

## Worlds That Are Given: The architectural messages of modern videogames.

Contemporary 3D videogames implicitly involve the transmission of architecture to new audiences. While there are games that expressly deal with the built environment, such as *Cities: Skylines* or the architect-designed *Block'Hood*, the nature of game spaces built in 3D game engines such as *Unity* or *Unreal* provides a constant architectural feedback loop with the game player. Videogame environments are the collapse of architectural representation and the computational logics that regulate how our avatar can engage with the represented space. They utilise inhabitable virtual geometries that are often constructed on the same programmes used by architects in the design of buildings. Virtual cameras build on the established protocols of architectural drawing such as perspective and isometric viewpoints, and a player might typically orient themselves in 3D space by means of a plan-elevation *minimap*. Added into this is their interactive nature, how characters, systems and cameras are manipulated in space – controlled by the logics put in place by the coded structure of the game. Ultimately, as McKenzie Wark points out, a game 'presents worlds as if they were not just for you to look at but for you to act upon in a way that is given.'<sup>1</sup>

What is important about Wark's assertion is that many videogame spaces can be seen in a grand tradition of architectural speculation, where (predominantly) unbuilt projects pulled at the limits of what architecture could be. By collapsing the world and the action allowed within it, game spaces can not only represent architectural speculations, but *speculate on our behaviour within speculative architectures*. Wark and Alexander Galloway have also described game spaces as 'algorithms,' where the intuitive allegorical world meets algorithmic rules, making the game an algorithm of reality.<sup>2</sup> This confluence of allegorical and algorithmic structure frames games as a remarkably different application of computation to many of those currently shaping architectural discourse. Against a background of computerised fabrication or parametric simulation the computational allegories of videogame space suggest a future for speculative, narrative and fictional architectural discourse that utilises advanced computation to manifest concepts.

Of course, most game worlds are not created to form part of the architectural canon. But perhaps by comparing them to the thoughts of eminent architects and theorists of the discipline, we can establish links between the world of games and that of building – to find ways in which game spaces address long-held architectural obsessions. By juxtaposing concepts from the world of architecture with videogame spaces we can see how they establish new realms that continue pulling at the possibilities of what architecture might become and how it can communicate with people in strange new ways. What messages might be unwittingly be receiving when we sit down, take the gamepad in hand and dive into a contemporary game space?

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<sup>1</sup> McKenzie Wark, *Gamer Theory* (Cambridge MA, London: Harvard University Press, 2007), Note [199].

<sup>2</sup> *Ibid.*, Note [030].

**Dishonored's Dunwall, or 'architecture is defined by the actions it witnesses as much as by the enclosure of its walls'<sup>3</sup> - Bernard Tschumi. [IMG 01]**

When Tschumi talked of architecture as a witness, he might well have been foreseeing a day when designers could incorporate responsive systems into buildings that reflect the behaviour of its inhabitants. Or perhaps he might have been predicting the city of *Dunwall* that forms the backdrop to *Dishonored* (Arkane, 2012). Dunwall is a steampunk amalgamation of London and Edinburgh, a hub and spoke city that emanates out from a central core, naturally enough a pub. As the player controls the protagonist Corvo Attano in his attempt to unravel a conspiracy, they may choose to sneak their way to objectives or fight their way through massed ranks of guards protecting those who control the city. As this takes place, the game tracks the 'chaos' created by the player, all those moments of violence and death caused (wittingly or otherwise) by the 'hero.' In response Dunwall changes. People, including our allies, become more hostile to us. The city takes on a darker hue as the gloomy British-esque weather sets in, while the rat population proliferates, scuttling around the player as they stalk through the lamplight. The architectural power of the game world is to collapse the representation of architecture into the rules that delineate its existence. The urban simulation of Dunwall is reactive to the actions it witnesses, it is defined by it. If the player stays on the straight and narrow, they will miss this shift into darkness and not fully draw out the formal possibilities of its urbanism. In this case, as Tschumi reminds us, 'to really appreciate architecture, you may even need to commit a murder.'<sup>4</sup>

**Constant handshakes: 'the door handle is the handshake of the building'<sup>5</sup> - Juhani Pallasma. [IMG 02]**

Nowadays, we experience virtual worlds (often without working door handles) by means of a perpetual handshake with the controller or keyboard. As Graeme Kirkpatrick reminds us, the formal properties of virtual worlds are drawn out through the hands as we play the game.<sup>6</sup> As a detective in *L.A. Noire* (Rockstar, 2011) crime scene evidence hidden in an alleyway is commuted via the rumble of the gamepad as we wander through it. Games like the *Dark Souls* series, *Guacamelee!* or *Starcraft* require sophisticated levels of dexterity to fully explore their worlds, whether through combat, jumps or rapidly issuing instructions. The complexity of videogame architecture is always defined by a relationship to hands that is constant in a way that may not be present in physical architecture. Locomotion tends towards our fingers moving a virtual eye rather than the movement of our entire body. Of course, we can see this constant handshake expanding into technologies of control (Manovich's *teleaction*)<sup>7</sup> that define physical spaces. Military drones and robots, designed for the colonisation and surveillance of the real world, have interfaces modelled on those designed for virtual realms. iRobot's military *Packbot* boasts of reduced training times due to an interface 'modeled after video game-style controllers.'<sup>8</sup> As games unwittingly train soldiers in new interfaces, real world architecture starts to assume the same continual handshake as videogame architecture. The elevated importance of the gamepad recalls Reyner Banham's *great gizmo*, where 'because practically every new, incomprehensible or hostile situation encountered by the growing American

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<sup>3</sup> Bernard Tschumi, *Advertisements for Architecture*, 1978

<sup>4</sup> Ibid.

<sup>5</sup> Juhani Pallasma, *The Eyes of the Skin: Architecture and the Senses* (Chichester: Wiley and Sons, 2005), p.56.

<sup>6</sup> Graeme Kirkpatrick, *Aesthetic Theory and the Videogame* (Manchester: Manchester University Press, 2011), p.100.

<sup>7</sup> Lev Manovich, *The Language of New Media* (Cambridge MA, London: MIT Press, 2001), p.167.

<sup>8</sup> iRobot, "510 PackBot Specs", accessed 10/10/16, [www.irobot.com/~media/Files/.../PackBot/iRobot-510-PackBot-Specs.pdf](http://www.irobot.com/~media/Files/.../PackBot/iRobot-510-PackBot-Specs.pdf).

Nation was conquered, in practice, by handy gizmos of one sort or another, the grown Nation has tended to assume that all hostile situations will be solved by gadgets.’<sup>9</sup>

***Katamari* urbanism, or rather ‘there are 360 degrees, so why stick to one?’<sup>10</sup> - Zaha Hadid. [IMG 03]**

Speaking in 2003, Zaha Hadid’s built work had not yet reached the zenith of its geometric exploration of all 360 degrees, but clearly the desire was there. If Zaha’s masterplans for Istanbul proposed a city under parametric modulations, then *Katamari Damacy* (Namco, 2004) demonstrates urban morphology under a spherical logic. In *Katamari* games, the city literally ‘sticks to’ all the possible degrees of a strange nobbly ball as the protagonist – a 5cm tall Prince - rolls it around the level. Objects become bonded to this sphere, growing in size, scale and complexity to the point where we can roll skyscrapers, battleships and landmarks into a giant mass of pure urbanism. But unlike Zaha’s sinuous manipulation of angles, the *Katamari* is a congregation of singular objects. Geometries clash and intersect together as they cling onto the gravitational field of the rolling ball. As with many other games *Katamari Damacy* exposes the contingency of gravity and materiality in virtual worlds. Years before *Inception* rolled a city up, the *Katamari* games demonstrated that in a game space cities could be *rolled around*, from the scale of a domestic setting all the way to a spherical metropolis as if our planet had densified into one gigantic cartoonish *ecumenopolis*.<sup>11</sup>

***The Last of Us*, where ‘even a brick wants to be something’<sup>12</sup> - Louis Kahn (wrongly cited in *Indecent Proposal*). [IMG 04]**

The misrepresentation of Kahn’s quote by Woody Harrelson in *Indecent Proposal* misses the exact phrasing where Kahn speaks of brick’s desire to become an arch. For Kahn, the nature of brick leads it towards certain behaviours and by association forms. But in the architecture of videogame worlds, material affordances are lost and even purposefully subverted. The brick is liberated from arch and can elope towards other meanings. In *The Last of Us* (Naughty Dog, 2013), set in a post-apocalyptic United States overrun by plague carrying ‘infected’ humans, cities are rendered as overgrown and deserted ruins, with detritus collecting in alleyways, between burned out cars and hastily evacuated shacks. Within this, the player finds points of luminosity, objects glowing like jewels. In game worlds such a glossy sheen usually connotes significance. In *The Last of Us*, the glow belongs to trash: bricks and bottles that become our saviour, used as weapons and to distract the infected. Having completed the story of the game, the brick is not Kahn’s brick but something else, an artefact of self-defence and navigation. It is closer to the Situationists and the ‘beach beneath the street’ of Parisian cobblestones hurled by rioters in 1968. But the brick is used to facilitate movement through the game world, rather than forming part of a political protest. Changing the difficulty of the game changes the efficacy of the brick’s ability to distract, as enemies become more or less alert. In videogame architecture, what a brick wants to be can change and this is not seen as an inconsistency because as Kirkpatrick points out, ‘video games offer us experiences in which simulacra proliferate,

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<sup>9</sup> Reyner Banham, *Design by Choice* (London: Academy Editions, 1981), p.111.

<sup>10</sup> Simon Hattenstone, “Master builder,” *The Guardian*, accessed 25.03.17, <https://www.theguardian.com/artanddesign/2003/feb/03/architecture.artsfeatures>.

<sup>11</sup> Constantinos A. Doxiadis, “ECUMENOPOLIS: Tomorrow’s City” in *BRITANNICA Book of the year 1968*, [www.doxiadis.org](http://www.doxiadis.org), accessed 05/04/17, <http://www.doxiadis.org/Downloads/ecumenopolis%20tomorrow%27s%20city.pdf>.

<sup>12</sup> Woody Harrelson in *Indecent Proposal*. Directed by Adrian Lyne. Los Angeles: Paramount. 1993.

we engage with objects that are never quite what they seem but which, nevertheless do afford us experiences that are coherent on their own terms, that is, as video game objects.<sup>13</sup>

**The endgame of *SimCity*, or how ‘a beautiful and delightful city environment is an oddity, some would say an impossibility [in America]’<sup>14</sup> - Kevin Lynch. [IMG 05]**

Game spaces, like cities, carry the ideology of those who made them. On the face of it, the *SimCity* games have always provided a procedural approximation of a particularly American urbanism built around the grid system. But looking far deeper into the mechanisms reveals Lynch’s state of impossibility. Architecture student Vincent Oscala used countless calculations in order to create a perfect, self-sustaining city in *SimCity 2000* that he called *Magnasanti*. As the in-game city ticked over by itself, it spoke of the possibility of designing smart cities that can maintain a responsive perpetual motion in relation to the data and information of the city. Yet *Magnasanti* is actually controlled by mechanisms as old as time itself: regimented top-down urban planning, ultra-hardcore law and order and social privation. Seen from a distance, the density of the city appears more akin to the Kowloon Walled City – a block of pure metropolis. Taking the game to its ultimate lengths, where it effectively plays itself, is to render the *beautiful and delightful* utterly impossible. Instead it is a totalitarian hellscape. Is this a quirk of the mechanics or something more? The fact that developer Will Wright has been noted as a donor to the Republican Party makes the issue even more confusing, for against a backdrop of increased law and order runs a system of total control on the part of the player-as-government. On the flip side, *Cities: Skylines* (Colossal Order, 2015) is a game built by European developers where citizens often rebel at taxation levels European citizens would find rather generous. Such game worlds allow players to fantasize about prospective cities and play them out as a mirror to the real world metropolis.

**The automobile as an ethic: ‘Los Angeles is the language of movement. Mobility outweighs monumentality there to a unique degree’<sup>15</sup> - Reyner Banham. [IMG 06]**

Grand Theft Auto V is not only the world’s best-selling videogame and a collection of rather clumsy satires but also a love letter to Los Angeles as if seen through the eyes of Banham. The huge range of vehicles open to the player in *Los Santos* – the game’s deviant LA – has the effect of instigating a landscape of pure movement. While we use analog sticks on the gamepad to control the player and the car, one simple button press leaves or carjacks another vehicle. This is the next stage of Banham’s ‘language of movement.’ Condensing the stealing of a car into one button press trivialises it as an action. Rather than sticking to the domain of our own personal car, every car is available to us. The car becomes everything and nothing. Or rather nothing as a singular object, but everything as the *ethic* of a city designed around total mobility. While much conversation has focussed on GTA V’s startling resemblance to the real LA, its mechanics emphasise Banham’s conception of the *spirit* of Los Angeles as a city. Los Santos is not geographically accurate to LA, but driving through something that looks so similar - under the auspice of mechanics that turn it into a total zone of movement – is intoxicating. It is also the intoxication of the outsider, like Banham, Rockstar Games are British. It is a love letter written from afar (and quite possibly one of the largest projects to digitally ‘reconstruct’ the real LA carried out to date). A final irony comes in the *Shark Cards* of in-

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<sup>13</sup> Graeme Kirkpatrick, *Aesthetic Theory and the Videogame* (Manchester: Manchester University Press, 2011), p.72.

<sup>14</sup> Kevin Lynch, *The Image of the City* (Cambridge MA and London: MIT Press, 1960), p.2.

<sup>15</sup> Reyner Banham, *Los Angeles: The Architecture of Four Ecologies* (Berkeley, Los Angeles and London: University of California Press, 2009), p.5.

game money the player can purchase. While the shark ostensibly refers to power and aggression perhaps it is also an ironic nod to the player in Los Santos as a creature that cannot stop moving.

**The environments of *Strangethink*, where: ‘I cannot do a building without building a new repertoire of characters, of bodies, of language and it’s all parallel. It’s not just a building per se. It’s building worlds’<sup>16</sup> - John Hejduk. [IMG 07]**

Building worlds is literally what the game engine was invented for. By regulating (amongst other things) optics, physics, materials and artificial intelligence systems, an architecture built in a game engine can carry all those parallel layers intrinsic to Hejduk’s work. Perhaps nobody is doing this more strikingly than in the saccharine coloured worlds of the anonymous Manchester, UK based developer *Strangethink*. His *Secret Habitat* game is ‘a procedurally generated island with 99 procedurally generated art galleries full of generated artwork and generated sound loop exhibits.’<sup>17</sup> It is a repertoire of architectural spaces, two-dimensional image planes, textual titles and sonic snippets that combine together into a project. Although the game promises the subjective aesthetic experience of the art gallery, in fact the mediated space of *Secret Habitat* is totally subservient to rules – art galleries, the artworks within them and even their names are all procedurally generated together. The irony is that although the ‘paintings’ appear to reinforce the typical gallery-artwork relationship of an artefact mounted in an exhibition space, they are all generated together as one world at the game’s runtime. Although *Strangethink*’s work is framed as that of a games designer, we can see a link to the forms of spatial practice that Hejduk pursued. The building in a landscape, and all that resides within it are one, a world unto themselves.

**The case of *No Man’s Sky* or ‘I believe that if I were commissioned to design a new universe, I would be mad enough to undertake it.’<sup>18</sup> - Giovanni Battista Piranesi. [IMG 08]**

Hello Games’ *No Man’s Sky* marketed itself on a near infinite, algorithmically generated universe with ‘Every Atom Procedural.’ By using procedural generation techniques, they were able to generate 18 quintillion planets within the game world – in theory allowing the player to never encounter the same element twice. In practice, digital assets such as creatures, flora and fauna found their way onto different planets with new colours and often slight, perceptible modulations. Many railed against the perceived limitations of this system – and given much of the negative feedback that followed the release of the game, perhaps it is indeed ‘mad’ to attempt the design of a new universe. Despite its issues as a game, *No Man’s Sky* and its procedural universe demonstrate the potential power of the videogame medium for thinking about space. If Piranesi was alive today, perhaps he would have been making videogames, for here is a medium where he could work in the commission of a universe. On the other hand his *capriccio* works with their impossible spaces might have foreseen the contingency of videogame objects, creating zones where Tafuri says: ‘not men but only *things* become truly “liberated.”’<sup>19</sup>

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<sup>16</sup> John Hejduk and David Shapiro, ‘John Hejduk or The Architect Who Drew Angels’, *Architecture and Urbanism*, 471, 12 (2009), p.75.

<sup>17</sup> Strangethink, “Secret Habitat”, accessed 05/04/17, <https://strangethink.itch.io/secret-habitat.Habitat>.

<sup>18</sup> “Giovanni Battista Piranesi (1720–1778),” Met Museum, Heilbrunn Timeline of Art History, accessed 14th August 2016, [http://www.metmuseum.org/toah/hd/pira/hd\\_pira.htm](http://www.metmuseum.org/toah/hd/pira/hd_pira.htm).

<sup>19</sup> Manfredo Tafuri, *The Sphere and The Labyrinth: Avant-Gardes and Architecture from Piranesi to the 1970* (Cambridge, MA and London: The MIT Press, 1987), p.32.

**In conclusion: 'It is an architecture of communication over space; communication dominates space as an element in the architecture'<sup>20</sup> - Robert Venturi, Denise Scott-Brown & Steven Izenour.**

Videogames, with their profusion of layered information placed atop depictions of built environments, are an emanation of our contemporary cities where data and information increasingly structure the way we experience physical space. In *Learning from Las Vegas*, Venturi, Scott-Brown and Izenour predicted that the traditional 'triad' of architectural space could no longer contain all the complexities of the modern world. Although I have discussed videogames as alternate worlds where ideas can proliferate, they also train us in comprehending and utilising architectural space as both experiential and informational at the same time. Galloway argues that they represent 'allegories for our contemporary life under the protocological network of continuous informatics control,'<sup>21</sup> and beyond the examples I have cited above, we can see the scattering of architectural ideas through many other game technologies.

So it is that *Minecraft* is now used as a tool to engage non-expect audiences with the development of the built environment. Game worlds are fleshed out by communities through 'lore' and wiki-based encyclopaedias, exploring their environments through collaborative cartographies. Designers such as Jose Sanchez and Paolo Pedercini (as well as my own research) use games to tackle issues facing modern cities by providing accessible platforms for users to engage with. We might worry that the interfaces of military vehicles are now often based on console gamepads with soldiers trained at quickly parsing visual information and responding through the hands. All of these situations highlight the architectural qualities of the videogame, where conceptual spaces become inhabitable through logical structures, enumerated through the choreographies of the player. Together they launch architecture towards new audiences, constantly communicating spaces that oscillate between the experiential and the informational, dancing like thumbs on a d-pad.

IMAGE SCHEDULE FOR ESSAY:

IMG01 - User composed screenshot of *Dishonored* (Arkane, 2012). Obtained from: <https://github.com/umbrae/reddit-top-2.5-million/blob/master/data/dishonored.csv>

IMG02 – Official photograph of an iRobot Packbot controller. Obtained from: [http://media.defenceindustrydaily.com/images/LAND\\_Robot\\_iRobot\\_New\\_Controller\\_lg.jpg](http://media.defenceindustrydaily.com/images/LAND_Robot_iRobot_New_Controller_lg.jpg)

IMG03 - Promotional shot for *Touch My Katamari* (Namco, 2001). Obtained from: <http://uk.ign.com/games/touch-my-katamari/vita-117887>.

IMG04 – Official screenshot of *The Last of Us* (Naughty Dog, 2013). Obtained from: <http://www.gaming-age.com/2012/03/survive-these-beautiful-new-the-last-of-us-screens/>.

IMG05 – Screenshot of *SimCity3000* (Maxis, 1999) showing *Magnasanti* city by Vincent Oscala. Obtained from: [http://simcity.wikia.com/wiki/Fanon:\\_Magnasanti](http://simcity.wikia.com/wiki/Fanon:_Magnasanti).

IMG06 – Screenshot of *Grand Theft Auto V* (Rockstar, 2013) by Rockstar Games. Obtained from: <https://www.rockstargames.com/newswire/article/52647/gta-online-stunt-race-creator-and-entourage-mode-now-available>.

IMG07 – Screenshot of *Secret Habitat* (Strangethink, 2016). Obtained from: <https://strangethink.itch.io/secret-habitat>.

IMG08 – Official screenshot of *No Man's Sky* (Hello Games, 2016). Obtained from: <http://cdn.mos.cms.futurecdn.net/qumovDr2SPzCW3nx2XNtKH.jpg>

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<sup>20</sup> Stephen Izenour, Denise Scott-Brown and Robert Venturi, *Learning From Las Vegas* (Cambridge MA: The MIT Press, 1977), p.8.

<sup>21</sup> Alexander R. Galloway, *Gaming: Essays on Algorithmic Culture* (Minneapolis and London: University of Minnesota Press, 2006) Kindle Edition for iPad, Loc.1630.