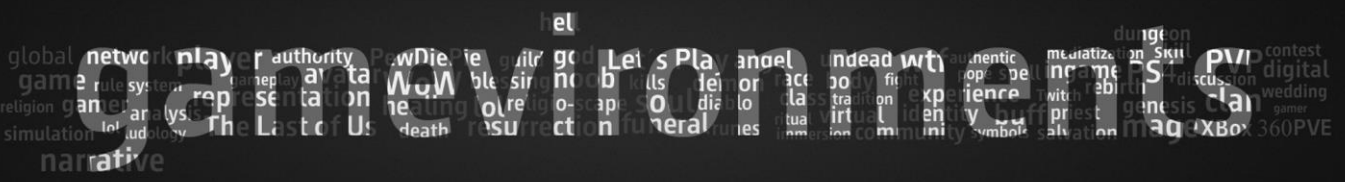
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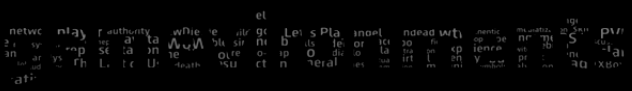

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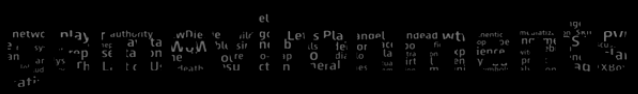

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Ludic Prognostication. Games as Sites for Simulating the Future[i]

Aditya Deshbandhu

Abstract
This article examines if video games can be used to simulate future scenarios by charting the intersections of game studies, science fiction studies, and simulation. By analyzing games that are set in futuristic societies as sites that can be used to address concerns for the future, this article argues that video games' unique form and structure as meta-media artifacts makes them an ideal site for simulating, showcasing, and experiencing possible trajectories of the future. This article builds on this argument by examining three games, namely *Deus Ex: Mankind Divided* (2016), *Detroit: Become Human* (2018), and *Cyberpunk 2077* (2020), as texts and as ludo-narratological experiences. The futuristic realities put forth in the three games are examined using close-reading, formal game analysis, and an autoethnographic analysis of specific ludic experiences. This article looks at how games can simulate specific trajectories of the future by examining the various dimensions of socio-cultural interactions that are explicitly and implicitly presented in these game worlds. The subsequent analysis also reveals how issues of equality, identity, gender, religion, and the human body will most likely shape key points of contestation for humanity as it single-mindedly continues to chase a techno-utopian reality.

Keywords: Simulation and Games, Games as Systems, Simulation and Modelling, Ludic Analyses, Simulation Based Learning, gamevironments

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This article seeks to answer a simple question – can video games prognosticate the future? When I say prognostication, I mean the ability to foresee upcoming future

events and set aspirational narratives of fictional technology. Literature, especially the sci-fi kind, has successfully inspired minds and fueled imaginations from the submarine (Verne 2003) to robots (Asimov 2004). It is important to then ask if video games as interactive, layered narratives can do the same. Can they inspire players to pursue radical new technological forms and imagine new ways of living?

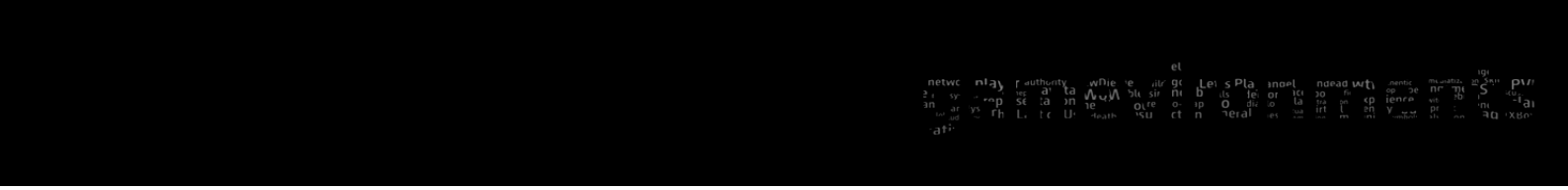
To answer this question, this article builds on the understanding of video games as systems, an understanding that is proposed to us by the Finnish perspective on video game studies (Deshbandhu 2020a, 18). In the numerous ways in which video games can be examined or analyzed, the systemic approach suggested by Stenros (2015) in his doctoral dissertation *Playfulness, Play and Games* builds on the rule-centric understanding of the half-real proposed by Juul (2011) to examine them as rule bound systems. He views them as systems, different from normal events; where users abide by the rules in order to seek favorable, quantifiable outcomes. This systemic understanding is a consolidation of several key ideas used to define games over the years ranging from Huizinga (1986) to Juul (2011) and despite its limitations, is ideal in this context as it allows us to ask – can video games be used to simulate future events and scenarios?

Literature from simulation studies serves as an entry point as we understand simulation in cybernetic systems from Nichols (1988), who states that the burden of facilitating the entire experience and the gamut of communication activities all lie on the system enabling the simulation. When Nichols' understanding of simulation systems is juxtaposed with Baudrillard's understanding of simulacra (Baudrillard 1994), Turkle's understanding of simulation (Turkle 2009), and the idea of video games as postmodern artifacts (Deshbandhu 2016), we realize that video games are inherently computer systems with advanced in-built algorithmic capability. This

capability would allow games as algorithmic and simulation systems to not just simulate reality but also offer different takes on how potential events from the future could unfold, depending on how specific decisions are made and actions are taken across a variety of scenarios. Characteristic to the video game as a post-modern platform is its remarkable fluidity (Lister et al. 2009) and its ability to be engaged with in a variety of ways which are limited only by the user's imagination and the limits of the underlying game mechanics. Key to answering the question at hand is the ability to re-load specific sections of the simulation in order to work towards a particular simulated scenario as well as the ability to see how large-scale occurrences fare when discrete events turn out differently.

Thus, this article argues that the video game with its enhanced graphical interface, the right algorithmic synchronization, and significant modeling capabilities can be used to both help visualize complex simulations and create powerful multimedia messages that can convey the decisive point not only audio-visually but also experientially.

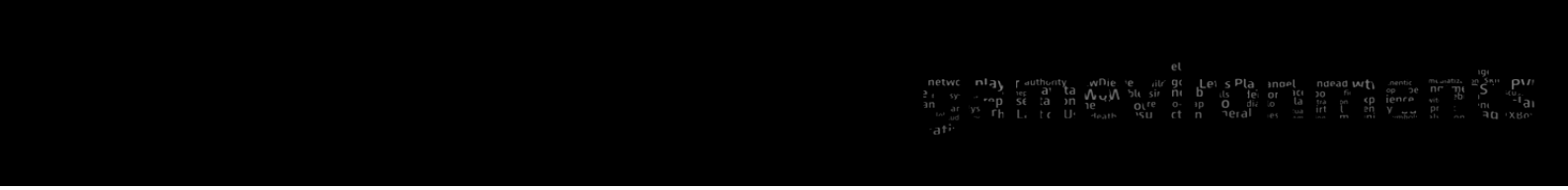
Secondly, answering this question also requires the situating of this premise in the blurring boundaries between science fiction studies and video game studies. While literary works of authors like Gibson (1984) and Orwell (1949) have served as inspirations for video games (several games have borrowed ideas from *Neuromancer*, and the *Mirror's Edge* (2009-2016) franchise is an example of the Orwellian society in 1984), this article seeks to answer the aforementioned question a little differently; by situating video games as socio-cultural artifacts and then analyzing their ludic and narrative offerings as means of understanding what lies ahead for humanity. Frelik in his essay (2016, 142) observes the intimate links between video game studies and science fiction studies to say



> "I propose that most, if not all, video games are, in some way, science-fiction games and that science-fictional regimes of thinking are absolutely central to the entire medium."

He continues to build upon this argument in his 2020 review of Milburn's book (2018) to explicitly state "All your games are belong to science fiction" (Frelik 2020, 495). Recent developments in the intersections of sci-fi and game studies have found ways to link video games with the problems that the world is facing. Climate change issues, for example, have been dealt with by Abraham and Jayemanne (2017) as they seek to find viable ludic responses to their question *Where are all the climate change games*. Similarly, Chang (2019, 2) also looks at ecology in video games in her book *Playing Nature* and provides a new rationale for digital environment play by challenging the idea that one could "deliberately live in nature in a game." The intersection between climate change concerns and futuristic societies in video games is examined by de Beke (2021) in two games, namely *Fate of the World* (2011) and *The Stillness of the Wind* (2019), where she observes that video games need to develop different temporalities if they wish to preserve the potentiality that the future holds. She argues that the predominantly used techno futuristic narratives in climate change games lack variety, and development of multiple temporalities in games would allow them as a medium to premediate the phenomenon of climate change better.

The roles of games in society have also been explored in other ways. For example, Milburn and Wills (2021) look at how various science fiction initiatives designed around games like *EyeWire* (2012)*, Be a Martian* (2009), and *Sea Hero Quest* (2016) contribute to creation of citizen science publics by helping players imagine socio-technological contexts that are not based on the present. This understanding leads us to Jagoda's idea of experimental games (2020) where he situates games at the intersection of media aesthetics on one hand and social, political, and economic



theory on the other (Jagoda 2020, ix). By using close reading and critical making, Jagoda offers us unique insights into the game building experience while at the same time locating video game experiences in a frame that allows researchers to study them as societal artefacts. Milburn (2018, 9) also argues a similar perspective when he notes that

> "By playing in fictive worlds, experimenting with their rules and affordances, we get a feel for futurity, potentiality—the virtual as such. The world not only as it is, but how it might have been, or how it yet might be."

By analyzing three games, this article argues for the conventional understanding of simulation in video games to be broadened from the current focus on the accuracy of the re-creation (Deshbandhu 2020b, Crawford, Muriel and Conway 2019). By using existing data to model possible realities and offer interactive experiences based on those realities, video games can accomplish what sci-fi literature did but also offer a visual and experiential frame to help comprehend the rendered reality. This article, by analyzing three games, namely *Detroit: Becoming Human* (2018), *Deus Ex: Mankind Divided* (2016), and *Cyberpunk 2077* (2020), argues for the possibilities that video games can fulfil in helping us understand society.

Method

Analysing games is often a difficult task owing to the complex nature of the medium. One of the major debates of the field, narratology versus ludology, has spent significant years trying to find unique ways to study games as text. Aarseth (1997), Frasca (1999), and Calleja (2007) from the Ludology school and Murray (2005), Arsenault and Perron (2008), and Thon (2017) as narratologists have suggested a variety of ways to study games. However, in order to be holistic, this study begins by

accepting that video games are ludo-narratological because the main question posed can be answered either by the ludic elements of a game or the narrative elements. To extend this further and reach a holistic understanding, it is also pertinent to examine what experiences are offered to players by games. Thus, the need to study ludic texts on three dimensions emerges, namely the ludic, the narratological, and the experiential. In order to achieve this, the need for tools that allow studying of all three dimensions are necessary. This study uses close-reading (Gray 2010) as a means to analyze the story and narratives that video games offer; the close reading is performed at the same time as analyzing the constituents of game's structure and the various dimensions of engagement using the six-point framework suggested by Calleja (2007). The experiential dimension is charted on one side by using Björk and Lankoski's (2015) formal game analysis (Alha et al. 2016) to examine the various constituents of the game, and on the other side, reflections and gameplay experiences from an autoethnography of the three virtual words were drawn from a journal where they were recorded. This three-dimensional methodological approach should holistically capture a multitude of dimensions of games that should enable us to examine and interrogate them as other media products. This study, like Jagoda's (2020), uses close reading but in conjunction with analysis of experiences of play (instead of critical game making), thereby understanding how games can be used as meta-media to allow their players to experience futuristic realities and narratives. The use of players' perspectives and experiences to examine the games distinguishes the study from Jagoda's approach to games (the critical game making dimension).

For this study the three games chosen were: *Detroit Become Human*, *Deus Ex: Mankind Divided*, and *Cyberpunk 2077*. All three games are open world in nature i.e., the players have the opportunity to engage with various dimensions of the game and have the option to focus on other aspects of the game world apart from clearing

levels and obstacles. The purposive, non-probabilistic sample of three games was chosen because of their open-world nature. The central themes of the games are such that they were set in futuristic possible realities but also are similar to each other in the worlds that they are set in. The examination of the three games also works in conjunction because they are, through their narratives and gameplay, contributing to the long ongoing debates from cyberpunk literature where technological advancement reshapes how and where people live, work, and perform acts of leisure. The examination of these three ludic-texts that allow for players to explore the game-world (open world games) and perform quotidian tasks offers insights into how the game-world has been designed and the way in which the narrative's authors have envisioned their society. The methodology used in this study needed games that complemented it and offered the necessary immersive breadth to lose oneself in the virtual word and internalize its systems like a native of the ludic world would (Boellstorff 2006, Pearce 2011, Deshbandhu 2020a). This is, in essence, an ethnography with a unique take, one where the researcher aspires to go native by seeing the game-world from the perspective of the non-playable characters.

The methodology was executed in the following way:

1. I played all the three games for the entirety of their game-cycles – till the central plot line was complete.
2. During each instance of play, notes were made to make sure that the data from the formal analysis and autoethnography were complete.
3. After each play session, the objectives, challenges, and experiences from immediate in-game sessions were reflected upon and analyzed using Calleja's (2007) 6-point framework.
4. The narrative elements like cut-scenes, cinematics, in-game lore, and textual artifacts were captured and carefully archived to perform the close-reading.

The data from all the four steps was then sorted game by game and once the compilations were ready, they were analyzed individually and in conjunction. The broad themes that were common in each text were identified and sorted, and then thick descriptions (boyd and Crawford 2011) on the same were made by drawing from the data from other data collection tools. These were then used to build the analysis section of this article.

Simulated Envisioning of the Future

The three games chosen for this article, namely *Detroit: Become Human, Cyberpunk 2077,* and *Deus Ex: Mankind Divided*, have been chosen for their futuristic narrative themes and the worlds that they are set in. The analysis of the three ludo-narratological (Lindley 2005) texts is presented as experienced and in conjunction with the examination from the various methodological frames. The argument of the paper may be analyzed from specific perspectives at instances, but the experience was charted as a whole and not as per its constituent parts.

Throughout the multi-pronged examination of the games, special attention was given to video games' multiple understandings as complex media products, technological composites, and multifaceted software. Thus, the three games were examined not merely for their ludic, narratological nature but also as the simulation systems they are.

Detroit: Become Human

The first game that the study looks at is set in the city of Detroit in the year 2038. The game begins by visualizing Detroit as a center of success and as one plays through the game, one can witness how the city in the game's reconfigured geography is the

center of the world (a possible answer to the climate change questions, as New York and LA have drowned due to the rising sea levels; Abraham and Jayemanne 2017, de Beke 2021). Detroit's futuristic re-imagination, as envisioned by the game's creators and rendered by the game's engine, allows the city to have shades of both New York and Los Angeles at the same time. Its towering skyline is complemented by its automated traffic systems and the robotically augmented society that the game's narrative uses a central premise. As the opening cinematic sequence flashes on screen, the game projects how robotic development and the growth of Artificial Intelligence have intertwined in this fictional reality to imagine a world where human computer interaction has reached its peak and robots are an active part of the everyday. In this reality robots and automated machines are the primary workforce in the help, support, and care sectors.

Detroit: Become Human allows you to play as three sentient robotic protagonists, as the layered narrative talks about how robots as intelligent life have become the second class in this reality. The narrative conflict in this game arises from the unending pursuit of robotics and AI to make robots and machines more human like. In this ludic reality, the more humanistic attributes are imbued, the more androids begin to see contradictions in humanity, and as a result begin to take actions that contravene the systemic code that governs them. The game depicts the androids'[ii] psyche and mental conditions with a ring like circle on their temples. When the ring glows blue it indicates an obedient state, and a red hue indicates the reaching of a stage where the robot is resisting and overriding its control systems. The androids that override their governing systems are termed *deviants* in-game.

The game allows you to play through the lives of three robots where two are caretakers, the first who takes care of an aging painter, the second a housekeeper

who helps with the raising of a child, and the third a trained detective specialized to defuse situations where androids have turned and thus need to be neutralized. The meta narrative of the game is such that the android trained to track deviants must locate the other two protagonists and as the subjectivities of all the three protagonists coalesce, the players' decisions dictate how the narrative progresses.

Deus-Ex Mankind Divided

The term *Deus Ex Machina* from its origins in Latin and then subsequently technology means – appearance of a god in the sky. The franchise's titles are all in line with the soaring of humanity that is fueled by technology. The technology in the *Deus Ex* world is centered around the development of interfaces where the electronic and the mechanical can fuse with the biological. In other words, the games are set in a world where development of neural links for biological parts has been perfected. The game offers players implants for skeletal parts, ocular systems, specific purpose body attachments, weapon modules, and movement boosting upgrades; in essence, the game reimagines the human body as a modular construct that can be reshaped for specific purposes. Haraway (2013) understands this bridge in her work as *cybernetic systems* where the biological and technological interface.

The game's world is set in a reality where the ability to acquire implants and upgrades reshapes people's position in the world. Thus, the class divide is created on a new kind of biopolitics (unlike Foucault's [2007, 2019] conceptualization of the term) one where people can acquire the latest and best hardware for their bodies. The game's narrative focuses on how the larger public in the world views these augmentations and the various perspectives that they offer to understand them. True to its title, the implants/augmentations give the owner not only superlative abilities in terms of

strength, combat, and speed but also enhance senses like vision and hearing, thus transforming man into God as the title suggests.

Mankind Divided, set in the year 2029 (the game was released for public consumption in 2015), is set in a world divided between the haves and have nots of body augmentations. The narrative exposes how the augmented are discriminated against and brings to the fore the philosophical idea of transhumanism. The gameplay focuses on the player's ability to focus and experience an existence where these augmentations push the boundaries of one's physical body.

Cyberpunk 2077

A game that was in development for a major part of the last decade, *Cyberpunk* is set in the fictional Night City. In this imagined reality, where areas surrounding Night City have either been destroyed, submerged, or converted into wastelands, corporations have taken over, and just like *Deus Ex*, the human body has been interfaced with the technological. Owing to its title and cyberpunk heritage, the leading power in the game world is a Japanese corporation named Arasaka. Hacking and modifying the body is a standard practice as implants and augmentations are called cyberware in-game. Throughout the game-world, there are specific sites where NPC characters called *ripperdocs* who have the necessary knowhow to tinker with the body reside. The brain also has a computer like extension that allows you to hack into computer systems and similarly transfer data and memories through a neural link. The game imagines the neural link as a USB/Fiber optic cable that emerges from the wrist of characters and interfacing is immediate. From transfer of money to information, location, and memories, getting *jacked in* is the norm in this game world.

The technological firms that control the power dynamic in *Cyberpunk* have done so by developing these mods. The roles of data, privacy, invasion, and tampering are well defined in *Cyberpunk*'s narrative as you see what happens in the ludic world when people's memories, personalities, attitudes, and opinions are all digitized. Complex new forms of existence are examined by the game's experiential dimension as you relive memories through unique media forms called braindances where you do not just see, hear, smell, and feel the content you are consuming but also viscerally experience the incident from the same perspective as that of the actor. *Cyberpunk*, by often breaking the fourth wall in the play experience, asks the player to examine parts of its imagined future and thus experience the possibility it offers in a more detailed way.

Cyberpunk's central premise focuses on how people's consciousness can fuse with artificial intelligence and at times how minds can break the human/technological divide to become an incorporeal, digital existence. This is extended by the game to look at how the consciousness of people can be preserved on *biochips* as engrams and then plugged into a body. Throughout the game, the player experiences the jarring effect of having to share their body with another consciousness when they interface with the biochip to survive.

Examining Simulated Futures

The data gathered from the multi-pronged methodology was collated and stitched together during the analysis phase. As the observations, reflections, and analysis were carefully sifted through, broad themes emerged with regards to how the futuristic worlds were envisioned and created. The four broad categories were geography, society, economy, and technology. Within these themes there were sub-themes that

emerged as well, and they have been discussed in detail with the corresponding themes. Through the analysis there was also the emergence of cross-cutting themes (themes common in all three games) of which the most obvious one was that all the futures prognosticated were dystopic and not one presented a scenario where technology had enabled a utopia. These observations are to some degree similar to Gerald Farca's work on play in dystopia and nightmarish worlds (2018) but the fact that that the social, the economic, and the political, were not just reifying inequalities but were amplifying them to a great degree in the worlds in which these games are set make the interrogation of these artefacts necessary.

Ludic-Global Geography

All the three games had shown remarkable variations in their conceptualization of worlds from how things stand currently. *Detroit: Become Human* details how Detroit as a city rose to prominence and became the greatest city in the world. Set in 2038, global warming and climate change are a major facet of the game's world. There are smart tablets strewn throughout the game across the three narrative trajectories where players must engage with them to understand how after the battle against climate change was lost, the world's geography changed. The rising of the oceans and the melting of the ice-caps caused the American western and eastern sea-boards to flood and as New York, Florida and California were submerged, Detroit became the city of choice. In this ludic reality, the lore and literature talk about how environmental disasters became the norm and combating them became essential. Throughout the game, as you play different perspectives, you watch extremes of cold, rain, and inclement weather as an experiential reality of a world where humanity has failed to combat climate change. The experience of navigating such a reality in an ergodic platform not only showcases the simulating and modelling prowess of video games as complex systems but also reinforces the importance of global warming at a

time when opinions on its scientific validity have been deeply polarized. This kind of a treatment of crucial messages and experiential recreation of unique scenarios should be a unique skillset of video game makers.

Deus Ex: Mankind Divided, on the other hand, is set in a multitude of cities, namely London, Prague, and Dubai. The geography of the game-world is designed in line with polar contrasts where there is brilliance, gleam, and prosperity on one side and gloom, despair, and darkness on the other. Each city has been designed to exacerbate the divide and showcase the binary tussle the world has been reorganized around. The possibility of this prognosticated scenario manifesting in global society is very possible as class divides in terms of opinion have begun to reshape major cities today. *Cyberpunk 2077* is set in a singular city that is live with technology and has specific sub-districts which are controlled by various factions. The city is depicted as a neon-filled utopia. Said to be located on the border of North and South California, the independent city-state is described in-game as a thriving metropolis that is controlled by corporations and organized crime. With a population of around six million people, in-game lore and text often refer to Night City as the worst place to live in America. As you wade through the various areas of the game world, the same issues of class divide appear; the pristine perfection of Arasaka tower and its surrounding buildings is a sharp contrast to the place the protagonist resides or Japantown, for instance. The game world reveals to you how, just like in today's world, even futuristic simulations in these games foresee the need to re-create downtown/impoverished areas in their cities. As you traverse Night City and through the experiential encounter illegal, spurious, and cracked forms of technology, you cannot help but appreciate that this is a ludic re-creation of the other information city conceptualized by Liang (2005).[iii] In-game lore is extensively detailed and delves into how the city was founded, how it became the site of several wars, and how the areas

surrounding the city-state are consequently uninhabitable. Surrounded by submerged suburbs, infinitesimal dumping grounds, and the wasteland on all sides, *Cyberpunk*'s re-creation of the possible future is a sharp indicator of the environmental and societal costs of mega-cities on their surroundings.

Society

The re-conceptualization of society in the future is a very challenging facet in game worlds. In games like *Mirror's Edge* (2009-2016) and *Remember Me* (2013) the developers designed their worlds as per the game's underlying mechanics of play, but all the three games chosen in this study are open world games. In these worlds contact with non-playable characters (NPCs) is essential and thus engaging with the ludic quotidian, a must. Crucial insight into the way these simulated societies function is available to analyze through these interactions.

Detroit: Become Human's engagements reveal to us society's mistrust of Androids and all the three narrative arcs indicate that despite being sentient beings, they are no more than replaceable hardware. Gigantic hoardings through the city showcase newer Androids and how they are better than existing ones, and as you view these artifacts from the standpoint of an Android, key questions on slavery and trafficking emerge. The views on sentient, caring beings being traded and replaced are further amplified through the narrative when you realize that the underwritten code governing these living machines limits their capabilities of thought by ensuring that their minds are locked. When they overcome said limits, they become deviants and are branded as such. These in-game acts raise crucial questions on brainwashing and propaganda. The understanding of religion, is presented in the game with great nuance as Androids question if they were created in the image of their creators too, and if that is the case why the pursuit of free thought is considered to be an act of

terrorism. As the Androids grapple with Asimov's three laws on robotics (2004), the argument on creationism needs to be made on a different level as they are created by both humans and technology. While one treats them no different from unintelligent beings the other binds them in eternal servitude. It is in this conundrum that Androids understand what life means to them, with the fear of losing their memories, and the threat of being reprogrammed always looming.

The world of *Deus Ex* is characterized by a significant polarization on the augmentation and implant debate where a secretive organization called the Illuminati controls significant areas of society. As narratives and propaganda celebrating augmentation tech or vilifying it are constantly beamed at players through the several display screens in the game, these in-game messages convey the general state of the game-world's public. The fear of a human using augmentation to rise above the rest of humanity and become a living god is a major concern as augmentations raise big questions on affordability and access. The questions posed by the experiential narrative of *Deus Ex* are a futuristic re-imagination of the existing ones on the digital divide prevalent in today's global society (Selwyn 2004). The last year (2020) has been evidence to the exacerbation of the said digital divide as new boundaries have been redrawn (on old existing ones) where people with access have found ways to continue working and functioning while surviving the pandemic whereas others without access have suffered significantly.

Cyberpunk 2077's society is more varied than that of the other two games as it is characterized by netrunners, employees of big corporations, and people who are street-kids. These three categories are the player classes in a world where corruption and gang warfare are the norm as corporate firms and criminal organizations fight for the control of various areas of Night City. As players navigate the game's ludic text

you encounter questions of identity, gender, and freedom as you come across a variety of beings. One class of these called dolls (sex workers) are part of a collective called the *Mox*. Members of the *Mox* include sex workers, anarchists, punks and sexual minorities. Through the game you witness how dolls are created and allowed to survive on their ability to generate business. The game's main narrative takes you through the life of a doll who is destroyed for her inability to generate business. As her consciousness is wiped clean and her shell damaged, she is sexually used and abused after being programmed into a catatonic state. As the text raises newer questions on consent and abuse it reinforces the situations faced by people in classical Multiuser dungeons (MUDs) when their characters were hacked and controlled by others to be part of sexual acts against their choice as discussed and problematized by Turkle (1995). However, in the ludic text here, the same questions are asked with an added physical dimension as the body and mind can suddenly be separated at will in this reality. Existing ideas of body, being, and existence are fundamentally transformed through the interactive experience here.

The examination of society across all three prognosticated texts is a clear indicator that despite significant technological advancement, major problems that plague society today continue to persist or acquire newer forms. Technological determinism or technological utopia does not seem to have a place in these prognosticated futures as despite the abundance of information, the idea of a knowledge society (Castells 2011) is absent while problematic constructs like surveillance are omnipresent.

Economy

The theme that is most common across all the three games is economic disparity. In *Detroit: Become Human* we see how Androids are recycled and humans have lost jobs

to them. One specific arc looks at how an unemployed man brings back his android Kara after being serviced and asks her to take care of the house and look after his daughter. As he struggles with alcoholism, he loses control and attempts to physically abuse his daughter when she reminds him of the wife who left them. Kara is forced to step in and protect the daughter and thus bears the brunt of the attack. Economic struggles are rampant throughout this trajectory of play as the sparse bedroom of the daughter and the father's inactivity are constant reminders of the struggles humanities will face as more jobs get mechanized. *Detroit: Become Human* as a text becomes further difficult to analyze at this point because the game's unique design begins with a poll right at the start for the first time. In the poll the game asks players if they consider technology to be a threat to mankind and an overwhelming 70 percent of the game's player base had felt so (when I made my choice). This perceived threat of losing jobs to androids is not only exemplified by the game's experiential narrative when it showcases the economic vulnerabilities of people but also amplified when players think back to their decisions in the poll.

In *Deus Ex: Mankind Divided*, the divided opinions on body augmentations and the ability to afford those implants redraw the economic line and further widen the gap. *Cyberpunk 2077*, on the other hand, is based on a complex economic system where corporations that control the city have legitimized exploiting their workers. In-game lore talks about how hectic work schedules are and how people in the game accrue debts over the need of necessary implants/cyberware in order to become employable. Once the job is acquired, employees work to pay off the debts and cannot think of changing jobs, as newer jobs would require different technological implants. The game throughout indicates the vulnerability of people in Night City as they are open to being hacked and manipulated by fixers (mercenaries), netrunners (hackers), or other corporate employees. The economic disparities in all three games

indicate that the societies they prognosticate here continue to benefit people who believe in certain ideologies and enjoy certain existing privileges before new innovations happen. As technology continues to reinforce the economic position of the already privileged, these games are indicators that rather than re-configuring/reshaping the existing status-quo, it becomes another weapon in the arsenal of existing power structures.

The evidence of the above statement is witnessed in *Cyberpunk* when a particular mission requires you to rescue a corporate employee who has been assaulted and her body taken to a place where her health care providers are not able to monitor her. As her torso is found, she is found to be in a *flatlined* state (without a pulse). Interestingly, *Cyberpunk*'s in-game language uses the word flatlined over dead, as healthcare advancement in the game world has reached a stage where the dead can be revived if reached at a particular time. Once the body is moved to a place where her healthcare provider – Trauma Team can reach her, the game reveals that the corporate employee had the best kind of health care coverage – the platinum one. As the team to revive the body arrives, interestingly, it first assesses if the patient is entitled to the healthcare and then armed mercenaries revive her. The idea of health care which can revive the dead but is only available to those who can afford it seems to be the culmination of all the healthcare debates the current world is facing. Add to this the imagery of healthcare workers being armed with weapons and cloaked in protective armor, and the current understanding of healthcare workers needs to be completely overhauled. Lastly, a medical care provider that tracks its patients and monitors their health stats 24/7 (as is evident from the in-game lore) by tracking their location and whereabouts further compounds problems of surveillance.

Technology

The binding factor across all the three games, technology is at the heart of the entire experience being studied here. Nichols (1988) understands cybernetic systems as sites where the entire experience of the simulation is rendered by the system and the experience offered is dependent on the system's capabilities. The futuristic game-worlds and societies being examined here are thus representative of the systems of our time. The meta-analysis is complete when we use the technology of today to offer possible experiences of the technologies of tomorrow. *Cyberpunk 2077*'s braindance medium for instance, can be remediated (by using McLuhan's [1994] trusted tool; Bolter 2000, Strate 2008) as extensions of virtual reality experience where immersion extends to not merely the audio-visual and the spatial but also to the sensorium. This singular act of ludic engagement is worthy of additional exploration because Braindance as a complex medium gathers additional information for each of the additional senses and offers them to players on a medium that cannot transmit that information. The game allows players to parse through specific data like audio and visual data outside the scope of perception along with temperature and heat information. Each of these tracks can then be analyzed in isolation or in conjunction to recreate memories or past events holistically. Similarly, *Detroit: Become Human* showcases how specific androids can analyze in-game instances to re-create events that have already occurred by piecing together additional information from clues and instantaneously analyzing it against the databases they are connected to. Androids as beings that are natively connected to the internet is a given.

Cyberpunk spends a significant amount of time in trying to erase the perceived boundaries between the biological and the digital in a variety of interesting ways. One such example is through a mission where a prospective mayor of Night City remembers a series of events that his security staff assure him was dreamt. Despite

the memory being something he is sure about, there is no evidence to its occurrence. As the protagonist investigates the scenario, an entire hidden room is revealed at the prospective mayor's residence that no one was aware about and the security firm monitoring him was using the room to tamper his memories and alter his perceptions and ideas. The ludic aspects of the game reveal how he was being made to believe that he was an only child, and, in the process, his entire recollection of his early life altered. By showcasing how memories, perceptions, and beliefs are as alterable as text and other media forms when the mind interfaces with the digital, *Cyberpunk* prognosticates major challenges of neural-links. In another scenario, *Cyberpunk* showcases how the same neural link can be used by humans to transform into AI and leave the physical completely. By breaking the divide, *Cyberpunk* in essence sets things up for questioning how humans transcend into being androids, something that resonates in *Deus Ex* as well but to a lesser extent. However, *Deus Ex* in its divisive narrative of technology engages with ideologies like transhumanism to a much greater degree as it provides a wider perspective of responses to the in-game tech from the gaming public whereas in the other games, technology has reached a mythic state (Postman 1997) where its presence is not questioned but merely accepted disgruntledly.

Discussion

The need for a study like this is essential for a variety of reasons. Firstly, it brings to the fore the idea that video games as complex systems can model and simulate possible realities that can be experienced. With the right kind of data and a compelling argument, the simulation of experiential narratives can showcase possible realities and portray futuristic scenarios depending on the changes made in specific policy (or not). The last decade has seen the emergence of a new kind of games, *live*

games I call them; ones where real-time data from the offline is taken into the online to simulate a playable ludic environment. This new reality that exists in the online, the offline, and the interstitial needs us to rethink fundamental concepts like the magic circle (Salen and Zimmerman 2004). This is also indicative that the boundary between the offline and the online as well as the ludic and the non-ludic are not as rigid as they were thought earlier. Secondly, the multipronged methodology used here allows researchers to holistically chart games as a text. The use of close reading as a method (Gray 2010) to examine the narrative when combined with Calleja's six-point framework (2007) to analyze the ludic allows for games to be examined in a ludo-narratological sense. However, games as a ludic text also need to be examined for the experience they offer and to capture this dimension the three games were formally analyzed (Lankoski and Björk 2015) and the experience of play recorded autoethnographically (Chang 2008). Thus, the analytical frame had to stitch together data from four methods and was three-dimensional in nature as it captured the ludic, the narratological, and the experiential at the same time in a bid to holistically capture all what games as ludic texts had to offer.

The observations and analysis when stitched together allow for several dimensions of the games to be examined and the multiple themes that emerge indicate to us what Boellstorff (2006) argues that games are not merely virtual worlds but also societies with their own cultural systems. These systems can now be analyzed the way this study does and examined as not just narratives in games but also as possible trajectories of the future. Livingstone's understanding (2005) that mediated texts are not just representative of the social contexts and circumstances they are made in but also draw from them and lend to them in order to construct and make sense of reality make the endeavor of studying possible futures from the perspective of video game experiences a compelling field of study. The analysis here is rooted in Suvin's

idea of cognitive estrangement (Nodelman 1981, 24) as it seeks to situate futuristic experiences of play in the domains of realistic fiction thereby allowing a researcher like me to "factually report" and analyze fiction and extend on the "realistic irreality" that emerges when science fiction and video game experiences coalesce. By examining my lived experiences in these hybrid ludic realities, I can engage with concepts, artifacts, and experiences that are not otherwise available to experience or interrogate – constructs that Chu (2010) terms as objects of wonder by turning Suvin's idea of cognitive estrangement inside out. I place my analysis in the continuum forged between these two understandings as I try to find ways to examine the hypothetical in the simulated and the rendered.

The observations from this study show that games not merely simulate but allow players to experience possible arguments. We understand global warming and the resultant geographical reorganization of the world but also experience the accompanying problems when the world crosses what the game calls a *point of no-return* beyond which the effects of the phenomenon cannot be reversed. Similarly, *Deus Ex* allows us to not just play the game and clear obstacles as a human imbued with augmentations but also experience the various perspectives of the politics pertaining to this divide and holistically engage with the various facets of transhumanism. Lastly, the society of *Cyberpunk* raises questions on gender, identity, technology, embodiment, and the preservation of human consciousness itself. The questions on religion, economy, technology, and the continued existence of divides on class, gender, and roles in society reinforces the fact that the simulations of the future are unlikely to be different from existing reality unless perceptions and beliefs are changed societally, else technology, no matter how advanced, is merely a tool. Thus, using video games to answer these questions for the present and initiate

conversations that remain ongoing till these possible technological innovations manifest in everyday life is paramount for new philosophical understandings to emerge.

This study's analysis, while detailed and descriptive, is still centered around the four broad themes that emerged from the analysis. There are, however, an unending number of markers in these games for future interrogations of these experiential texts. This study suggests a possible way to do so and how to do it with other games as well.

Conclusion

Understanding video games as complex meta-mediums, where media, society, play, and recreation intertwine has been an argument well in the making (Deshbandhu 2020a, Deshbandhu 2020b) but the need to examine what these sites offer along with their engagement is essential. Specific arguments that are deeply contested in society in terms of their validity, for, e.g., global warming, the phenomenon, its effects and its consequences can be experienced in the ludic realities that video games offer, thereby providing us with a possible way to move forward from the impasse global society is stuck at. Video games as postmodern media (Lister et al. 2009, Deshbandhu 2016) are open to a variety of interactions from players and the layered narratives they offer can allow for complex simulations to not merely be visualized but be experienced layer by layer, decision by decision. In this situation video games are a tailor-made technological artifact as they are complex software adept at handling data first and then natively generating possible scenarios depending on how the data varies. Microsoft's 2020 game, *Flight Simulator* (2020) is a great example of the same (also of a *live game*) as by integrating live weather information and mapping

information, it could accurately offer a simulated experience of flying from two points. The need to extend this capability further and see how video games can help us understand where society, culture, religion, and civilization are possibly headed can help us answer questions whose answers have been abstract and elusive as of now. The need to examine these constructs in their unique settings is now more pertinent than ever.

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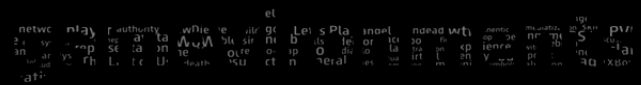

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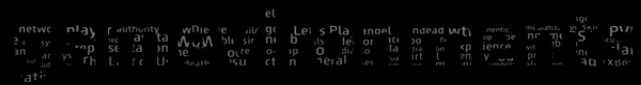

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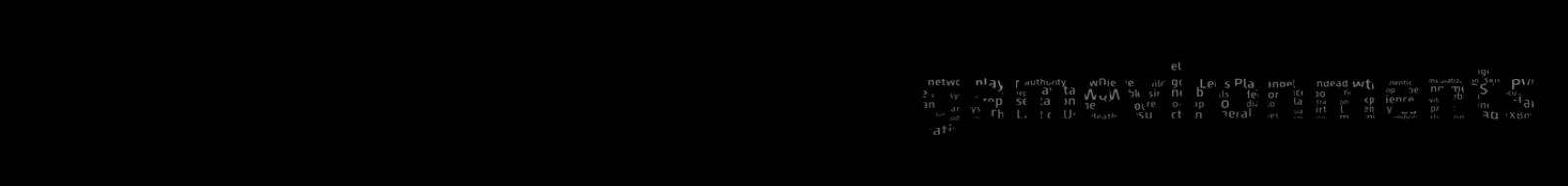

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[i] A draft version of this paper was presented in the Popular Culture section at the Annual conference of International Association of Media and Communication Research (IAMCR), Online, July 2020, that was organized by the University of Tampere, Finland.

[ii] Haraway (2013) in her iconic piece viewed sentient robots as Androids as she foresaw the boundaries between biological and intelligent systems blurring.

[iii] In Lawrence Liang's piece titled *The Other Information City* (2005) he posits the argument that most cities have two halves: one where Information technologies and other innovations thrive and are celebrated as such. The other side of the city he understands as one that seems disconnected and afar on the surface but just as much a part of the city's technological existence as it not merely supports the other half but sustains it in a variety of ways. In the case of the Indian city Bengaluru (where the piece was written) you have the Silicon City on one end and the nebulous computer market on the other. In Hyderabad, you have the overt financial district on one side and covertly the CTC market in Secunderabad on the other. In Delhi, you have Gurgaon as the thriving IT centre and Nehru Place as the other side. Most cities that have a sizable IT economy generally have a corresponding other side.