aether
the journal of media geography

From Cyberspace to The World

The Impact of Google Earth and Second Life on Dubai

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"The Palm puts Dubai on the map and then Dubai puts The World on the map."
–Advertisement in Dubai (UAE).

"There is an extremely new domain being constructed, which partly undermines architecture or eliminates the reason for being of architecture – the electronic domain. Now is an existential moment for a discipline that will decide whether it will be a dinosaur or whether it will be reinvented."
–Rem Koolhaas (Lubow 2000).

Abstract

What is the impact of the dissemination of images from cyberspace on the perception, experience, and design of contemporary cities? In the case of Dubai (UAE), the satellite images of the city have traveled the world. The Palm islands and The World archipelago have had enormous media coverage in magazines, airport lounges, TV programs, and the Web. These artificial islands have become world icons for the city, but a study shows that they are rarely cited as landmarks by the city's residents. In fact, vast and stretched far out into the sea, both types of figures can hardly be encompassed from a single viewpoint on the ground. Instead, their iconic form is well appreciated via aerial or satellite views by a subject flying above the city or surfing its web pages. It is as if the images of these places take primacy over their physical existence. How can one explain this paradox? Who are these artificial islands built for, and for what kind of perception? What are the implications of the access of research engines like Google Earth and the public dissemination of satellite images on the shape and experience of the city? Relatedly, what is the impact of the increasing public appeal for 3D immersive virtual worlds such as Second Life on the design of global cities?

Aether Vol. VIII.B, 97–108, September 2011

Introduction

What do virtual worlds have in common with theme park environments and vacation resorts such as The Palms or The World in Dubai? Today, virtual spaces are lived more strongly than the mere 'consensual hallucination' envisioned for cyberspace by the "father" of cyberculture, William Gibson (1984). They form a new type of space characterized by liminality. Rob Shields introduces the notion of 'liminoid' or threshold spaces in which one is neither 'in' nor 'out'. He (2003, 12) says: "A key part of the transformation [of liminality] is the suspension of everyday social norms to allow a rearrangement of the social order. As such, liminality offers a utopian moment in which the weight of limiting social regulations is lifted." Hence, virtual spaces are 'liminoid' in that they are participated in on a temporary basis and in which the rules of daily face-to-face life are suspended or sometimes even inverted in carnivalesque ways. These virtual spaces are not only between geographical places in a non-place space of telemediated data networks, but also their members take on specific usernames and identities. The virtual is often portrayed as enabling a human virtuosity beyond the limits of the body or gravity.

The advent of virtual worlds has expanded through the development of computer games towards an increase of creative spatialities, therein replicating, through more and more sophisticated visualizing tools, the experience of narrative environments such as theme parks. Virtual worlds like Second Life have been developed as approximate representations of existing spatial experiences by people using the software, through the explosion of user-created content. It is for this reason that Second Life is so similar to its referent, 'First Life', i.e. life on Earth. After perfecting its mimesis, it seems that we are witnessing a shift in the relation between the physical and the virtual since the reference for the development of liminal spaces prioritizes the virtual over the physical.

This paper analyzes the evolution of this influence from the beginning of the computer game to our present era, where some of the characteristics and potentials of virtual geographies seem to infiltrate the new geographies of our physical world. Dubai presents a case study of how The Palms artificial islands (Fig. 1) are constructed and viewed through satellite technologies and how entire new territories such as The World archipelago (Figs. 2-3) are emerging as parodies in the physical world of 3D immersive virtual environments.

From Digital Gamespaces to New Virtual Worlds

The advent of the first computer games in the realm of research science happened at a time when existing computers were incapable of generating more or less 'realistic' computer-simulated spaces. Andreas Lange explains that only experienced specialists were able, on the basis of a few small lights, to recognize the emerging harbingers of what would later come to be known as virtual reality (Lange 2007). It was precisely such specialists, the architects of the first computers, who recognized and investigated the potentials of

Figure 1. *Satellite image of Dubai and its artificial islands: The Palm Jumeirah, The World and the burgeoning of The Palm Deira, 17 November 2008. Source: Courtesy of NASA.*

Figure 2. *Aerial view of The World, April 2008. Source: Courtesy of Nakheel.*

computer games right from the start. In 1942, on the basis of a chess program, Konrad Zuse demonstrated the strength of his programming language 'Plankalkul.' Since then, computer games have continued to evolve and empower the imagination with the use of more and more sophisticated graphics and visualizing tools. It was a mere fifty years later that early 3D spaces became available in digital gamespaces, combining the concept of real-time 3D and spatialized storytelling techniques. Gradually, an immersive vision was constructed by achieving a synthesis of space and story and empowering the player at the same time. But it was only with the advent of graphically-based Massively Multiplayer Online Role-Playing Games (MMORPGS) that a new dimension was added.

In these environements, public places were and are invested in by thousands of people simultaneously in their communal sharing of an entertainment experience. In addition to making use of the major achievements of the digital gamespaces, these new games introduced three new key dimensions to spatial media: agency, identity and persistent community. These three dimensions of digital gamespaces led to the creation of new, dynamically interactive virtual worlds.

In MMORPGS, every 'guest' is a 'resident,' or a sort of 'citizen' of an online world. Players are not simply spectators, but rather take roles in and engage with the narratives and conflicts of the game. Celia Pearce (2007) discusses the emergence of two new virtual worlds: *There* and *Second Life*. She says (2007, 203):

> In these worlds, players are not merely citizens of someone else's fantasy world, but actually have a hand in constructing the fantasy themselves. I term this 'productive player,' in which play merges with creative production.

Figure 3. *Aerial view of The World overlooking the Dubai skyline, April 2008. Source: Courtesy of Nakheel.*

In *There*, players can design their own houses, vehicles and fashions, which then becomes part of the world and can be acquired by other players. In *Second Life*, virtually everything in the world is created by players. Many players even buy their own islands on which to build.

These co-constructed worlds merge MMORPGs with user-created content such as that seen on websites like Facebook, MySpace and YouTube. Yet they go beyond the scope and limitations of these sites by combining all player creations into a vast, connected virtual world.

This raises the question: are MMORPGs virtual narrative environments or are they virtual cities? Perhaps, in some respects they are both. On the one hand, MMORPGs provide the human-scale pedestrian fantasy of environments such as Disneyland

as a respite from the modern, homogenous reality of suburban sprawl. On the other hand, they enable the interactivity and participation afforded by the cities. In 2003, the Californian software company Linden Lab opened its virtual world, Second Life, to the public. Second Life (SL) is based on a concept that goes further than all other MMORPGs in that the entire content of this synthetic environment is user-generated. In addition to the option of buying and selling land, Linden Lab services include complex 3D modeling tools, a powerful scripting language and the possibility to use streaming audio and video. The basic account is free, but in order to buy land a premium membership with an attached fee is required (Schmidt 2007). Furthermore, landowners must pay taxes.

After logging in, users can explore the gigantic world with an editable avatar whose gender and appearance may be changed at any time. Residents spend their time creating all kinds of "virtual material" objects such as clothing, houses, and vehicles that are, by definition, intangible (Typepad 2008). Users acquire intellectual property rights for their creations, and sell them to other users. Whereas the space is virtual, the money is not. The in-game currency, the Linden Dollar (L$), is convertible to US Dollars (US$) at any time. The population of SL is growing exponentially as is its economy. As a result, real-world companies like American Apparel and Nissan are trying to get a foot in the growing market. Media networks like MTV, BBC and Reuters also operate in SL. As a result, the boundary between the virtual world of SL and and the physical world of capitalist production and consumption is blurring.

From New Virtual Worlds to Dubai World

Predicting the impact of Google Earth and 3D immersive virtual worlds such as SL, some cities have anticipated the phenomenon by re-thinking their presence on the map. A study of Dubai shows how coastline extensions such as the Palm islands are constructed and viewed through satellite technologies and how entire new territories based on a meticulous urban planning such as The World archipelago (Figs. 4-6) are developed and advertized using 3D immersive virtual worlds concepts. Hence, much like SL, the recent development of Dubai's landscape depends on new, on-line virtual-viewing and participating subjects.

The virtual branding of Dubai has followed a precise and successful business strategy, but above all it has benefited from another success: that of Google Earth. In an article entitled "Terraforming," AMO (2007, 262) explains: "Land reclamation was once based on need: for infrastructure, for defense, for streaming nature. In the Gulf, reclamation is for the first time related purely to pleasure." As a result, Dubai's coastline is no longer simply a utilitarian encounter between land and sea, but an orientalist plotline on an untainted canvas. Since the coast is the main selling point of The Gulf, this shift has generated a shoreline of systematic fractalization. When Dubai was considering land reclamation in the 1990s, a Dutch contracting company specializing in land reclamation, Van Oord, was invited to tender a bid on the project. Realizing that

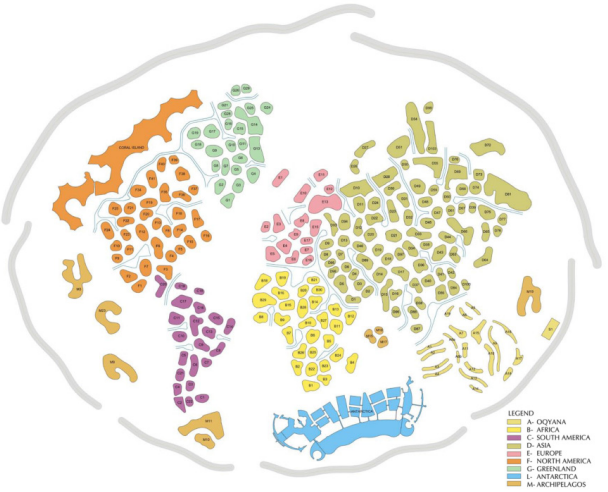

Figure 4. *Schematic for the urbanism of The World: geography of continents, December 2008. Source: The World Master Plan, Nakheel, Consultants: Bermello Ajamil and Partners.*

Figure 5. *Schematic for the urbanism of The World: territorial waters for the islands forming the continents, December 2008. Source: The World Master Plan, Nakheel, Consultants: Bermello Ajamil and Partners.*

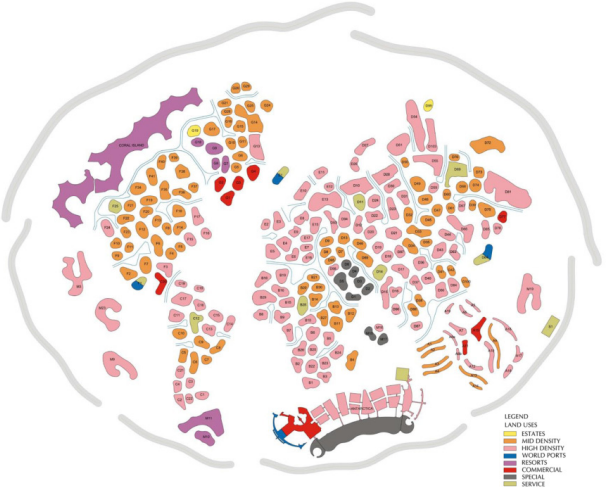

Figure 6. *Schematic for the urbanism of The World: land uses, December 2008. Source: The World Master Plan, Nakheel, Consultants: Bermello Ajamil and Partners.*

the situation demanded something more than the usual landfill project for a harbor, they demonstrated to the Dubai developer Nakheel that land reclamation could generate terrific revenues (Figs. 7-8). Eventually, Van Oord won the contract and redefined land reclamation's potential in the process: a calculated pursuit of 15 million beach visitors per year by 2015 through the construction of three iconic Palm Islands, which increased the shoreline from 75km to 520km.

It is interesting that the realization of the first Palm island started in January 2001, the same year John Hanke (Google Earth's current director) developed Earthviewer, a virtual globe for the Keyhole Corporation, a military company specializing in geospatial data visualization applications. Keyhole's display technology breakthrough enabled a cartographic "magic carpet ride": zooming from a bird's eye 3D view of the planet to a helicopter-like hovering view over a particular site. Google acquired Keyhole in October 2004 and released Google Earth in June 2005. By the spring of 2007, less than two years after it was launched, Google Earth had already been downloaded more than 250 million times. While Google Earth was not the first virtual globe software, it is by far the most popular for four key reasons: it is free, fast, user-friendly and uses Keyhole Markup Language (KML) which allows users to display and share information of interest among themselves. The launch of the virtual immersive world of Second Life and the unveilling of The World project in Dubai also occurred in the same year: 2003 (Broek 2008).

Second Life, which started out as a 1-square-kilometer patch with 500 residents, has grown in four years into almost 600 square kilometers of territory spread over three mini-continents, with 6.9 million registered users and 30,000 to 40,000 residents online at any moment (Roush 2007, Creative Commons 2007). Such environments may become the dominant focus of the World-Wide Web itself: current trends suggest that 80 percent of active Internet users and Fortune 500 companies will participate in Second Life or some competing virtual world by the end of 2011.

It is my point here that the social imaginary and attraction associated with Second Life may have impacted the phantasmagoria tied to The World islands in Dubai. Here is how The World project was presented by the members of Nakheel in 2003: "The bare islands (countries) start at about $30 million and are sold on an invitation-only basis to those with not only tremendous wealth but also celebrity panache" (AMO 2007, 266). In The World Press Conference (AMO 2007, 272), Nakheel's general manager for The World development project explained: "Dubai has positioned The World as its most exclusive development ever. There will only be 300 islands; there will only ever be 300 buyers. Only 300 people will help us implement Dubai's vision."

The 300 islands built by the company are hardly ever visible from the shore, except maybe on a clear day from the top-floor of the high buildings of the city. It is said that property buyers at The World will not only be able to freely build as they desire on their empty islands, but will also have the chance themselves to try terraforming within their territorial waters. The United Kingdom might suddenly be reshaped as a B for

Figure 7. *Aerial view of jumbo-sized dredgers filled with rocks for The World breakwater formation, April 2008. Source: Courtesy of Nakheel.*

Figure 8. *Sea view of breakwater for The World with a view of Dubai skyline in the background, April 2008. Source: Courtesy of Nakheel.*

Richard Branson or an S for Rod Stewart. This user ability to mould and create space is at the origin of the success for both The World and Second Life. In many ways, this elitist World project can be thought of as a Dubai limited edition, whereby territorial sections of an exotic, physical world are auctioned off to the highest bidders in attempts to capitalize on and promote their status by and through virtual space.

Beyond the (at least) implicit influence or parallel of Google Earth and Second Life on Dubai's artificial island developments, it is fair to say that the fractilization of Dubai's coastline is itself a physical outcome of a still enduring orientalist image. It is the representation of an idealized Orient seen from and built for the capitalist Western world. Hence, through this commodification of an orientalist image, these virtual technologies perpetuate asymmetric power relations between the Western world and its former colonies, a condition where the peripatetic gaze of the Western virtual traveler is eventually serving neo-colonial and neo-liberal globalizing interests.

Conclusion

An advertisement in Dubai reads: "The Palm puts Dubai on the map and then Dubai puts The World on the map." Combining images of sand, waterfront and exotic travel destination, the iconic form of the Dubai Palms places the city on the elitist global tourist network and real estate market. The Palm islands and their iconic form can only be appreciated via aerial or satellite views by a subject flying above the city or surfing its virtual web pages (Figs. 9-10). It seems that the city has maximized on virtual iconicity affirming its presence in the explosion of mapping applications such as Google Earth. Dubai has also capitalized on emerging business patterns from virtual worlds realizing an artificial 'World' (a mise en abîme of a Second Earth within Earth), in many ways paralleling the functions and processes of 3D immersive worlds such as Second Life. Today, millions of real dollars are changing hands within virtual worlds (Talbot 2008), and the branding of Dubai is indelibly connected to the development of interactive virtual environments (Basar 2007). A brand is like a promise of status, and its virtuality a portal into and a position within global communities shared simultaneously by millions of people.

In his article "Last Chance?" Rem Koolhaas talks about the stagnation of Western critical imagination and asks whether it is possible to view the Gulf's ongoing transformation on and through its own terms. He advocates seeing the phenomenon taking place in the Gulf as "an extraordinary attempt to change the fate of an entire region" (Koolhaas 2007, 7). But what are these terms that we have to consider to 'objectively' critique the growth of the city? Despite the embedded orientalist imagination involved, it appears to me that the phenomenon taking place in Dubai has more to do with the smart positioning of a brand in relation to the emergence of virtual and GIS technologies and environments, in combination with developmental investment patterns derived from e-commerce in virtual worlds, than with any fundamental regional problematic.

Figure 9. *Ground view of Dubai skyline from the beach of an artificial island, December 2008. Source: Author.*

Figure 10. *Sea view of Dubai marina: global tourists and residents on a boat tour, December 2007. Source: Author.*

As a global city, Dubai is trying to be an important node point in the global economic network by being aware of new technological dynamics and capital flows. It is through its amusement-park-like image and identity and its appeal to a global elite (in)formed by and disseminated through virtual on-line worlds that it is working to get there.

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