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BETWEEN WORLDS AND STORIES: SCIENCE FICTION AND GAMEPLAY EXPERIENCE

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SUMMARY

Through the study of two models, the video games *Metroid Prime 3* and *Bioshock*, the present article explores the relations between the game-play experience related to interactive fiction and the kind of narrative construction typical of two of the key science fiction genres: intergalactic conflict and the distopic city. By means of identifying two complementary dimensions that shape gaming experiences, the ludic dimension and the narrative dimension, the authors try to glimpse the potential of the interactive medium in order to represent and interpret the universes of science fiction, projecting the analysed concepts towards the increasing withdrawal of linear fiction in favour of open fictional systems.

KEY WORDS

Science Fiction, Media Studies, Game, Videogame, Roleplaying game, Game Rules, Gameplay, Interactive fiction, Intergalactic universe, Space opera, City, Distopia, Fictional world, *Metroid Prime*, *Bioshock*, Nintendo Wii, Xbox 360, Subculture, Ludic Experience, Narrative Experience, Action, Exploration, Narrative twist, Puppet player, Space travel, Alien, Technocracy, Cyberpunk

ARTICLE

Subculture and ontological dominant

In Barcelona, near the *Arc de Triomf* monument, there is a shopping precinct, highly frequented by young people, where a heterogeneous offer of cultural and entertainment products converges: science fiction novels sit on the same shelf as role play manuals, collections of manga comics are piled up together with fantastic literature, board games and games of strategy beside t-shirts, posters and other superhero-oriented marketing products. The latest to join this heterogeneous cultural family is the videogame.

One such shop displays, somewhere in between irony and pride, the welcome slogan: "Vicio y Subcultura" (Vice and Subculture). Beyond stigma or the "freak" label, a common characteristic exists between science fiction narrative and videogames which, in addition to helping understand the relationships between both genres, enables going into greater depth on the identity and the strange synergies that characterise this cultural amalgam. It is a question of the type of cognitive perspective that dominates the user's experience.

In traditional terms, the reader of narrative basically poses two types of question: questions concerning the creation of expectations of suspense (*"how will the plot unfold?"*) or questions linked to expectations of curiosity (*"what happened to the characters?, how did it all begin?"*)[i]. However, readers of science fiction, without ceasing to pose such questions, usually concentrate their attention on a different type of question: *"what is that world like, and how does it work?"*. The relationship between the player and the videogame, whether it is a science fiction or any other kind of game, is based on a very similar perspective. Again a central and often necessary question in order to be able to survive arises frequently as the game proceeds: *"what is that world like and how do its rules work?*

In an illustrative comparison, Brian McHale upholds that whereas the reading of a detective novel would remain in an *epistemological dominant*, associated with questions and expectations as to how to reconstruct or make sense of the plot, the reading of science fiction would focus rather on an *ontological dominant*, associated with questions and expectations as to how the narrative world operates functionally, as to its organicity[ii]. We consider that if something links the different genres of 'vice and subculture' it is precisely their proximity to the ontological dominant, their questioning as to

the ways of being of fiction. Ways that sketch a starting point of a narration that is detached from the linear, from a narration open to the game.

It is not necessary, not even useful, to establish a clear boundary between the epistemological and the ontological perspectives in the process of reading/gaming, as it is precisely from the point of view of the coexistence between the two dominants that the cognitive relationship between the reading of science fiction and the game experience in general can be analysed. In this context, the research question we seek to tackle in this article is: how is science fiction represented through the design of games and videogames?

Science fiction at play

Midway through the 1970s, just before a handful of young Hollywood directors turned their science fiction dreams into worldwide blockbusters (*Star Wars, Close Encounters of the Third Kind, Alien*) an underground movement burst onto the North American mass culture scene. Like a kind of ritual transmitted from garage to garage, the creation, the practice and the exchange of roleplaying games made its way into the back room of fiction narratives. Groups of readers, enthusiasts of fantasy and science, decided to systematise for the first time in a new game format a legacy that improvised theatre, board games and war miniatures had prolonged as pioneer experiences of interactive narrative. Manuals, rule books and campaign modules started to be published in increasingly large print runs. It was not long before pioneer games such as *Dungeons and Dragons* (1974) were joined by universes and science fiction oriented systems: *Traveller* (1977), *SpaceOpera* (1980), *BattleTech* (1984), *Cyberpunk* (1988)… The reader-player had arrived, and had come for good.

Both roleplaying games and videogames share the property of converting narrative into potential narrative[iii]. With regard to the previously defined ontological dominant, in roleplaying games the question as to *"how"* a certain game universe *"works"* emerges systematically from breaking down said universe into the formal structure of the work, spreading through narrative variables and playable elements. Rather than developing stories, if such systems of game share anything, it is their strategy of isolation of the components from any typical fiction (from the stage to the characters, through the

action or the atmosphere) to offer them to the player openly, as crude materials, and thus promote their re-elaboration into possible stories.

In each game session, those excerpts of story thread a tale in the form of games and campaigns. The breakdown of those segments is the main characteristic of role manuals right from their very structure: sections entitled 'Worlds', 'Equipment', 'Meetings', 'Drama systems', 'Attributes', 'Narration' and 'Character file' are repeated in the index of countless books. They are, therefore, pieces of a framework of potential narrative –an open script- around which each player moulds his or her character, as well as indispensable materials for narrative reification through the collaboration of the different players.

What role is played by science fiction in this structure of potential narrative? In his book on cybernetic identity, *Terminal Identity*, Scott Bukatman analyses the heart of contemporary science fiction from a dislocation between a real world –subject to spatial/temporal boundaries– and the worlds of science fiction, which question or dilute such limits[iv]. So far, all Bukatman does is affirm something that was already present in the contradictions and problems of identity of the characters of Wells, Bradbury and Asimov. But shortly afterwards, the author devises a radical twist by proposing that when traditional science fiction makes the leap to electronic space –where we can include the ludic space of the videogame- its function is inverted, going from auguring the dislocation of the self and scientific novelty, to giving cohesion and identity between the two: "*In one sense, science fiction can be said to provide the referential dimension absented from the new electronic space: the function of the genre, then, is to compensate for the loss of the human in the labyrinth of telematic culture by simply transforming it into an arena susceptible to human control*"[v].

In the contemporary world, in which cyberspace is a part of the day-to-day, interactive science fiction reinterprets the foundations of the genre: the every day nature of the journey through hyperspace or the table systematising the power of a superweapon abandon their status of 'anticipation' to become the mainstays necessary to limit and control fiction, since in it, electronic immersion, multiple identity and the rhizome, in themselves constitute a starting point. All is open, all is variable, born in the telematic maze and there will be a need for tables and the throwing of dice, stages and stellar maps, to turn the magma of potential science fiction into an established story.

If SF[vi] has been considered the genre of identity fractures *par excellence* (man and machine, man and the other, man and the being), its insertion in game narratives seems to transform it into a kind of spatial and temporal anchoring point, realistic in short, while our environment, our societies and our way of life become cyberspace. We believe that behind this paradox is hidden a little studied branch of fictional heritage, a branch that starts with the early table rolegames and reaches the universe of the videogame. Under this perspective we propose analysing two videogames which, in the wake of several rolegames, illustrate experiences of potential narrative that have arisen from science fiction.

In line with the studies carried out by authors like Jean Gattégno and Brian McHale, our analysis concentrates on two of the most fertile thematic spectra of SF literature: intergalactic conflict and the city-dystopia. Whereas the former brings together frictions around far off extraterrestrial worlds (space journeys, civilizations, planets), dystopian tradition deals with man and society's doubts regarding scientific and technical progress (pessimism concerning the future, technocratic societies)[vii]. If dystopia usually locates a questioning of morals and socio-political authority in large cities of the future, intergalactic conflict, on the other hand, is about narrations centred on the tale of adventures and heroic action (like the subgenre of *space-opera*). Our purpose is to examine these two branches of fictional heritage in the universe of the videogame, taking *Metroid Prime 3* and *Bioshock* as paradigms.

Intergalactic conflict: action-exploration in *Metroid Prime 3*

The so-called first person shooters (FPS), whose differentiating characteristic is action via the subjective view of a player/character, have been linked since their beginnings to narrative frameworks close to science fiction. Emblematic titles such as *Wolfenstein 3D* (1992), *Doom* (1993), *Quake* (1996) and *Duke Nukem 3D* (1996) were based on classic subthemes like humanoid mutation, gateways between worlds, the appearance of hostile monsters, extraterrestrials and research ships lost in space.

Initially using these arguments as an excuse to increase the ludic experience by means of a narrative undercurrent[viii], with the passage of time the genre will assimilate more complex fictional variants, both due to the inclusion of scenes and cinematographic videos, and improving the environment of

the game, concerning scenes, situations and aims set in the tradition of SF. Apart from the evolution itself of each title, if anything is common to this type of videogames it is how they sustain their fictions on fabrics close to the theme of intergalactic conflict, fusing the tradition of *space-opera* with the civilizatory air of great sagas such as *Foundation* and *Dune*.

In keeping with Gattégno and McHale's theoretical approach, the intergalactic universes that are present in this kind of videogame seesaw between dynamics of action and dynamics of exploration. Instead of tackling the condition of the subject (player) with regard to his fellows, with regard to his society or with regard to otherness, the experience of gameplaying focuses rather on a kind of adventurous day-to-dayness. Terms such as 'subsector', 'map of the planets' and 'hyperspace journey' cease to evoke the realities of others and become part of the every day[ix]. What in H. G. Wells's foundational narrative represented a confrontation of man with the impossible –of humanity with its limits- becomes the day-to-day for the player; thus, the scientific 'fracture' that sustains the fictions of *The Time Machine* and *The New Accelerator* is now a combination of buttons in the joystick, reiterated, almost automatically.

With a long record behind it, begun in 1986, the *Metroid* saga by Nintendo is considered the most veteran science fiction series in the history of the videogame. Dealing with the adventures of bounty hunter Samus Aran (first heroine of the medium) *Metroid* is set on the aforementioned tradition of intergalactic day-to-dayness.

From movement to free exploration

Based on a conflict between the Federation and Space Pirates, the different games in the series modulate on the contact between different colonies, races and stellar civilisations. Leaving aside the value of these narrative plots –by no means insignificant thanks to the plot links between the numerous versions of the game- we prefer to focus our attention on the way in which the ludic experience oscillates between dynamics of pure action and a progressive opening up to exploration, limiting our analysis to the last game of the saga: *Metroid Prime 3: Corruption* (Retro Studios, 2007) for Nintendo Wii.

One determining aspect that links this type of *shooter* with certain classics of the literature of anticipation is the pre-eminence of a subjective point of view in the first person. Far from narration in the past historic of *Foundation* and *Dune*, which would fit in better with strategy videogames such as *Starcraft* (1998), *Imperium Gallactica* (1997) and *Space Empires* (1993), the type of action in the first person of the *shooters* is related with the solitude of the narrator of works such as *The War of the Worlds* and *The Day of the Triffids*, as if the direct, traumatic testimony of the protagonists of a Wells or a Wyndham, echoed in the long paths of the player through the void of the digital scenes.

Through the emptying of the narration, the game is conducted from dynamics of trial, repetition and success[x] that favour the sensorial dimension of the adventure: the logic of this ludic experience leads the player to a ritual of frantic action in which arms are used, techno-scientific complexes are activated and there is fighting with aliens throughout spaceships and labyrinthine landscapes. Adrift, the player ends by assimilating the tissue of the action-movement (scenes of fights, frantic confrontation, shooting) and only 'awakens' right at the very limits of this drifting, before the possibility of exploration[xi].

The main interest of *Metroid P3* lies in its combination of realistic action and tridimensional view –along the lines of a typical FPS like *Halo*- with a unique exploration mechanism coming from the original editions of the game. It is a key point that the early *Metroid* (in its versions of 1986, 1991 and 1994) does not belong to the genre of FPSs, not even in their primitive modality. Far from the view in first person, the early games of the saga used the so-called lateral *scroll* in 2D, which we could define as an environment in which the player moves the character from left to right on a flat background and not in a 3D environment, in line with the first platform games. That characteristic in itself implies an extended relation with SF through the physical and kinetic properties of the environment, disassociating *Metroid P3* from the conventional *shooter*.

The physicity of lateral jumps and routes as well as the pre-eminence of the vertical axis of representation –in comparison with the tridimensional *perspectiva artificialis* of the FPSs- put the first *Metroid* in a hybrid enclave of spatial action and displacement in two dimensions (X-axis, Y-axis). This condition, adapted in *Metroid P3* via the movement sensors of the Nintendo Wii console, leads to a series of purely mechanical interactions with the scene: technical movements that using jumps, shots and defence suspend the player in constant kinetic activity, profoundly linked to space and its exploration[xii]. *Metroid P3* does not just combine this original experience in 2D with the subjective

vision of FPSs, but it reinvents the relationship of the player with space via the Wii controls, adding mobility and real physical actions to the control routines of most videogames.

While the frantic action of conventional FPSs takes place on the basis of combining buttons or keys, the space exploration of *Metroid P3* comes from the kinesis of objects, arms and scenes. What in the tradition of SF shapes speculations of war technology –from Wells's *The Land Ironclads* to the AT-AT of *Star Wars*- in the Wii controls becomes a journey to within the controls of the machine, to its materiality: a knob that is pressed, a valve that is flicked, and energy cell that is replaced... Therefore, we find ourselves before a substantial change in direction as regards the player's interaction with the spaces of fiction[xiii].

On the other hand, on the basis of the transformation of the character in the so-called *morphsphere* – a kind of mobile capsule – the player combines more or less conventional heroic action with moments of pure motor construction. These changes in the morphology of the character, in its body, generate an experience in which a jump, gravitational ellipsis or a corkscrew become interactive science fiction.

In this way, a variation of the so-called "scientific anchorage" emerges, which in the literature of anticipation constitutes the catalyst of the genre[xiv]. The technical descriptions, the research notes and the physical and mathematical formulae that led the scientific "leap" in the novel or in the story, are now explored and touched, played in short, by the user. The fact that the plot takes us to the scene of a futuristic mine ceases to be a mere aesthetic incentive, abandoning the statute of "set" to project the player to the direct control of the mining machinery. From experimentation as to the functioning of an industrial drill to the tactileness of the extracted materials.

The space-document: towards the narrative experience

Such sensorial inquiry, which despite the movement control limitations of Wii, opens the way to future developments, is completed during the game with the visual and narrative exploration of the environment. Samus Aran, avatar of the user, is equipped with a hypertechnological suit which makes her a sort of constantly evolving *cyborg*. In *Metroid P3,* in addition to the usual improvements

in weapons and defence comes some progress with the game visor (the way in which the player interacts with the space).

Like Wells's Martians, the heroin changes her abilities on the basis of implants and mutations: *"They have become brains that adopt different bodies, according to their needs"*[xv]. Together with an X-ray visor that enables seeing and modifying the inside of the machines –therefore the inside of space- and a remote control visor that enables the command of our spaceship (via orders such as 'land', 'bombard', 'crane', 'unload'), we find the main discovery of the *Metroid Prime* saga: the data scanner.

In *Foundation*, at the start of each chapter Isaac Asimov introduces an encyclopaedia-like entry which marks the rhythm of the story. Between metafiction, historical narration and scientific-technical document, these entries or definitions –extracted from a supposed Galactic Encyclopaedia- transport the reader to a fascinating dimension, that of psycho-historical determinism. That is exactly what the interactive mode of the scanner in *Metroid P3* offers: access to a whole series of parallel narrations of historical-scientific documentation that broaden the ludic dimension (press the scanner button) towards a narrative experience (finding out the story of that object of character).

They are short texts that introduce fractures and variations in linear time, mentioning stories of lost civilisations, races at war or top secret biotechnological research. The double dimension –ludic/narrative- of these stories opens the experience of game playing to a whole series of possible fictions. Fictions that can be consulted or ignored depending on whether the player stops at or goes past a zone, an enemy or a plant.

"The more we studied the connection between the hole and the planet, the clearer it became that it was the same as the researcher had been looking for. This world was attacking others, launching parts of itself across the cosmos. We had finally discovered the origin of meteorites"[xvi].

In *Metroid*, an excerpt like this, which could be taken from any science fiction tale, occupies the space of a possible fiction, an archive-document that the player can overlook, lost among an entanglement of irons. That condition of possibility -'overlook'-, its un-belonging to a predetermined plot, makes the data scanner a variable of potential narrative. During the journeys through the vast intergalactic geography of the game, the user can stop to study a machine (*The energy generated by the crankshaft is used to supply the nodules*), to analyse a bush (*The Spaikk plant is an autochthonous species characterised by its poisonous leaves*) or handling a corpse (*The soldier was*

impaled by a scythe of photon energy). But what is fascinating is that you can choose ' not to do so', ignore these possibilities of the narrative experience and just concentrate of killing Martians, remaining in the ludic dimension.

Although this idea of the space-document does not constitute an exclusive contribution by the scanner in *Metroid P3*, we consider that the Nintendo game offers a new dimension concerning the comparison of these geographical, digressive if you want, fictions, with the exploratory experience of the player, enabling the possibility of the apparition of a sort of roaming through the scenes of the fiction. Maps, holograms and memory capsules thus make up a silent journey through space, in the chronicle of its objects and textures[xvii].

Dystopian science fiction in *Bioshock*

Unlike the genre of intergalactic conflict, in the literary tradition of dystopian science fiction, conflict does not emerge between man and another race or extraterrestrial planet, but it is revealed fundamentally as a problem of man with himself. In the case of works such as *Brave New World* (A. Huxley), *1984* (G. Orwell) and *Fahrenheit 451* (R. Bradbury), in which the loss of individual freedom due to political causes, natural disasters and/or technological progress constitutes a recurring theme. This questioning forms the axis of signification of one of the last inheritors of the theme of the dystopian city in the world of the videogame: *Bioshock* (2K Games, 2007).

Bioshock is a videogame of the *shooter* genre which, from the interaction between the ludic and the narrative, reveals a story of a man called Jack who, following a plane crash, discovers Rapture: a utopian city in decline, submerged in the middle of the ocean. Andrew Ryan, its multimillionaire founder, controls the metropolis via a system of loud speakers and video screens. This propaganda combines the surveillance of Orwell's Big Brother with the cheerful advertisements on drugs of the stories of Philip K. Dick[xviii]. One of the messages that most repeatedly rings out in the streets of Rapture is as follows:

"Andrew Ryan asks you a simple question: are you a man or a slave?".

In *Bioshock*, this is not just the question asked by the founder of Rapture to his fellow citizens –to promote science and art free of ethical, political and commercial ties– but it is also the question the videogame itself poses the player: *Are you a free player or a slave player?* Each and every one of the details in the design of the game point, apparently, towards the former of the two alternatives: great freedom of interaction of the player… but only to subvert this ingenuous belief in the last section. This questioning of identity surfaces in *Bioshock* through the interrelationship between the ludic experience and the narrative experience.

Freedom-trap

While the ludic dimension of *Metroid Prime 3* suggested physical and sensorial digressions, separate from the main plot, *Bioshock* contrasts it to a hidden dystopian plot. In addition to the traditional mechanics of game playing of the *shooters*, based on the aim and the shots, *Bioshock* affects two factors especially: tactical action in the use of genetic augmentations (called plasmids) and exploratory action in missions to search for and collect objects. Both game mechanisms do not cease to be, as we shall see, 'illusions' of interactivity.

The great variety of genetic plasmids available in Rapture provides the player with a broad range of possibilities, which often enable avoiding direct confrontation with the enemy. Just by holding out a hand the player can move objects telepathically, cause fires, deactivate radars or manipulate his enemies' minds. In addition to knowing how to choose the most suitable firearm at each moment, the *Bioshock* player must know and dose the repertoire of these tactical resources. However, as usually happens in dystopian narrative, such a feeling of freedom involves a trap. The game demands the consumption of two types of drug in order to be able to use the plasmids: Adam, which empowers the body to be able to carry out genetic implants, and Eve, a "pay-per-use" substance.

At the present of the game, the city of Rapture is immersed in a civil war for the control the genetic drugs. During long exploratory missions –which accentuate the delusion of freedom- the player becomes lost in the vast, decadent scenes of the metropolis. In contrast with the chaos reining the streets, the official propaganda never stops issuing joyful commercial messages over the loudspeakers[xix].

From that opposition of illusory optimism and real crisis, *Bioshock* takes its player towards a questioning of the ludic experience –planning and use of genetic augmentations- based on indices of the fictional world –hiding the crisis using official propaganda. The game weaves a dual process: on the one hand it promotes an 'effect of freedom', but at the same time it insinuates a boycott on the narrative plane (deceit, propaganda, totalitarianism). In line with the literary tradition of dystopia, *Bioshock* corners the user with a fundamental interrogative: what lies behind that delusion of freedom?

The reconstruction of the dystopian city and the player-puppet

The possible replies to this question are presented in the game as of the two fundamental lines of narrative: on the one hand, the reconstruction on the past of the fictional world (Rapture) and, on the other, the discovery of the narration on the main character (Jack).

With regard to the reconstruction of the past of Rapture, the fictional world is designed as a puzzle with multiple variants. The player finds, across the city, numerous recordings with citizens' voice diaries (most of whom are dead following the onset of the crisis). Since these are not obligatory listening, these testimonies enable the player to make a personalised *collage* of the past of Rapture, choosing some recordings and leaving others, depending on what their title suggests. As happened with the data scammer in *Metroid*, this variable reconstruction of the past appears as an interactive experience oriented at narrativity. In *Bioshock*, this potential narrative deepens into the player's apparent influence on the development of the game[xx].

Along these same lines, the story of Jack in the *Rapture* of the present is not unique, rather it is variable, with two different endings according to the player's decisions. Some red-eyed girls –called 'Little Sisters'- start to appear in the city, who collect Adam, the drug needed in order to implant new plasmids. During the course of the game, the childlike appearance of these girl-mutants causes the player serious moral dilemma: he must decide whether to rescue them or whether to use them to his own benefit, stealing their drugs from them. Depending on that decision, on that ethical questioning, *Bioshock* offers two different endings. However, shortly before the end, all indices of apparent freedom subvert in a twist of the argument: the player had believed he was a 'man', able to choose, but deep down he was just a 'slave'.

This dystopian twist was prepared right from the early stages of the game, and brings about a re-reading after it unthreads. Following the plane crash, when the main character descends to the gates of Rapture, a man named Atlas contacts him via a radio transmitter: with his help, Jack could escape the city, but in exchange he must help him to rescue his family. From that moment Atlas becomes the player's guide, explaining each of the missions. These instructions always conclude with the same question: *"would you kindly?"*. The reiteration of this question, a metaphor of the ludic attitude, links up with the doubt as to the capacity to decide that is characteristic of the dystopian genre. At the same time *Bioshock* questions the interactive experience: what seemed possible was in the end narrative constriction.

In one scene towards the end, the player leads Jack to Andrew Ryan's secret room. The Big Brother of Rapture looks at us head on, fiction stops. Ryan warns –not the character but the actual player himself- who is behaving like a puppet, that he is not the master of his actions as he thinks. The voice of Atlas, via the radio transmitter, requests: *"Would you kindly head to Ryan's office and kill the son of a bitch?"*. At that time the player loses control of the character and the character kills Andrew Ryan: the delusion of freedom starts to crumble. This subversion of the interactive experience through a flagrant imposition of the argument –the player "does not play" the murder of Ryan- invites one to reconsider all of what has happened previously.

Following Ryan's death, the user discovers that Atlas is, deep down, another Big Brother, an old rival of Ryan's who had always wanted to knock him off of the throne of the city. The protagonist, the player, therefore, has been manipulated right from the start... from his birth. Then it is revealed that all of Jack's memories are false –including the plane crash- and that they were implanted by a team of scientists as part of a pre-conditioning process.

This type of narrative twist, in parallel with the final twist in the cinema, is relatively common, but its inclusion in *Bioshock* adds another dimension. What we have is a videogame that is critical of its own player. Criticism based on the warning that acting systematically without asking oneself "why?" could turn the player into something like a Pavlov's dog, conditioned to obeying and no more, to following the direction that the game designer desires each time a certain bell rings. In the case of *Bioshock*, the bell is revealed sarcastically: it is the question *"would you kindly…?"*.

The apparent freedom of interaction that the player is offered, in contrast with the lack of knowledge as to the strings that manipulate him from above, highlights his condition of player-puppet. All of this

does not cease to be an irony of the designers: the system questions the user, the narrative seems to constrain the ludic experience. A single scene shatters the whole supposed interactivity of the game. A recommendable experience for every player who wishes to encounter videogames that demand a certain critical reasoning and which evokes pessimism as to the future society and the questioning of identity of dystopian science fiction.

Conclusions

Throughout this article, we have adopted a certain perspective of analysis, using the concepts of ludic dimension and narrative dimension to include the whole of the experience of gameplay. Traditionally, in the theory of the videogame, the experience of game or *gameplay* is usually conceived as the interactivity coming from the rules of the game, subject to a certain intentionality of the player: problem solving. However, here we have adopted two dimensions in order to analyse this experience: on the one hand, the interactive experience aimed at solving problems, abstractly (ludic); on the other, the interactive experience aimed at discovering or reconstructing an underlying fictional world (narrative).

Analysis of the videogame via this division presents its advantages and setbacks. It can hinder a global vision of the experience of game playing but, on the other hand, becomes highly useful to detect significant internal relations in the design of the two spheres of interactive experience. In our case, such relations end up as the expression of certain generic features of science fiction.

Metroid P3, increasing the ludic dimension, draws the player to the material, physical and driving aspects of the scientific universe, separating them in some way from any strictly narrative plot. Half way between that sensorial digression and the traditional story, both *Metroid P3* and *Bioshock* explore the condition of possibility of interactive narrative, based on the data scanner and the voice diaries; such development emphasises the game environment exploration variables, since it subjects the content of fiction to the path chosen by the user. At the opposite extreme, the questioning of the freedom of the player brought about in *Bioshock* shows the extent to which the narrative dimension can shape the importance of the ludic experience.

On the other hand, including the multiple, variable nature of science fiction in a thematic taxonomy is not without its risks. In our bid to segment analysis into two categories –intergalactic conflict and city-dystopia- nuances and hybridations of special significance in contemporary narrative may be diluted. Such hybridations resound in both games: *Bioshock* can be spoken of as an action game from the point of view of the adventure subgenre and the *Metroid* saga from the dystopian mark of some of its plots. Nevertheless, if we deal with the internal structures of videogames, it becomes indisputable that the design of the game brings out the thematic heritage dealt with (intergalactic conflict in *Metroid,* dystopian future on *Bioshock*). The type of scientific day-to-day present in the former or the stress on critical pessimism in the latter are proof of this.

Rather than criticise or praise the findings of these videogames, this article seeks to glimpse the potential of the interactive medium to represent and interpret the universes of science fiction. To this end, we would like to direct the analysed concepts towards what we consider a fundamental feature of contemporary narrative: the abandonment of linear fiction in favour of open fictional systems. The notion of free 'system' results in a fundamental creative turn: from the construction of a story that projects a world in the reading process, we move to the planning of a fictional universe from which multiple possible stories unfold, via different game experiences. Both dimensions make up the nucleus of the interactive experience in role games and videogames. As becomes apparent from our

analysis, in the intersection between both creative perspectives –open narrative world / linear constriction- a possible future of contemporary narration is at stake.

The tensions between the creation of narrative systems and linear stories come for the most part from fantastic literature and science fiction. In some sense, it would be possible to consider the writers of science fiction as the first designers of videogames. Interactive narrative, therefore, inherits an essential creative dilemma: to imagine worlds as a pretext to tell stories or to imagine stories as a pretext to create worlds? As is natural, it is a non-existent opposition. In the contact between worlds and stories lies the launch pad of any potential fiction... the ancient problem.

I dare insinuate the following solution to this ancient problem: The Library is limitless and periodic. If an eternal voyager were to traverse it in any direction, he would find, after many centuries, that the same volumes are repeated in the same disorder (which, repeated, would constitute an order: Order itself). My solitude rejoices in this elegant hope.

J. L. Borges, *The Library of Babel*.

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NOTES

[i] Bordwell, D. *La narración en el cine de ficción* (1996: p. 37). Pérez, X. *El suspens cinematogràfic* (1999: p. 31).

[ii] *"Science fiction, like postmodernist fiction, is governed by the ontological dominant. Indeed, it is perhaps* the *ontological genre* par excellence*. We can think of science fiction as postmodernism's noncanonized or "low art" double, its sister-genre, in the same sense that the popular detective thriller is modernist fiction's sister-genre."* (McHale, 1987: p. 59).

[iii] *"Pen-and-paper roleplaying games, like computer games, are in their essence rule-based simulation "engines" that facilitate playful interaction. These similarities make it possible to take some theoretical concepts and notions developed for computer games and use them to study roleplaying games"* (Dormans, 2006: online: http://gamestudies.org/0601/articles/dormans).

[iv] *"As Delaney and deLauretis note, the process of reading science fiction* already *initiates a process of dislocation which resists the totalization of meaning, and this is redoubled in the thematic or phenomenal concern with spatial orientation and exploration. A new phenomeno-logic is required by the 'qualitatively new*

techno-logic' which we now inhabit, and science fiction has become a crucial cognitive tool" (Bukatman, 1993: p. 117).

[v] Bukatman, 1993: p.118.

[vi] From here onwards we will use the terms “science fiction” and “SF” indistinctly.

[vii] In his book *La science fiction* (1985: pp. 43-114), Jean Gattégno develops a classification of the major themes of science fiction literature based on three main groups: *"man and society "*, *"other worlds and extraterrestrials "* and *"time"*. In addition to the third category, devoted to variations in space-time –a category which Gattégno himself distinguishes as hybrid- the issues of 'man and society' and 'other worlds and extraterrestrials' result respectively in the concepts of fictional universe used in our analysis: the dystopian future and the intergalactic conflict.

[viii] As Rollings and Morris (2004: p. xxvii) warn, the author of a videogame not only designs its formal structure but also the player’s interactive experience. This latter concept is denominated *gameplay* in the theory of videogaming. Juul (2005: p. 83 and successive) conceives *gameplay* independently from the narrativity of the videogame, as an interactive experience fundamentally oriented at solving problems or challenges of the game. On the other hand, it is possible to contemplate an interactive experience oriented at the discovery or reconstruction of an underlying narrative world. Concerning the game as a ludic and narrative experience: Ruiz Collantes, X.: “Juegos y videojuegos: formas de vivencias narrativas”. In: *L’Homo videoludens*. Vic: Eumo editorial / Universitat de Vic, 2008. Based on these considerations, in our analysis we shall divide the player’s interactive experience into two fields: the ludic dimension and the narrative dimension.

[ix] The following excerpt of *Ender’s Game* offers an example of the change of viewpoint that characterises that day-to-dayness of intergalactic travel, through the questioning of the planet Earth as the centre of the fiction: *"He didn’t realise its significance then. Later he would recall, however, that it had been before leaving Earth that he had seen it for the first time as just another planet, not especially his".*(Scott Card, 2004: p. 16).

[x] *"This aesthetics of repetition is based on the sequence: first unfamiliarity and challenge, then* mastery*, and finally* automation*"*. On the importance of the repetition of ludic actions in the game experience see: Grodal, Torben "Stories for Eye, and Muscles: Video Games, Media and Embodied Experiences" in *The Video Game Theory Reader.* New York / London, Routledge, 2003.

[xi] That drifting of the player/reader is related with an idea of Bukatman concerning SF: *"Constant action and 'busyness' replace the gravity with grounds and orients the movement of the lived-body with a purely spectacular, kinetically exciting, and often dizzying, sense of bodily freedom (and freedom from the body"* (Bukatman, 1993, p. 108). Along the same lines, from the theory of the videogame: Poole S. *Trigger Happy* (2000, p. 24).

[xii] With regard to abstract space and the relation between visuality, representation and realism in the primitive videogame: Wolf, Mark J. P. "Abstraction in the Video Game". In: *The Video Game Theory Reader.* New York / London, Routledge, 2003.

[xiii] In addition to the tactile quality that characterises traditional controls and keyboards, the Nintendo Wii console poses the need to interpret the interactive experience based on a taxonomy of the motor actions of the player and of its repercussions in the construction of audiovisual imageries. With regard to this, of special interest are the similarities of this markedly physical play mode with the reflexological theories of Becherev, which, in the context of symbolic hermeneutics, provide the basis for the sense of the movements and actions of the hero: Durand, G. *Las estructuras antropológicas de lo imaginario.* Madrid: Taurus, 1982, and Bou, N., Pérez, X. *El tiempo del héroe: épica y masculinidad en el cine de Hollywood.* Barcelona: Paidós, 2000.

[xiv] In line with the so-called 'effects of reality' present in literary narrative, Jean Gattégno identifies scientific anchoring points –passages devoted to documental and technical explanation- such as the differential mark of science fiction, disassociating moreover the specificity of the genre in respect of fantastic literature: *"...where Poe* presents *the unfathomable mystery (for example, the appearance by death in* The Fall of the Usher House*), Julio Verne* explains *it: in* Le Château des Carpathes*, the phonograph and a primitive form of cinematograph dispel any belief in the appearances"*. (Gattégno, 1985, p. 13).

[xv] Wells, H. G. *The War of the Worlds.* Madrid: Alianza, 2005 (p. 169). Such body-machine interactions make up one of the most fertile nuclei of analysis of the theory of the videogame: *"Desire for a cybernetic relation with the computer –and the related desire to cross the boundary that separates our real from the computer's imaginary world [...] We may be toying with the body when we play, but we remain flesh as we become*

machines" (Lahti, M.; "As We Become Machines: Corporealized Pleasures in Video Games" in *The Videogame Theory Reader.* Routledge, New York, 2003. P. 169).

[xvi] This and the following excerpts belong to texts that appeared in the videogame itself (*Metroid Prime 3: Corruption*, Retro Studios, 2007).

[xvii] The novel *Ender's Game* touches upon the tension between ludic dimension and narrative dimension, via the relations of the protagonist with a series of videogames that regulate his/her process of intellectual development and his/her entertainment. Among the passages devoted to such games, the preference of the player is revealed for the digressive spaces of the fiction, by means of the boycott of the objectives marked after an opening to the exploration of the fictional space: *"None of the games looked interesting, but he played one anyway, an easy animated game designed for Launchies. Bored, he ignored the objectives of the game and used the little player-figure, a bear, to explore the animated scenery around him. "* (Scott-Card, 2004, p. 194)

[xviii] We find an interesting similarity between the reiteration of the messages of political propaganda in Orwell's city (*1984*) and the recurrence of advertising messages in the metropolis of Philip K. Dick (which head each of the chapters in *Ubik*). For example:

- *"Comrades! (...) the standard of living has risen by no less than 20 per cent over the past year. All over Oceania this morning there were irrepressible spontaneous demonstrations when workers marched out of factories and offices and paraded through the streets with banners voicing their gratitude to Big Brother for the new, happy life which his wise leadership has bestowed upon us. Here are some of the completed figures...."* (Orwell, 2004, p. 65).

- *"Instant Ubik has all the fresh flavor of just-brewed coffee. Your husband will say, Christ, Sally, I used to think your coffee was only so-so. But now, wow!'... Harmless if used as directed."* (K. Dick, 2000: p. 23).

In *Bioshock*, the loudspeaker system of Rapture alternates between both kinds of persuasive recurrent messages: the political propaganda of Andrew Ryan, the Big Brother of the city, and commercial advertising, especially with regard to genetic evolutions and mass consumption drugs.

[xix] *"What's the matter, Frank? / It's this thinning hair, Jim. Every day there's less and less. / You know, the problem's not in your hair, it's in your genes! / Hey, I don't go in for all that splicing stuff. My buddy says it's not safe... / Shows you what your buddy knows. Go over to Genetic Horizons for a trial of FreshHair. FreshHair not only gives you a full head of thick hair, but it's a hundred percent safe! / Full head of hair? And a hundred percent safe? Maybe it's time for me to get a little FreshHair!"* (Excerpt from the *Bioshock* videogame)

[xx] This variable *collage* lacking a fixed centre on Rapture is connected with the cyberspace of dystopian works such as *Neuromante*. As Bukatman (1993: p. 126) points out, the dissolution of temporal distances in cyberspace or electronic space involves a "decentring". This idea of decentred space is greatly present in the post-modern representation of the city, and especially, according to Bukatman, in dystopian visions of the city of contemporary science fiction.