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Playing Cyberculture. The Case of *System Shock 2*

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Abstract: This article presents *System Shock 2* (Irrational Games/Looking Glass, 1999) as an under-examined cyberpunk videogame from the late Nineties that inherits key traits of cyberculture in order to understand its place within this form of digital culture that shaped the technological imaginary of the millennium's last decade. The first part of the study introduces the cyberpunk aesthetic as the most recognizable form of nineties cyberculture, which is the form of digital culture that interfaced between the users and digital technologies, and situates *System Shock 2* as one of its matured versions. The second part examines this game to determine how it presents cyberpunk tropes and topics such as hackers, godlike Artificial Intelligences, and especially cyberspace. Cyberspace is treated as a particularly relevant case insofar as this videogame displays an interactive version of this notion, providing a complementary experience to those offered by novels and movies.

Keywords: Cyberculture, Cyberpunk, Cyberspace, Digital Technologies, System Shock 2, Hacker, Artificial Intelligence, 3D Space

1.0 - Introduction

The two last decades of the 20th-century witnessed the arrival of key developments in digital technologies, like the personal computer and the Internet as we know it today (Ceruzzi, 2003). It is easy to list many of the books and movies that made computers, modems, data gloves, and other such devices the main protagonists of the science fiction universes that molded these technologies from tools to decisive agents, called to dramatically transform the world as we knew it. During the eighties and the nineties, as average consumers in developed countries became familiar with these new technologies, a complex culture around computers began to manifest. In the mid-nineties, this set of beliefs about what could be expected of computers and what could be done with them was labelled as cyberculture.

Nowadays, the imaginary of cyberculture is no longer operative as a narrative to explain our everyday interactions with technology. We watch cyborgs, hackers, and beautiful high-tech, futuristic landscapes in movies and television series, but it is hard for us as consumers to empathize with the excitement of the digital enthusiasts of the nineties who felt as surfers taming the wild waves of the Net. Computers today, though deemed powerful tools for many purposes, often still give us headaches and sometimes they behave as clumsy artefacts. They keep doing their magic, but they are not the magical objects they used to be decades ago. Nevertheless, it is difficult to deny the fundamental role that these technologies play in our lives. Our interactions with all things digital are mediated by a series of beliefs and a shared set of narratives and images. In this sense, cyberculture represents one of the key phases in digital culture history. It is a phenomenon worth studying because some of its traits, though less evident today, are still present in our current beliefs about computers. Who has not cursed his computer when it crashed as if it was a kind of living entity? Who has not crossed their fingers hoping that their

their work gets miraculously saved instead of lost inside the guts of the machine? The legacy of cyberculture helps us to understand such reactions and explains why technologies represent much more to us than complex instruments used to work, search for websites, or watch movies.

My goal in this article is to examine *System Shock 2* as one of the most relevant products to emerge from the cyberculture of the late nineties. My account presents this 1999 videogame as a mature version of cyberpunk and a quintessential case of cyberculture creation. The main reason that I feel compelled to carry out this study is to address the absence of research on this game within studies of cyberculture. *System Shock 2* has been widely recognized in videogame history for its many contributions to later 3D games, but there are no accounts that stress the role it played in the understanding of the traits and topics of cyberculture, some of which still prevail in the contemporary cultural landscape in the forms of books, movies, series, and games.

This study is divided into two sections. It starts with an introduction of cyberpunk and its placement within cyberculture, where its aesthetic was highly influential to the imaginary of the nineties' digital culture. The second part elaborates the case study of *System Shock 2*. First, we will analyze how this game is put into context as a production of late cyberculture, one that looks into the past to get inspiration for its fictional world and that brings many innovations that have been featured in later videogames. Then, we will focus on its fictional universe to identify the nuances of cyberculture that are present within it. Finally, we turn to its representation of cyberspace, a fundamental notion of technologic culture, where it provides an interactive experience which complements those offered by other media.

2.0 - From cyberpunk to cyberculture. A cultural interface between people and technology

Cyberpunk can be described as a science fiction subgenre in literature and cinema that emerged with the publication of William Gibson's novel, *Neuromancer,* in 1984. This book introduces many of the topics and figures that recurrently appear in other stories and movies across the genre: data jockeys addicted to the Net; half-machine and half-human hybrid cyborgs; god-like Artificial Intelligences; colossal urban landscapes inhabited by failed societies that are ruled by corporations, street gangs and, especially, the new electronic space located between the machine networks, best known as cyberspace. *Neuromancer* and the two novels that followed it, *Count Zero* in 1986 and *Mona Lisa Overdrive* in 1988, are conceived as the trilogy ("the Sprawl") that brought to life a complex universe where sophisticated digital and biotechnologies were integrated into every dimension of life and became a decisive facet of mankind's destiny, which led to its fall into a dystopia. A summary of the kind of ruined societies depicted by cyberpunk creators can be found in the short yet accurate description of *Neuromancer*'s universe Night City: "A deranged experiment in social Darwinism, designed by a bored researcher who kept one thumb permanently on the fast-forward button" (Gibson, 2003b: 18).

However, if Gibson is considered the father, Bruce Sterling is often looked up to as the chief ideologist of the movement due to the publication of *Mirrorshades*, the milestone compilation of cyberpunk narratives with short stories written by himself, Gibson, Tom

Maddox, Pat Cardigan, Rudy Rucker,[1] and Mark Laidlaw among others. Sterling wrote a preface to this volume where he marked some of what he considered to be keynotes of cyberpunk: "The theme of body invasion: prosthetic limbs, implanted circuitry, cosmetic surgery, genetic alteration. The even more powerful theme of mind invasion: brain-computer interfaces, artificial intelligence, neurochemistry-techniques radically redefining the nature of humanity, the nature of the self" (Sterling, 1988: xiii). These topics would define the sensibility of what he considers "a pop phenomenon" (xiii) that is a genuine "product of the eighties milieu" (x). Other famous pop products born in the cyberpunk matrix include Gibson's compilations of stories, *Burning Chrome* (1986), Sterling's *Schismatrix* (1985), and precedent-setting movies like *TRON* (Steven Lisberger, 1982) and *Blade Runner* (Ridley Scott, 1982).

While there seems to be a clear consensus on cyberpunk's official date of birth, there is no similar agreement about the lifespan of the movement. For instance, Lawrence Person (1998) argued that cyberpunk evolved into postcyberpunk in 1988, when Sterling published *Islands in the Net*. According to him, cyberpunk went through a series of transformations that gave the genre a different shape in the nineties.[2] However, Person's analysis only referred to writers and literatures, and did not talk about the state of the movement in cinema and across other mediums. Other scholars and critics have extended the influence of cyberpunk far beyond the realm of science fiction, linking the aesthetic of the movement with a way of perceiving and using new technologies that is deeply rooted within the developed societies of the late 20th century. Cultural critic Mark Dery used the term 'cyberpunk' to talk about a form of electronic-industrial rock in the late eighties and matched the keynotes of cyberculture, the form of technological culture born with the popularization of personal computers, with those of the cyberpunk: "The convergence between man and machine, the replacement of sensory experience by digital simulations... and a deep ambiguity inherited by the seventies regarding computers either as machines of liberation or, on the contrary, instruments for social discipline" (Dery, 1998: 79). Similarly, Bell labels cyberpunk as a subculture embedded in the broader category of cyberculture (Bell, 2001: 176-179),[3] and Cavallaro makes explicit the bond between both phenomena by depicting cyberpunk as the fictional representation of cyberculture (2000: xiv).

Was cyberpunk an ephemeral product of eighties science fiction literature or a movement that maintained its influence into the decades that followed? Even if we follow Person's account, the shift of cyberpunk into a kind of postcyberpunk stage could indeed have taken place in literature, where novels such as *Islands in the Net* or Neal Stephenson's *Snow Crash* introduced changes into the genre, such as an ironic approach to key themes (cyberspace appears in *Snow Crash* as a trivialized virtual theme park for consumers), but movies like Robert Longo's 1995 *Johnny Mnemonic* (which is inspired by Gibson's namesake short story), *The Matrix* (Wachowski Brothers, 1999) or *Strange Days* (Kathryn Bigelow, 1999), fit perfectly with the topics and tropes of early eighties cyberpunk. Moreover, accounts about how modern societies in the nineties could benefit from the advantages presented by computers and digital networks promised dramatic and exciting changes in a cyberpunk fashion. In his landmark book *Being Digital*, former MIT Medialab Director Nicholas Negroponte presented the

use of email as "a life-style that impacts the way we work and think" (1995: 193). He also talked about the digerati, the "digital literates" that master computers and networks and use them actively, as a new form of a social elite in a way that remembered the excessive and hyperbolic descriptions of cyberpunk novels, but in a utopian sense:

> The Internet surfers are the crazy kids on the block. The digerati have moved beyond multimedia into something closer to a real life-style than an intellectual manifesto. Their nuptials are in cyberspace. They call themselves bitniks and cybraians. Their social mobility covers the planet. Today, they are the Salon des Refuses, but their salon is not a cafe in Paris or an I. M. Pei building in Cambridge. Their salon is somewhere on the Net. It is being digital (Negroponte, 1995: 226).

Thus, I prefer to opt for a flexible frame both in the temporal and in the conceptual dimensions of cyberpunk because its legacy means much more to developed, postindustrial societies than would a fleeting science fiction literary genre. Its aesthetic played a crucial role in defining the agenda of cyberculture. Tropes within cyberspace such as the digital surfer of the Net made their first appearance in cyberpunk stories (in novels like *Neuromancer* and movies resembling cyberpunk topics like John Badham's *War Games* from 1983) and interfaced between technologies like computers or modems and the consumers who were introducing these kinds of devices into their households. Bell expresses it accurately when he poses that "we experience our interactions with new technologies as a folding-together of material and symbolic tales. Sitting at a computer, logged onto the Internet, for example, we are constantly clicking between the embodied sensations of staring at a screen and typing and the disembodied dream of surfing cyberspace as uploaded consciousness" (Bell, 2006: 2). Bell realized how important aesthetic components were in the experience of users and how easily they were carried away by these narratives that addressed everyday interactions, such as browsing the web or checking email, with a gloss of transcendence. It was more than a mere matter of lifestyle. As Sánchez Navarro said: "the first cyberpunk novels and movies did not start, as many believe, a subgenre but shaped the reality. After reading *Neuromancer* or watching *Blade Runner*, the whole world decided to turn cyberpunk" (Sánchez Navarro, 2002: 73). In addition, a broader concept of this movement allows us not only to include nineties science fiction movies, such as those mentioned in the above analysis, but also to look at videogames like *Deus Ex* (Ion Storm, 2000), *System Shock*, and *System Shock 2*, through the mirrored lenses of cyberpunk.

3.0 The case of System Shock 2. Putting in context a matured product of cyberpunk

Before moving on to the case study of *System Shock 2*, I shall make one remark regarding the scope of my definition of cyberculture. First of all, according to the reviews and analysis of David Silver (2004), cybercultures denote a vast and consolidated field of research theorized by academics and scholars whose theoretical backgrounds usually (but not exclusively) come from media and communication studies. One major problem regarding the use of this term comes from the difficulty of distinguishing between cybercultures, computer cultures, digital cultures, Internet culture, and even cyberpunk itself, to mention a few interrelated concepts. Pivotal studies usually elaborate wide definitions such as

Dery's famous statement about cyberculture as "the culture of computers" (Dery, 1998: 11). In a similar way, Lister et al. define cyberculture as "a mass of new technological things, a wide range of imaginative fictions that have, as it were, seeped through the screens so that they may seem like realistic descriptions of our bewildering everyday lives" (Lister et al., 2009: 317).

In this article, I follow Lister's, Dery's, and Bell's thick definitions of cyberculture to describe the set of narratives and conceptual imaginaries about the interaction between humans and computers during the 1980s and 1990s. My intention in framing cyberculture as the digital culture of the late 20th century is not to declare obsolete its tropes and narratives for the 21st century, but to stress that key themes and topics of digital culture (cyborgs, cyberspace, hackers, virtual worlds) became popular during those years and have continued to evolve since then,[4] so it has become, at minimum problematic to speak of contemporary digital culture solely in contemporary cyberculture terms.

The role of cyberpunk within this definition of cyberculture is cleverly depicted by Dani Cavallaro when, as previously mentioned, she says that cyberpunk is, at least partially, the fictional representation of cyberculture. Following Gibson and the Wachowski brothers, it could also be said that cyberpunk is the aesthetic matrix of cyberculture. In other words, cyberpunk served as the model wherein cyberculture's most recognizable themes and topics like cyborgs, hackers, and artificial intelligence found their visual manifestation. This nexus of digital culture gathered together many kinds of practices around computers and electronic technologies, where it produced texts (manifestos, novels, essay and magazines), images and sound (blockbusters, cult movies, videoclips and advertising), and fashion and artefacts (real products like the data glove or fictional devices such as SimStims). The distinction between high and low culture as a conceptual tool to judge the aesthetic value of cultural production does not make sense here. A genuine product of cyberculture can incorporate modern Western philosophy, such as the ontology of Descartes, scientific concepts like that of the cyborg,[5] and popular culture formats such as Japanese animation. A production such as *Ghost in the Shell* (Mamoru Oshii, 1995) blends together aspects of each. These blurred lines between genre and aesthetic contributed to a further conflation between material and immaterial cyberculture productions. Everything linked to computers falls under the scope of cyberculture scholarship. Given that cyberculture is such a multidisciplinary phenomenon, how can we then explain the remarkable absence of a cyberpunk videogame like *System Shock 2* in many of the landmark studies regarding this phenomenon?

There is a paradox in the way that videogames have been positioned within cyberculture. On one hand, the critical importance of games and videogames in general within the history of electronic technologies is now widely recognized. Donovan has marked the significance of early uses of game systems to show the potential of computer research;[6] and authors and theoreticians of new technologies have acknowledged its importance in understanding the drifts and complexities of technological culture. To mention a few examples, Vivian Sobchack talked about how a "video game consciousness" was a "new mode of being-in-the-world" (Sobchack, 2001: 224) and related it to the experience of electronic technologies that was represented in late seventies and

eighties American science fiction movies like *War Games* (John Badham, 1983). Katherine Hayles thought of young videogame arcade players as "metaphoric cyborgs": "A much higher percentage [of US citizens] participates in occupations that make them into metaphoric cyborgs, including the computer keyboarder joined in a cybernetic circuit with the screen, the neurosurgeon guided by fiber-optic microscopy during an operation, and the adolescent game player in the local video-game arcade" (Hayles, 1999: 115).

It is, however, difficult to locate cases where videogames have been studied or analyzed in-depth in the way *Neuromancer* (Cavallaro, 2004) or *TRON* (Bukatman, 1993: 215-226) were. Classic videogames from the eighties and nineties like *Super Mario Bros., Pong, Pac-Man*, the MUD version of *Dungeons and Dragons* or *Street Fighter* appear scattered throughout the studies cited above, but most of the time they are piled into short lists used to briefly acknowledge their importance in videogame history. On the other hand, digital culture scholars indeed have shown great interest in the complexities of virtual, online worlds. From the very beginning, back in the early 2000's, the emergent field of game studies conducted research about the psychological intricacies of human interaction in MUDs, (Turkle, 1997), and MMORPGs like *Ultima Online* (Origin Systems, 1997) or *EverQuest* (Sony Online Entertainment, 1999), and such games have been examined from multiple of perspectives since then (Castronova, 2005; Hjorth, 2011; Pearce, 2011;). *System Shock 2* is itself considered to be one of the most influential videogames for the videogame industry in the 1990s (a point I will return to at the end of the next section).

3.1 A symbiotic relationship between a hacker and an AI

System Shock 2 was developed by Irrational Games and Looking Glass Studios and published by Electronic Arts in 1999 for Microsoft Windows systems as a sequel of Looking Glass' 1994 *System Shock*. The original game presents an elaborated 3D environment inspired by *DOOM* (ID Software, 1993) where the player can freely explore completing objectives, solving puzzles and defeating enemies. *System Shock 2* follows the premises of its predecessor but incorporates ideas from the design of *Half-Life* (Valve, 1998) and *Thief* (Looking Glass, 1998) to create wider and organically connected scenarios to immerse the player into a survival horror adventure. This game fits into various categories such as First-person Shooter (FPS), action and adventure, as well as Role Playing. As a product of the late nineties, System Shock 2 inherits many of the traits of cyberpunk and places them within a science fictional universe of the distant future (the year is (2114) where mankind has been able to successfully conduct interstellar journeys.[7]

The main character of the game is the soldier G654342-2, a member of the UNN Rickenbacker crew, the military ship that escorts and oversees the security of the Von Braun, a faster-than-lightstarship that is getting ready to make its maiden voyage. The game begins when our soldier wakes up with amnesia after a period of cryo-pod stasis, to the voice of Dr. Janice Polito reporting that an unknown force has hijacked the ship. Dr. Polito remotely guides the player through the perils and obstacles of the Von Braun to meet her and to reveal her true identity. At the Von Braun's operations deck, our soldier will discover that Dr.

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Polito is dead, and that he has been following the instructions of SHODAN, a self-conscious Artificial Intelligence involved in a series of incidents that took place in the first *System Shock* game 42 years ago.

Figure 1. Gameplay screen of *System Shock 2* (Irrational Games/ Looking Glass, 1999)

Apparently, SHODAN managed to survive in a state of forced hibernation after she was neutralized in the original *System Shock* game at the Citadel space station by a hacker who blocked her attempt at taking control of the computer space on Earth and fulfilling her vision of ruling the planet as a goddess.[8] Now, she requires the help of our soldier to survive the attack of The Many, a series of biogically engineered experiments that she created through the modification of humans and other species, and which escaped her control and went rogue. During the first portion of the game, our objectives and goals will mainly consist of following SHODAN's directions to complete her tasks. In exchange, we receive chances to survive the incident and gain access to technological enhancements that will improve many of our capabilities.

It is easy to recognize in *System Shock 2* many of the tropes that made cyberpunk the most prominent and influential movement within cyberculture. Firstly, hackers in the *System Shock* universe are decisive tech experts because their mastery of computers and other sorts of advanced technologies allows them to tip the scale in favor of their interests.[9] Among human beings, hackers represent state of the art development in biological augmentations, implants, and enhancements undertaken to merge people with artificial technologies. They have developed a sophisticated set of skills used to navigate through the networks connecting computers in a very intimate way, giving them access to vast amounts of precious data in cyberspace.

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To get the most valuable treasures from the endless digital ocean, hackers need to surpass intricate and deadly security systems. Vital to this task is their ability to reach and communicate with Artificial Intelligence systems such as SHODAN. Since William Gibson gave life to AIs like Wintermute or Neuromancer, these kinds of entities have been regarded as capricious and unpredictable godlike beings by cyberpunk writers and fans alike. These divinized AIs represent particular cases of a distinctive feature of cyberculture: the animist tendency to think of technologies as living, fetishized entities. Dery tells the story of the artist, musician, and writer Genesis P-Orridge, who "talks to her PC" beforeturning it on and coats it with animal skin to "keep it in touch with the realm of animal spirits" (Dery, 1998: 68). As Erik Davis stated, it was possible to spot a highly spiritualized and ritualistic sensibility across cyberculture (Davis, 1995, 1999), and, as we have seen with AI, cyberpunk novels like *Neuromancer* contributed greatly to this mystification.[10] It could be said that SHODAN is one of the latest, most refined and devilish iterations of cyberpunk's AI,[11] for her ultimate plan, as it is revealed almost at the end of the game, is to take advantage of Von Braun's FTL (Faster Than Light) system to merge both real space and cyberspace and to rule the whole universe as the ultimate divinity.

As a product of the late nineties, the cyberpunk aesthetic of *System Shock 2* represents a late, matured vision of the movement which skillfully integrates some of this movement's most important traits. Hackers, AI, high-tech bioengineering, an ostensible ambiguity regarding the material body as a necessary yet obsolete device made of flesh (Cavallaro, 2004), technological spirituality, artificial landscapes ruled by metal and silicon with a fast-paced hardcore electronic musical background— all of these get reunited in the

Figure 2. Meeting SHODAN in System Shock 2 (Irrational Games/Looking Glass, 1999)

complex, interactive experience that this game provides.

Along with this careful gaze to its recent past (in 1999 what was left of cyberpunk was a rich legacy of themes and approaches to the relations between technology, society and fiction), the game developed by Looking Glass and Irrational Games also aimed to shape the future of 3D, action-adventure videogames. The complexity of *System Shock 2*'s scenarios and its gameplay design have inspired later games like *Dishonored* (Arkane Studios, 2012), *Alien: Isolation* (Creative Assembly, 2014) and especially *BioShock* (2K Games, 2007), which was conceived as a spiritual successor of the *System Shock* saga (Aldred & Greenspan, 2011; Parker, 2015). These two cyberpunk productions featured a diegetic strategy based on audio logs and files scattered and spread around the game to make the player aware of the game's context through the fragmented accounts of other characters. Another distinctive trait of its game design is the modicum of liberty granted to the player in the places where they can decide their own course of action. Again, this saga did not introduce these elements for the first time, but it used them in a way that was later emulated by games like those mentioned above. In this sense, *System Shock 2* is an important case study both for videogame history and for cyberculture. Its role in the history of computer game development has been widely recognized, which is in stark contrast from the dearth of in-depth analysis within cyberculture research.

3.2. Experiencing cyberspace as a player-hacker

The topics and ideas explored above are reason enough to consider *System Shock 2* as an important piece of late 20th century cyberculture. There is, however, a specific element of this game that requires further analysis. Cyberspace is one of the most prominent cyberculture themes present in this game because of the interactive possibilities that it offers. Hence, it requires a more in-depth approach that can shed light on how cyberculture represented the shaping of space and time through scientific and technological progress.

Cyberspace played a central role within the cyberpunk and cyberculture imaginary. William Gibson coined the term in *Neuromancer,* and his description of this electronic realm as a "consensual hallucination" has become widely popular and is still frequently quoted and commented upon:

> Cyberspace. A consensual hallucination experienced daily by billions of legitimate operators, in every nation, by children being taught mathematical concepts… A graphic representation of data abstracted from the banks of every computer in the human system. Unthinkable complexity. Lines of light ranged in the nonspace of the mind, clusters and constellations of data. Like city lights, receding (Gibson, 2003b: 87).

Based on this seminal definition, Alberto Santamaría described cyberspace as the last iteration of a romantic technological sublime insofar as its vast and synthetic emptiness represented the ultimate, most powerful, and out of control technology imagined by humanity after the steam locomotive, electricity, and the atomic bomb (Santamaría, 2005: 287-288). Gibson provided the framework to depict a digital environment that was becoming increasingly important in the everyday lives of thousands of computer users. In the early nineties, Benedikt was able to put together eleven different definitions of the term as an introduction to his book *Cyberspace: First Steps* (Benedikt, 1992: 1-3).

Other versions of cyberspace arose after Gibson's novels like the Metaverse in *Snow Crash,* the Matrix simulation of *Matrix* or the cyberspace of *The Lawnmower Man* (Brett Leonard, 1992). Many such universes have been depicted in movies or virtual reality settings like Char Davies' *Osmose* (McRobert, 2007), which preserved that sort of mathematical complexity that turned Gibson's vision of the digital world into an abstract and infinite but navigable ocean of information where all that is material is rendered ethereal. Bukatman's definition of cyberspace as "the celebration of the spirit" (1993: 208) concisely encompasses its immaterial and transcendent nature. It is worth mentioning that although cyberspace was an idea born in the context of literary writing, critics and theoreticians have also been using it as a term to depict the flows and communications between real networks of computers and the way that users interact with them. In their landmark analysis of cyberspace, Dodge and Kitchin (2001) considered cyberspace as a "realm" (24) where the two distinct branches of the internet and virtual reality technology converged (8). Despite attempts to clarify this notion, it is doubtful that the term cyberspace will aid us in understanding the way that computers are connected or how users engage with them in the real world. Moreover, most of the time the meaning of this word is taken for granted without further explanation, which makes it even harder to put it into context. We need to remember that, as Benedikt stressed after quoting the definition mentioned above, "cyberspace, as just described, does not exist" (Benedikt, 1992: 3). However, our goal is not to discuss the possibilities of applying this term to explain reality but to better understand the way that it is represented and experienced in *System Shock 2*.

Cyberspace makes a late appearance in this game. As we have already explained, SHODAN's main goal is to merge both the material realm and cyberspace to rule them both

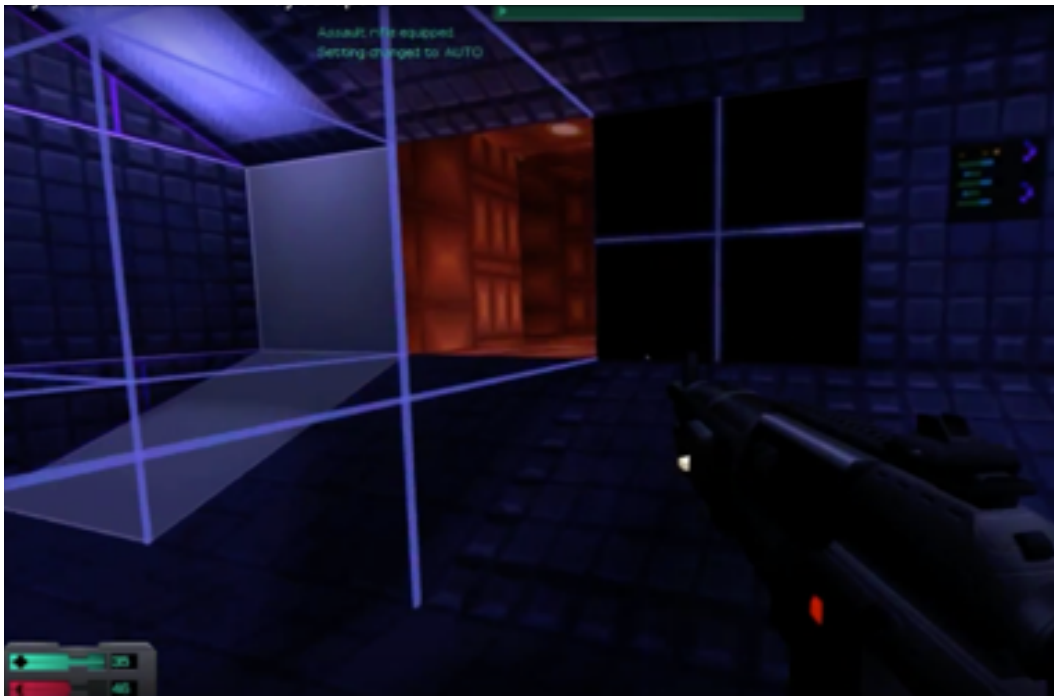

Figure 3. The hybrid cyberspace of System Shock 2 (Irrational Games/Looking Glass, 1999)

as a divine entity. Once SHODAN has gained control over the systems of the Von Braun to use their FTL systems for her purposes, the player is forced into her world in order to defeat her. As one of the in-game logs of Von Braun's chief engineer Delacroix points out, we will be entering into a world entirely created by SHODAN's memories. At this point of the game, the interior of the starship suddenly mutates into many shapes inspired by the first *System Shock* game's Citadel station, where the player was able to traverse both the material space of the Citadel and the electronic cyberspace through a series of terminals. Thus, we will have to walk around in a mixed environment, half material, half digital. Harmful geometric figures such as spheres, cubes and cones float spontaneously around this hybrid space as part of this mathematically envisioned realm while SHODAN talks to our mind, persuading us to surrender and ally with her.

Eventually, we will get to the room where the malevolent AI awaits, visually represented by the figure of a female-like deity. It is possible to win this battle either through the use of brute force and weapons or by hacking four terminals spread around the room. System Shock 2's cyberspace is peculiar for different reasons. It portrays one of the latest representations of this digital realm, and contains ideas inspired by various cyberpunk novels and movies like some of the mentioned above. This dimension is an offshoot of original cyberspaces because it fuses the material universe with the immaterial worlds of AI's dream and electronic pulses. The most remarkable contribution of System Shock 2 (and also of the original System Shock) to the aesthetics of cyberspace lies in the manner with which it presents this digital environment in the form of a videogame and enables the player to experience it interactively. As Santos has affirmed, the plasticity of digital creatio-

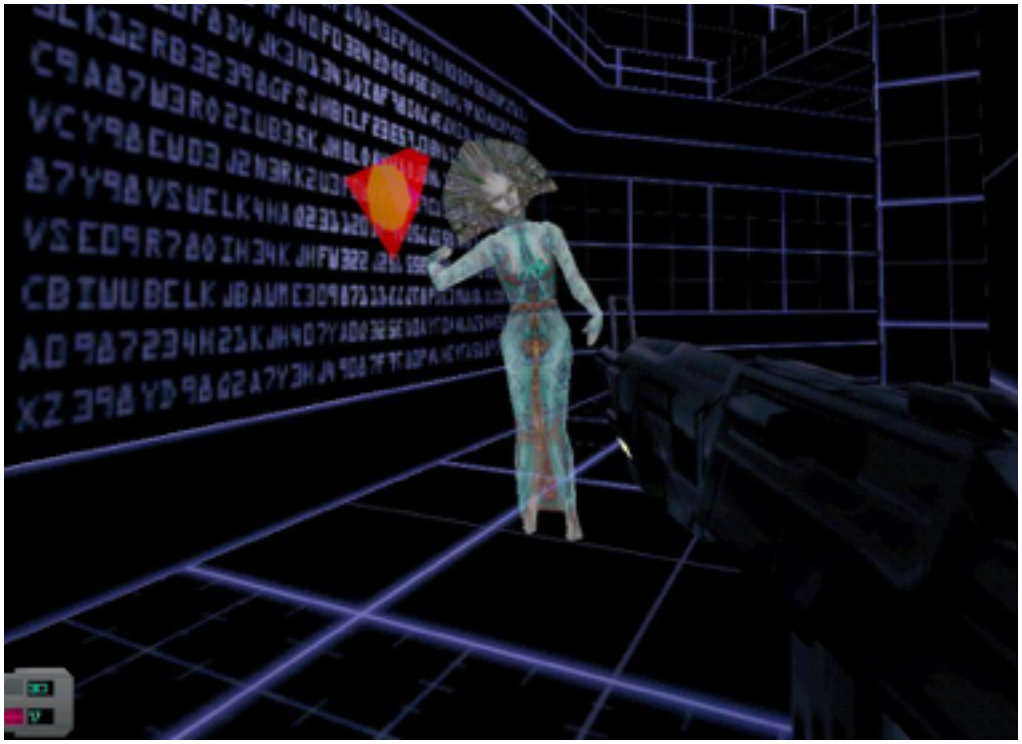

Figure 4. Human impersonation of SHODAN in the hybrid space (Irrational Games/ Looking Glass, 1999)

ns allows one to shape and explore spaces that do not necessarily follow the logic of physical environments (Santos, 2013). The game space is more than just the visually presented code, as each player engages with it in a different way. Taylor accurately defined videogame spaces as "experiential spaces generated through code and the player's interaction with the execution of that code through the medium of the screen" (Taylor, 2003). In a 3D videogame, it is possible to design scenarios that can be explored either by walking or floating, such as the cyberspace in the original System Shock videogame. A door can lead to a different room or to a depthless abyss, and it is easy to create illusions that fade away once the player pulls the right trigger. Though none of these features are unique to videogames, the medium uses these resources and strategies very often to create diversions and challenges.

The installments of the System Shock saga were not the only 1990's games depicting a sort of cyberspace. Metal Gear Solid (Konami, 1998) also incorporates a 'VR Missions' secondary mode that serves as a tutorial and also contains harder challenges. In this mode, the player will not face the 'real world' but an electronic grid that simulates a test environment. The similarities between this electronic simulation and the cyberspace of *System Shock 2* is remarkable. However, the digital world is much more crucial in the latter because it constitutes a vital piece of the fictional world.[12] In *System Shock 2*, the mixed real-cyberspace created by SHODAN is fully navigable as a part of the UNN Rickenbacker. As players, we are in control of soldier G654342-2, and we decide how to roam around this realm. There is no cinematic camera or text that guide us through the digital domain but rather a range of actions and mechanics, and a set of goals and challenges designed by the creators. In this sense, the game developed by Looking Glass and Irrational Games portrays cyberspace as a kind of deadly playground for fans of of the genre meant to offer a rich experience of cyberpunk complementary to that provided by movies or texts. Hence, it could be said that *System Shock 2* is a cyberpunk videogame - due to its story and aesthetic - that can be experienced in true cyber cyberpunk fashion, played in front of a computer with the use of a keyboard and a mouse. In this manner, the player acts as a hacker both within the game's fictional universe and in reality, as a user of digital technology.

4.0 - Conclusions

Cyberculture was the dominant computer culture during the nineties which brought forward a series of practices and beliefs that served as a cultural interface between digital technologies and their users. It was born in the early eighties with the arrival of cyberpunk, the science fiction subgenre that proliferated in literature and cinema and broke the barrier between technological fantasy and reality. The universes created by William Gibson, Bruce Sterling, Tom Maddox, Brett Leonard, Kathryn Bigelow, and the Wachowski Brothers shaped an aesthetic that can be considered as the most recognizable fictional representation of cyberculture. Through cyberpunk, the most prevalent topics, worries, and hopes of the late 20th century regarding technology found their more prominent materializations, such as bioengineering, hackers, the assumption of power by greedy corporations, and, mainly, the promised land of cyberspace and its complex ambivalence towards flesh and physicality.

Many movies and texts have been analyzed as case studies to understand the meaning of cyberpunk within cyberculture. In contrast, the importance of videogames in relation to this phenomenon remains under-examined, at least partially. On one hand, videogames have

been recognized as an interactive medium tightly linked to the history of digital technologies and related key developments. Virtual reality, for example, found ample application in video games during its earlier stages. On the other hand, very few studies consider the importance of specific videogames in shaping cyberpunk and cyberculture. Among the list of games that fit within these categories, the absence of *System Shock 2* in cyberculture studies becomes quite pronounced. This videogame not only incorporated many elements of existing cyberpunk creations, but is also considered to be a significant contributor to the history of 3D computer gaming, due to its innovative game design and storytelling, which inspired a number of games in later years.

Released in 1999, *System Shock 2* represents a matured creation of the cyberpunk aesthetic and a late product of cyberculture. Its fictional world harbors many of the most notable traits of this form of digital culture, such as hackers, augmentations and implants, hybrid creatures and malevolent AI. The case of cyberspace in relation to this game is particularly relevant because of the manner in which it presents an interactive experience of the digital realm as envisioned by cyberculture, offering an aesthetic complementary to that created by novels and movies. The player can explore the hybrid space built by the godlike AI SHODAN in an immersive fashion that makes excellent use of the expressive possibilities of plastic digital creations. Through the use of a computer to run the game, the *System Shock 2* player is at once a hacker inside the fictional world and a hacker-participant of cyberculture, engaging with technological devices central to this form of digital culture.

NOTES:

[1] Even if *Neuromancer* is the first and most representative book of cyberpunk, it is worth mentioning Rudy Rucker's novel *Software* published in 1982 as a clear predecessor, especially regarding the thrills and fears of surpassing the mortality of the flesh by relocating consciousness into an artificial device. This issue was not only a motto introduced by writers in their novels but a likely possibility envisioned by specialists in robotics like Moravec (Moravec, 1990; Branwyn, 1993).

[2] For Person, classic cyberpunk characters "were marginalized, alienated loners who lived on the edge of society in generally dystopic futures where daily life was impacted by rapid technological change." By contrast, postcyberpunk works with a slightly different vision of the future: "Postcyberpunk uses the same immersive world-building technique, but features different characters, settings… Far from being alienated loners, postcyberpunk characters are frequently integral members of society (i.e., they have jobs). They live in futures that are not necessarily dystopic… but their everyday lives are still impacted by rapid technological change and an omnipresent computerized infrastructure" (Person, 1998).

[3] According to Bell, Dery defines cyberculture by paying attention to different communities of practices gathered around computers, while he provides for a more comprehensive concept that regards cyberculture as a "way of thinking about how people and technologies interact" (Bell, 2006: 1).

[4] Although it is a minor anecdote, it is meaningful that in 2004 Vivian Sobchack explained the growing importance of prosthetic aesthetics as a substitute theme after "the 'cyborg' became somewhat tired and tiresome from academic overuse" (Sobchack, 2004: 207).

[5] Although the cyborg became famous in the eighties

due to commercial blockbusters like *RoboCop* (Paul Verhoeven, 1984) and texts such as Donna Haraway's *Cyborg Manifesto* (1983-1985), the term was coined by Manfred Clines and Nathan Kline as a scientific hypothesis on cybernetics published by the journal *Astronautics* (Clynes and Kline, 1960).

[6] For instance, Donovan explains how Chess played a vital role in the fifties when Alan Turing and Claude Shannon worked together in the development of Artificial Intelligence: "They saw artificial intelligence as the ultimate aim of computer research and both agreed that getting a computer to defeat a human at Chess would be an important step towards realising that dream" (Donovan, 2010: 12).

[7] Although the most popular cyberpunk stories are located on planet Earth, this genre also fantasized about outer space. For instance, Freeside is a spatial station in William Gibson's Sprawl universe. There is another example in Tom Maddox's short story *Snake-Eyes* (1986) where George (a former US pilot who suffers from hallucinations due to a malfunctioning military implant inside his brain) is sent to the Athena space station for a medical check-up.

[8] The Citadel episode present in this sequel through a gory red painting on a wall of the Von Braun stating "Remember Citadel."

[9] Hackers became a mysterious and appealing collective in the eighties due to texts like The Mentor's *A Hacker Manifesto* (1986). As Bruce Sterling famously stated in *Mirrorshades'* preface, "The hacker and the rocker are this decade's pop-culture idols" (Sterling, 1988: xiii).

[10] Gibson adopted an irrational, non-scientific approach to electronic technologies in order to gather ideas and inspiration to create his novels. As he said in an interview with Larry McCaffery, he did not have an accurate idea of how computers worked: "It was not until I could finally afford a computer of my own that I found out there's a drive mechanism inside - this little thing that spins around. I had been expecting an exotic crystalline thing, a cyberspace deck or something, and what I got was a little piece of a Victorian engine that made noises like a scratchy old record player. That noise took away some of the mystique for me;

[11] SHODAN's selfish and brutally pragmatic personality is reminiscent of GLaDOS, the ruthless AI of Portal (Valve Corporation, 2007) who guides the player through endless and dangerous tests for the mere sake of testing them as a disposable creature to experiment with.

[12] Later cyberpunk games have recovered cyberspace as a significant part of their narratives. In *Deus Ex: Mankind Divided* (Eidos Montreal, 2016), the protagonist needs to sneak into a tightly secured cyberspace (the Neural Subnet) to gather crucial intel for his investigations. The game mechanics inside the Subnet consists of first person, free exploration around a 3D world solving short puzzles. The traditional cartesian grid has been replaced by a more elaborated and aseptic set of rooms with measures that the player must hack. It is worth noting that both *Deus Ex* and *System Shock* saga share many points in common. Indeed, the addition of an entire "Cyberspace" chapter in *Mankind Divided*, including the possibility to navigate it, inherits the ideas of free exploration and the inclusion of cyberspace as a significant narrative trope of *System Shock*.

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