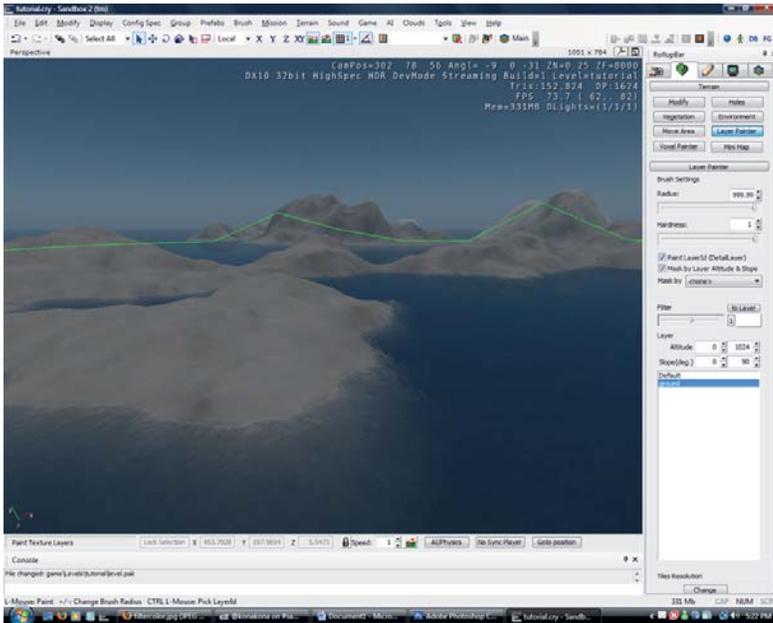


Loop 3. Experimenting and sketching on organic and crystallic structures, exploring their symbolic and methaphoric form.



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Next: Loop 4 Going from 2D to 3D implementing the park and the mall in the “Sandbox2”

