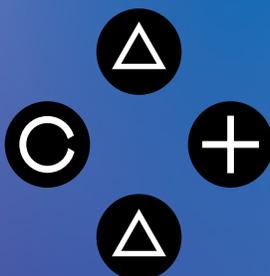




Acta Ludologica

Faculty of Mass Media Communication



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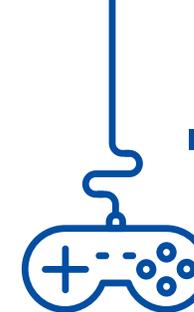
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Acta Ludologica is a scientific journal in the field of digital games. The journal contains professional scientific reflections on digital games; it also offers academic discourses on games, especially media and digital competencies, creation, design, marketing, research, development, psychology, sociology, history and the future of digital games and game studies.

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Play Tools and Technology

I happened to experience working on development projects of video game consoles. I never expected that the video game console we developed would create a new video game culture around the world. Thinking back, I believe there were two factors related deeply to the creation of this new culture. The first one is the fact that the TV set was already used for video games consoles at the time. I believe that using TV sets that had only been used for receiving TV broadcasts to play video games just by connecting the video game consoles to TV created a significant change in this industry. In Japan, those video game consoles were named "TV game consoles" as they can be played with a TV. I think that by connecting the play tool that were not considered very valuable in life to TV sets, TV games acquired new status as play tools.

The second one is the development of mass production technology for digital semiconductors.

Video game consoles are developed using the technology that displays the calculation result of the digital computer as a base. The fact that they succeeded in developing display technology that allows users to control displays without being stressed is very important. When the video game console was developed, the digital computer industry was expanding fast, and calculation results were required to be displayed as numbers or static images. As a result, image display technology was able to function with comparatively simple circuitry. However, it was very difficult to develop a compact, affordable video game console with image display technology that requires complex electrical circuits. What solved this issue was the mass production of digital semiconductors. By adopting LSI, the latest semiconductor technology existing at the time that was created following the popularity of digital application products such as calculators and PCs, they succeeded in lowering the price of video game consoles to an acceptable level.

As a result, it allowed video game culture to

develop and to become one of the most important factors of its success in world business.

Looking back at the history of play tools, you can find many histories similar to that of the video game console as explained above. For example, the mass production of tin plate that came about during the industrial revolution created many play tools with tin plate around Germany. Until that time, play tools such as dolls and vehicles were mainly wooden hand-made products so they were not something everyone could purchase. However when the mass production of tin plate began, it became possible to process tin plates in various shapes just by pressing tin plate to a mold, so the price of the play tools was lowered to the level where many people could purchase them. Furthermore, the mass production of the special metal part - the "spring" - made it possible to create play tools that could move by themselves.

Play tools are not essential in our lives. Also, play tools are mainly purchased by children. So play tools are always expected to have new features whilst maintaining a price level that is affordable for adults to purchase for their children. Stones and seeds that can be found in the park can also be used to play. However in order to mass-produce play tools that are more enjoyable than stones and seeds, play tools always had to adopt the latest technology at the time.

Looking at it more deeply, there may be more important factors that create new play tools regardless of the times. Namely, the unchanged passion humans have for pursuing fun and interesting things. I think this passion is the same sort as those that supported the development of science and technology in various fields.

Masayuki Uemura
Professor at Kinugasa Research
Organization, Ritsumeikan University

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Games and Utopia

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Dr Michał Kłosiński, assistant professor at The Faculty of Philology, University of Silesia. An active member of: Utopian Studies Society and The Society for Utopian Studies, during his doctoral studies he received a research grant from The National Science Centre and participated in the Paris Program in Critical Theory. He published various articles on Polish literature, literary theory, video games and utopias in: „International Journal of Baudrillard Studies”, „Teksty Drugie”, „Pamiętnik Literacki”, „Wielogłos”, „FA-art”, „Świat i Słowo”, „Śląskie Studia Polonistyczne”. He is the author of: Świat pęknięty. O poemach naiwnych Czesława Miłosza [Broken World. On „World. Naive poem” by Czesław Miłosz] (Warsaw 2013) and Ratunkiem jest tylko poezja Baudrillard – Teoria – Literatura [Only poetry can save us. Baudrillard – Theory – Literature] (Warsaw 2015). He also co-edited More After More. Essays Commemorating the Five-Hundredth Anniversary of Thomas More’s Utopia (2016 with Ksenia Olkusz and Krzysztof M. Maj) and Ekonomiczne teorie literatury [Economic theories of literature] (with Paweł Tomczok). He is currently working on a book about literary and philosophical critique of video games in the context of utopianism.

ABSTRACT:

The main theme of my article is the relationship between virtual worlds of video games and the concept of utopia. I aim to present a wide variety of different definitions and theories of utopia, which seem indispensable in order to further the relationship between video game and virtual reality research and the multitude of utopian studies discourses. The thesis starts with a short recollection of Alexander Galloway’s thesis on video games and utopias from his article on World of Warcraft which I am trying to supplement with some of the most interesting contemporary utopian studies research. The core of the article focuses on sketching an alternative proposal which includes a variety of definitions of utopia and utopianism. My aim is to introduce precise and useful notions which could be further utilized in game analysis and game research.

KEY WORDS:

digital games, game studies, magic circle, utopia, utopian studies, utopianism, video games.

Introduction

One of the first articles about the problematics of utopia and video games is *Warcraft and Utopia* written by Alexander Galloway. In his study we can find some interesting research findings: “An argument can be made that all video games are, at a certain level, utopian projects, simply because all video games create worlds in which certain laws are simulated and certain other laws are no longer simulated. The freedom to selectively simulate, then, operates in a video game as the most important scaffolding for utopia. Further, multiplayer games instantiate (both materially and interpersonally) a utopian space in ways not seen in previous media, for the diegetic world itself is larger than the imaginative plane of any given player [...]”¹ “[...] virtual worlds are always in some basic way the expression of utopian desire, and in doing so they present the very impossibility of imagining utopia; this is not simply a kneejerk ontological paradox, that code utopias, being immaterial, formal, and virtual, are by definition not »real,« but that the very act of creating an immaterial utopian space at the same time inscribes a whole vocabulary of algorithmic coding into the plane of imagination that thereby undoes the play of utopia in the first place.”²

Galloway constructs his reflection by relating to Fredric Jameson, who – after Ernst Bloch, assumes a twofold understanding of utopia: as a program and as an impulse. A program can be found in any systemic form of utopia: a detailed description of a city, society, a revolutionary political practice, intentional community or projects of total city spaces.³ Whereas an impulse can be seen in such forms as: political theory, reform, a singular building or allegories of collectivity, time and body.⁴ Bloch’s project is a hermeneutic

1 GALLOWAY, A. R.: *Warcraft and Utopia*. In *Ctheory*, 2006, Vol. 2, No. 16. [online]. [2018-03-25]. Available at: <<https://journals.uvic.ca/index.php/ctheory/article/view/14501/5342>>.

2 Ibidem, p. 6.

3 JAMESON, F.: *Archaeologies of the Future The Desire Called Utopia and Other Science Fictions*. London: Verso, 2005, p. 2-5.

4 Ibidem, p. 5-7.

one, and as such, it focuses on interpreting elements and figures, which express desires in various media.⁵ Thus, by following Jameson and Bloch, Galloway points to one of the most important aspects of the contemporary utopian theory linked with its Marxist roots, which in brief can be defined as searching for alternatives to the social, economic and political ideology of late capitalism or neoliberalism. This view has also been reinforced in an article on the critical power of virtual dystopias written by Marcus Schulzke, who wrote that: "Despite the many benefits virtual worlds may offer their users, they also recreate real-world problems, and this further detracts from virtual worlds' prospects as critical utopias."⁶ Schulzke's view is different than Galloway's in that it focuses on the critical potential of virtual utopias, but he also seems to only focus on these worlds which "challenge the status quo"⁷ of real world problems. By doing so Schulzke seems to miss the point of Bloch's reading of utopian impulse as a simple but powerful expression of a dream about an alternative. My point is to present a broader view on utopianism in video games and virtual worlds as I do not believe the lack of explicit critical orientation makes a specific utopian vision less productive or lowers its potential in producing an alternative, hope or desire. The second quotation shows that Galloway's intention is to present the immaterial utopia of the virtual world as a project doomed to failure, as it subjects the imaginary space of social desires to formal totality of the code. Therefore, he says that no virtual utopia will ever be able to create an alternative to neoliberalism, because it is based on the same totality of the code⁸ which lies at the heart of the mechanisms of financial capitalism.

On one hand, Galloway is correct in saying that virtual utopias of video games uncover the very impossibility of imagining utopia. On the other hand, he seems to ignore the most important aspect of utopian hermeneutics by focusing on criticizing the total program underlying utopia. By saying that every game can be understood as a utopian project just because it depicts a world in which certain laws and rules are simulated and certain are not, Galloway reaches the level of generalization at which posing the question about the utopianism of video games is no longer valid or constructive. It seems necessary to modify his position in order to depict how video game research can benefit from utopian theory and vice versa.

Definitions of utopia

It might prove useful to contrast Galloway's reflection about utopia with one of the most well-known presentations of different definitions of the genre proposed by the founding father of contemporary utopian studies, Lyman Tower Sargent (see Table 1).

Table 1: Sargent's definitions of utopian studies terms

Term	Definition
Utopianism	social dreaming
Utopia	a non-existent society described in considerable detail and normally located in time and space.

5 BLOCH, E.: *The Principle of Hope. Volume 2*. Cambridge, MA : The MIT Press, 1995, p. 794-834.

6 SCHULZKE, M.: The Critical Power of Virtual Dystopias. In *Games and Culture*, 2014, Vol. 9, No. 5, p. 7.

7 Ibidem, p. 8.

8 LAZZARATO, M.: *Signs and machines. Capitalism and the production of subjectivity*. London : Semiotext(e), 2014, p. 40-41.

Eutopia or positive Utopia	a non-existent society described in considerable detail and normally located in time and space that the author intended a contemporaneous reader to view as considerably better than the society in which that reader lives.
Dystopia or negative Utopia	a non-existent society described in considerable detail and normally located in time and space that the author intended a contemporaneous reader to view as considerably worse than the society in which that reader lives.
Utopian satire	a non-existent society described in considerable detail and normally located in time and space that the author intended a contemporaneous reader to view as a criticism of that contemporary society.
Anti-utopia	a non-existent society described in considerable detail and normally located in time and space that the author intended a contemporaneous reader to view as a criticism of utopianism or of some particular eutopia.
Critical Utopia	a non-existent society described in considerable detail and normally located in time and space that the author intended a contemporaneous reader to view as better than contemporary society but with difficult problems that the described society may or may not be able to solve and which takes a critical view of the Utopian genre.

Source: SARGENT, L. T.: *The Three Faces of Utopianism Revisited*. In *Utopian Studies*, 1994, Vol. 5, No. 1, p. 9.

To begin with, the notion of utopianism can be utilized in video game analysis in its current form as it seems to be universally applicable to all media specific forms. Utopianism concerns game developers, players and virtual worlds as it questions and problematizes the expression of specific social desires and their realization in video games. Moreover, Sargent's definitions show a discursive difference between Galloway's reflection and theoretical proposals of *utopian studies* researchers. For example, in the first quote Galloway mistakes utopia with allotopia (another place),⁹ as he ignores the fact, that creation of another world does not make that world a utopia. This distinction allows us to put forward a thesis that virtual worlds are allotopias at large, but only some of them can be characterized as utopian in view of their social dimension. Sargent's list of definitions has to be modified, as it focuses on literary utopias and the triadic relationship between the author, the non-existent society, and the reader. In order for these to depict the problematic nature of video games we have to replace the concept of the author with the notion of the producer, as we no longer have to deal with a singular intention, but with teamwork and a more complex development process. The second, obvious conversion concerns the reader, which has to be replaced by the player, thus bringing to the utopian problematic questions about the agency, control, ability to influence the shape of the social relations etc. With just these two small changes we get a slightly updated list of utopian definitions (see Table 2).

Table 2: Updated list of utopian terms definitions

Term	Definition
Utopianism	social dreaming
Utopia	a non-existent society described in considerable detail and normally located in time and space

9 MAJ, K. M.: *Allotopie. Topografie światów fikcyjnych*. Kraków : Universitas, 2015, p. 35.

Eutopia or positive Utopia	a non-existent society described in considerable detail and normally located in time and space that the producer/developer intended a contemporaneous player to view as considerably better than the society in which that player lives
Dystopia or negative Utopia	a non-existent society described in considerable detail and normally located in time and space that the producer/developer intended a contemporaneous player to view as considerably worse than the society in which that player lives
Utopian satire	a non-existent society described in considerable detail and normally located in time and space that the producer/developer intended a contemporaneous player to view as a criticism of that contemporary society
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Critical Utopia	a non-existent society described in considerable detail and normally located in time and space that the producer/developer intended a contemporaneous player to view as better than contemporary society but with difficult problems that the described society may or may not be able to solve and which takes a critical view of the Utopian genre

Source: own processing

It becomes clear that in order to speak about utopia in a video game it is necessary to question whether it depicts or describes a non-existent society and locates it in time and space, but also – whether the structure and shape of this society can be changed by the player. In this sense, games such as *Counter-Strike: Global Offensive*¹⁰ or *League of Legends*¹¹ do not meet the basic condition of utopian fiction, as they are devoid of detailed depictions of society and the player is not invested in social problems. Quite contrary, games such as *Deus Ex: Human Revolution*,¹² *SimCity 5*¹³ or *The Witcher 3*¹⁴ are not only presenting different worlds, but with their detailed depiction of non-existent social structure, they can be further analyzed from the utopian perspective, which is strictly linked with the players evaluation of society represented in game: is it better or worse, it is a critique of the contemporary society he or she knows; does it attack a specific utopian vision or play with the genre by questioning its basic assumptions? Furthermore, video games constitute a substantial innovation in classical utopian studies, as their producers offer the players a meaningful way of reshaping the non-existent society in the virtual world. The potential to problematize certain utopian questions has already been proven in various interpretations of games such as *BioShock*,¹⁵ *Dishonored*¹⁶ and *Deus Ex: Human Revolution*. Those games would perfectly fit the category of critical utopia or dystopia, as they clearly confront the players with utopian reflection and questions about the shape of a good society.

10 VALVE CORPORATION, HIDDEN PATH ENTERTAINMENT: *Counter-Strike: Global Offensive (computer version)*. [digital game]. Bellevue, WA : Valve Corporation, 2017.
11 RIOT GAMES: *League of Legends (computer version)*. [digital game]. Los Angeles, CA : Riot Games, 2017.
12 IDOS MONTREAL: *Deus Ex: Human Revolution (computer version)*. [digital game]. Tokyo : Square Enix, 2011.
13 MAXIS: *SimCity 5 (computer version)*. [digital game]. Redwood City, CA : Electronic Arts, 2013.
14 CD PROJEKT RED: *The Witcher 3: Wild Hunt (computer version)*. [digital game]. Warszawa : CD Projekt Red, 2015.
15 2K BOSTON: *BioShock (computer version)*. [digital game]. Novato, CA : 2K Games, 2007.
16 ARKANE STUDIOS: *Dishonored (computer version)*. [digital game]. Rockville, MA : Bethesda Softworks, 2012.

The structural definitions proposed by Sargent are not the only way of looking at the problem of utopia in video games. In his work, Galloway related to Jameson, whose theory offers a new perspective and poses different research questions. The innovation here lies in Bloch's utopian hermeneutics, which focuses not on specific programs (described by Sargent), but singular, mostly allegorical elements in which utopian desires are expressed¹⁷ – in this particular case in video games, in *game studies* theory and specific ludic problems. Therefore, Jameson allows us to understand, that even research perspectives and notions such as: Janet Murray's immersion,¹⁸ Gordon Calleja's incorporation,¹⁹ Gonzalo Frasca's games of the oppressed²⁰ or Edvard Castronova's synthetic worlds²¹ theory, that these concepts may be interpreted as expressions of utopian impulse about the ontological status of the player and virtual worlds. Searching for utopian impulse does not mean rejecting Sargent's definitions, on the contrary, it is very useful in supplementing the social critique of programs with questions about such elements as, for example: the system of upgrading the characters in video games, which can be treated as an allegory of bodily and temporal imagination inscribed in games and realized by the players. Utopian impulse would thus be visible in various representations and mechanics used in character creation, for example in the augment system presented in *Deus Ex: Human Revolution*, or in the game items – such as the steampunk heart allowed to hear the citizen's emotions and pain in *Dishonored*. These examples show that the problem of utopian impulse in video games is also dependent on the way the players utilize specific gameplay mechanics, as we could speak about realizing utopian impulse when one decides to finish *Deus Ex: Human Revolution* or *Dishonored* in a non-lethal way.

Three modes of utopia by Ruth Levitas

One of the most interesting approaches to the problem of utopia, which again relates to Bloch is Ruth Levitas's IROS project. In her book *Utopia as method. The Imaginary Reconstitution of Society* she differentiates three entangled modes of utopia understood: as ontology, archeology and architecture²². Before we go into a detailed description of these three modes, it might be useful to recollect some of the useful insights Levitas gives in her understanding of utopia: "[...] utopia does not require the imaginative construction of whole other worlds. It occurs as an embedded element in a wide range of human practice and culture – in the individual and collective creative practices of art as well as in its reproduction and consumption".²³

In a nutshell, Levitas shows that the notion of utopia, and precisely – utopianism – is not limited to construction of "whole other worlds" (or allotopias), but that it can be defined as an individual or collective social practice, and that we can search for utopias in

17 BLOCH, E.: *The Principle of Hope. Volume 1*. Cambridge, MA : The MIT Press, 1995, p. 144-150.
18 For more information, see: MURRAY, J.: *Hamlet on the Holodeck: The Future of Narrative in Cyberspace*. Cambridge : The MIT Press, 1997.
19 CALLEJA, G.: *In-Game. From Immersion to Incorporation*. London : The MIT Press, 2011, p. 168-170.
20 FRASCA, G.: Rethinking agency and immersion: video games as a means of consciousness-raising. In *Digital Creativity*, 2004, Vol. 12, No. 3, p. 167-169.
21 CASTRONOVA, E.: *Synthetic worlds. The business and culture of online games*. Chicago, London : The University of Chicago Press, 2005, p. 148.
22 LEVITAS, R.: *Utopia as Method. The Imaginary Reconstitution of Society*. London : Palgrave Macmillan, 2013, p. 183.
23 Ibidem, p. 5.

each and every culture, as utopianism is the very sense of longing and the desire of fulfillment.²⁴ It might be interesting to show that Levitas's definition can be supplemented with Johan Huizinga's observation that play is crucial for culture formation: "The view we take in the following pages is that culture arises in the form of play, that it is played from the very beginning".²⁵ From this perspective, researching relations between the concept of the magic circle and utopia is strictly linked with (utopian) hermeneutics of video games, which sees utopian impulse in social practices such as production, reproduction and consumption of virtuality. Moreover, Levitas stresses that contemporary culture is saturated with non-allotopian utopianism, which brings us to the very concept of the magic circle, as it is a space organized collectively or individually in order to play. Huizinga writes: "The turf, the tennis-court, the chessboard and pavement-hopsotch cannot formally be distinguished from the temple or the magic circle. The striking similarity between sacrificial rites all over the earth must be rooted in a very fundamental, an aboriginal layer of the human mind."²⁶ In the wake of Huizinga's definition, it is crucial to ask in what sense video game virtuality delimits a field of utopian desire and longing – a magic circle. If contemporary culture is saturated with utopianism than we should ask to what extent video games contribute to this process, in what sense they express longing and desire for fulfillment projected by our culture, and to what measure desire and longing describe us as their subjects. When analyzing video games we are entitled to utilize utopian hermeneutics or utopian method (as Levitas calls it) to constantly ask ourselves about our desires and our sense of lack and longing.

The crucial point of Levitas's thinking about utopia as an imaginary reconstitution of society (IROS) is the differentiation of three entangled modes of utopia: as ontology, archeology and architecture.²⁷ Levitas stresses that utopia always takes the issue of human nature and existence. In this ontological mode utopia is a method of analysis of the human condition, law, ethics, relationship with the other etc. This aspect of utopian ontology can be seen in the problems of change, transformation as well as in the establishment of rules for players and their relationships with others. Here, the question of utopian ontology relates to the understanding of the concept of the magic circle proposed by Jakko Stenros and Arlete dos Santos Petry as a metaphor,²⁸ social contract²⁹ or liminal experience,³⁰ in short – a mechanism delimiting the virtual space for this ontological laboratory – both for game developers and for players. Analysis of video games in this perspective is linked with inquiring if – and consequently – how video games produce a new utopian ontology and what is the vision of human being and its nature that they project and work through? In this sense designing moral choices in rich story games such as *Tyranny*,³¹ *Fallout 4*,³² *Deus Ex: Human Revolution*, *Dishonored* or *The Elder Scrolls V: Skyrim*³³ constitutes an ideal field of study of how video games present the possibilities proper to the human being seen as an individual performing choices which are subjected to ethical and moral evaluation. Furthermore, the aforementioned games evaluate the player's choices according to a strict

24 Ibidem.

25 HUIZINGA, J.: *Homo Ludens. A Study of the Play-Element in Culture*. London : Routledge, 1980, p. 46.

26 HUIZINGA, J.: *Homo Ludens. A Study of the Play-Element in Culture*. London : Routledge, 1980, p. 20.

27 LEVITAS, R.: *Utopia as Method. The Imaginary Reconstitution of Society*. London : Palgrave Macmillan, 2013, p. 183.

28 DOS SANTOS PETRY, A.: The concept of magic circle: a critical reading. In *Obra Digital*, 2013, Vol. 3, No. 5, p. 39.

29 Ibidem, p. 43.

30 Ibidem, p. 45.

31 OBSIDIAN ENTERTAINMENT: *Tyranny (computer version)*. [digital game]. Stockholm : Paradox Interactive, 2016.

32 BETHESDA GAME STUDIOS: *Fallout 4 (computer version)*. [digital game]. Rockville, MA : Bethesda Softworks, 2015.

33 BETHESDA GAME STUDIOS: *The Elder Scrolls V: Skyrim (computer version)*. [digital game]. Rockville, MD : Bethesda Softworks, 2011.

axiom of good and evil linked with a mechanics attributing value to actions in the game, which are in turn rewarded or punished (such is the role of: karma system in *Fallout*, loyalty in *Tyranny* or humanitarianism in *Dishonored* and *Deus Ex: Human Revolution*). This specific aspect of story rich games has been described by Rafał Kochanowicz as "a play with values".³⁴ This Polish researcher shows that the moral dimension becomes the subject of gameplay in many contemporary titles, which allows us to see in them – in Levitas's terms – greater complexity of utopian ontological problems and reflection about human nature.

Two remaining modes of utopia are archeology and architecture. Levitas writes that: "Utopia as archeology entails the imaginary reconstitution of the models of the good society underpinning policy, politics and culture, exposing them to scrutiny and critique".³⁵ The researcher sheds some light on a very significant aspect of utopia, also stressed in the title of Fredric Jameson's book, namely the drive to the archeology of the future, which in the case of video game and magic circle problems concerns especially the critical reading of various social models inscribed in them and construed with their help. Utopian archeology is possible only when one clearly delimits what spaces and places inside magical circles can be characterized as utopian models built upon contemporary legal, political and social arrangements. It is thus vital to see that utopian archeology will concern both the virtual space inside a magical circle, in example a city built in *SimCity*, a model of society presented in *Deus Ex: Human Revolution*, but also a characteristic discourse used to describe video games as places utilized to create utopias. or when the utopian discourse describes the very character of gameplay, like in *Fallout 4* in which the advertisement states that: "As the sole survivor of Vault 111, you enter a world destroyed by nuclear war. Only you can determine the fate of the Wasteland".³⁶ The key factor for utopian archeology is its critical approach, which is why every hermeneutical reconstruction of a good society has to be supplemented by the hermeneutics of suspicion. Levitas writes that the idea of archeology is always the venture point for thinking about alternative projects, and that is precisely why she says that contemporary utopian archeology is the archeology of capitalism.³⁷ This perspective allows us to treat magical circle and virtuality as a space for thinking about historical transformations of imaginary and discourses about good society. Thus the magic circle can be seen as a utopian space *per se*, like in Bernard Suit's vision presented in *The Grasshopper: Games, Life and Utopia*, in which he argues that playing games is a condition sine qua non for Utopia.³⁸ The last mode of utopia described by Levitas is architecture, she writes: "Utopia as architecture is its culturally most familiar mode: imagining a reconstructed world and describing its social institutions. This is the terrain of utopian fiction. It is also the mode anti-utopians like best, keeping the possibility of living differently safely bound between book covers."³⁹

Utopian architecture is closely related to video games as long as the magic circle delimits a space for thinking about rebuilding the world and reorganizing the social institutions that function within this world. It should not escape our attention that Levitas stresses their detailed description as a very important element of utopian fiction. Researching video games from this perspective entails posing questions about the shape and function of specific social institutions depicted in them, for example: the vision of media in *Deus*

34 KOCHANOWICZ, R.: *Fabularyzowane gry komputerowe w przestrzeni humanistycznej. Analizy, interpretacje i wnioski z pogranicza poetyki, aksjologii, dydaktyki literatury*. Poznań : Wydawnictwo Naukowe UAM, 2014, p. 128-129.

35 LEVITAS, R.: *Utopia as Method. The Imaginary Reconstitution of Society*. London : Palgrave Macmillan, 2013, p. 154.

36 *Official Fallout Homepage*. [online]. [2018-03-26]. Available at: <<https://fallout.bethesda.net/>>.

37 LEVITAS, R.: *Utopia as Method. The Imaginary Reconstitution of Society*. London : Palgrave Macmillan, 2013, p. 183.

38 SUITS, B.: *The Grasshopper: Games, Life and Utopia*. Peterborough : Broadview Press, 2005, p. 149-160.

39 Ibidem, p. 197.

Ex: Human Revolution, representation of public facilities in SimCity 5 or the character of social institutions of the utopian city⁴⁰ of Columbia in *Bioshock Infinite*.⁴¹ It should not be forgotten that video games and virtual worlds can themselves be seen as utopian spaces. This fact has been noted by Edward Castronova in his characteristic of institutions and laws governing synthetic worlds⁴² coupled with analysis of their functioning as alternative worlds precisely because they are spaces of pleasure and play. Video games offer all three elements which Levitas sees as crucial in thinking about utopia: a critique of social reality as such – utopian archeology; almost infinite potential for designing alternative social, political and economic order – utopian architecture; and a re-definition of being human, ethics and morality – utopian ontology. Video game virtuality thus seems a utopian project by the very structure of its design although the tool itself can be utilized to create games about dystopias, anti-utopias, critical utopias, or any other form or allotopia. What I am trying to emphasize here is the utopianism of video game virtuality and not a critique of its byproducts.

Video games also constitute something unseen before in utopian film, literature or architecture. They are laboratories which allow us to simulate consequences of different social, political and economic policies in real time. Schulzke writes: "Games can constrain players' choices in ways that force players to take certain actions in order to progress through the narrative. When the constraints that structure a game are closely related to the problems the dystopia is designed to express, then those mechanics can draw players into the underlying logic that governs the dystopian world and cause players to become participants in creating dystopia."⁴³ This makes video games not only a tool for social dreaming, but also a tool of changing outcomes and seeing the evolution of utopian (or dystopian) desire. Edward Castronova in his works pointed to the fact, that virtual reality is already being used as a tool for creating alternative social order, policies, laws and economy which slowly influences society outside of virtuality. This movement towards change via virtual reality is both a manifestation of escapism, and a struggle to find an alternative to our contemporary societal problems. This only shows that social dreaming and utopian impulse have found a very interesting bio-political sphere in which millions of people constantly redefine what it means to live in a good society, how this society should work and compare their utopian desires with the current state of affairs. Video games are thus not only a laboratory, but a very strong facility for the education of social, political and economic desires both in virtual game-spaces and in Second Life, which in turn creates a dialectic of reality and virtuality leading to revolutionary changes in social structure.

40 See also: PÉREZ-LATORREL, O., OLIVA, M.: Video Games, Dystopia, and Neoliberalism: The Case of BioShock Infinite. In *Games and Culture*, 2017, Vol. 12, No. 6. [online]. [2018-03-26]. Available at: <<https://doi.org/10.1177/1555412017727226>>.

41 IRRATIONAL GAMES: *Bioshock Infinite (computer version)*. [digital game]. Novato, CA : 2K Games, 2013.

42 CASTRONOVA, E.: *Synthetic worlds. The business and culture of online games*. Chicago, London : The University of Chicago Press, 2005, p. 262.

43 SCHULZKE, M.: The Critical Power of Virtual Dystopias. In *Games and Culture*, 2014, Vol. 9, No. 5, p. 13-14.

Conclusion

Utopian studies approach is presented in a very rough way in this paper, barely sketches some research problems for analysis and interpretation of video games. On the one hand it is crucial to rethink the very basic question of the relation between utopian representations of society in games and the affordances given to players, who might be able to reshape the social institutions, norms and laws governing virtual worlds. The notions used in video game studies discourse allow us to broaden the variety of utopian problems by questioning the role and character of specific game structures and mechanics which engage players in reflection about the shape of politics, economy and value systems in video games. These structural approaches allow for a better characterization of social representations in the context of existing utopian genres. Whereas poststructural and hermeneutic utopian theories focus on showing that games offer a completely new way of presenting both utopian programs and impulses or allegories which express social desires. Three modes of utopia taken from Ruth Levitas make us realize that the problems of utopian ontology, architecture and archeology may be analyzed as constitutive elements of certain video games. By linking the reflection from both utopian and game studies both disciplines can greatly enrich not only their research material but also the methods and perspectives of media specific analysis and interpretation.

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VALVE CORPORATION, HIDDEN PATH ENTERTAINMENT: *Counter-Strike: Global Offensive (computer version)*. [digital game]. Bellevue, WA : Valve Corporation, 2017.



Towards a (Ludic) Resonant and Sensory Environment: Space, Music and Locative Gaming

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ABSTRACT:

This paper discusses the relationship between locative games and music, using as reference the notions of sound space, acoustic space, and soundscape. The locative game genre reflects the opposite side considering the video game format: in this case, the action leaks from screens and consoles to the urban space with the use of locative media, turning the city into support for the actions of the players. Our hypothesis argues that by using music and other sound features (sounds, effects and so on), the locative game can create a resonant sensory environment caused by music and sound signals that are impregnated in the region. As a methodology, we analysed the locative game GPS Musical Crosswords Puzzle from these concepts – sound space, acoustic space, and soundscape – to show how they can be designed from the experience of locative games.

KEY WORDS:

locative games, music, place, sensorial environment, space.

Initial approach

GPS Musical Crosswords Puzzle (GPSMCP) is a locative game based in Petrolina, Brazil. It is available for Android and iOS systems. The game uses the regional culture from the Northeast of Brazil, especially the songs, as a resource for the design of puzzles and game mechanics. Sensitive Cities Lab (LabCEUS), Federal University of Pernambuco, Federal University of Recôncavo Baiano and the State University of Bahia supported this project in 2015, with funding resources from the Brazilian Ministry of Culture. This paper describes the case of GPS Musical Crosswords Puzzle, focusing on the relationship between game design and songs. We aim to present how this game can create a resonant sensory environment caused by music and sound signals, which are impregnated in Northeast Brazil. To support our ideas, we describe the locative game project GPS Musical Crosswords Puzzle supported by the concepts of soundscape,¹ acoustic space² and resonant sensory environment.³ Locative games reflect the opposite side of video games, considering that the game's content leaks from screens and consoles to pervade the player's space, using locative media. Thus, locative games improve the player's mobility in urban space in order to follow an eventual narrative system, to solve puzzles, to find game characters and items. From this perspective, the city becomes the game board.

Some classes on game design, locative media, smart cities and regional music preceded the game design process. Seventeen Brazilian students from Petrolina attended these classes and then played as GPSMCP's beta testers. At the end of 2015, the SBGames committee placed GPS Musical Crosswords Puzzle in the "Top Five Brazilian Games' list". Then, our choice to present this case study considered the originality of the GPSMCP and the role we play in charge of this project, which improves the task of description⁴

1 SCHAFFER, R. M.: *A Afinação do Mundo*. São Paulo : UNESP, 2001, p. 15-53.

2 McLUHAN, M., McLUHAN, E., HUTCHON, K.: *City as Classroom*. Agincourt : Book Society, 1977, p. 45-47.

3 MACHADO, I.: Sensus Communis: para entender o espaçoacústicoemseuambiente sensorial ressonante. In *E-Compós*, 2011, Vol. 14, No. 3, p. 7-13.

4 *Festival de Jogos*. [online]. [2018-03-15]. Available at: <<https://www.sbgames.org/sbgames2015/#/atividades/festival-de-jogos>>.

To develop our argument, we start discussing the relationship between games and locative media, which gives birth to the locative game genre. Then, we show how digital games moved from the video game screen to the urban space. Finally, we present our description of the GPS Musical Crosswords Puzzle project.

Games and locative media

The term locative media was proposed in a seminal way by Karlis Kalnis in 2003 to make reference to the creative use of LBS and LBT. To Brazilian theorist André Lemos, “place and context are essential in communication processes involving locative media. The flow of information occurs locally promoting new uses of space”.⁵ Locative media can add digital/informational content to a specific location in the geographical space. In these cases, as a rule, transmission and reception must always occur at the local level, providing services according to the user’s position. Locative games incorporate locative media’s functions into their settings, using location-based technologies (GPS, wireless networks, smartphones, tablets) and location-based services (maps, GeoTags, augmented reality browser, social networks which add geospatial information to the users’ messages, such as Facebook, Twitter, Foursquare and so on) as a resource for the creation of puzzles and game mechanics. Using concepts from object-oriented programming, Miguel Sicart defines game mechanics as methods invoked by agents, designed for interaction with the game state.⁶ To Kristine Jørgensen,⁷ game mechanics are everything that determines interactions between games and their players. It includes activities such as running (or persecution), jumping, pushing, treasure hunt, turns, turning, role-playing, point and shooting and so forth. On the other hand, puzzles reflect what Johan Huizinga called an ‘element of tension’ in play, which tests the player’s abilities: motor skills, quickness, intelligence, strength, loyalty, among others.⁸

Harking back to the history of locative games, their pioneering spirit can be attributed to the Geocaching project, launched in early 2000. In Geocaching, players must use smartphones and the global positioning system (GPS) to hide and find containers called geocaches, hidden in different locations of the world. Since then, locative games began to gain more fans all over the world, it is estimated that there are more than 500,000 locative games played in more than 100 countries.⁹ In Brazil, locative games arrived in 2004 in the Vivo em Ação project. Currently, some locative games are available in App Store, Google Play, Windows Phone Store – i.e. *Ingress*,¹⁰ *Code Runner*,¹¹ *Ghostbusters: Paranormal Blast*,¹² *Pokémon Go*¹³ and so on. This rise of the locative genre in computer game culture caused a phenomenon that I’ve been calling the spatial turn in game studies.¹⁴ Is important to highlight that the condition for use of geographical space as the ba-

5 LEMOS, A.: Locative Media and Surveillance at the Boundaries of Informational Territories. In FIRMINO, R., DUARTE, F., ULTRAMARI, C. (eds.): *ICTs for Mobile and Ubiquitous Urban Infrastructures: Surveillance, Locative Media and Global Networks*. Hershey: IGI Global, 2010, p. 129.

6 SICART, M.: Defining Game Mechanics. In *Game Studies*, 2008, Vol. 8, No. 2. [online]. [2018-03-16]. Available at: <<http://gamestudies.org/0802/articles/sicart>>.

7 JØRGENSEN, K.: *Gameworld Interfaces*. Cambridge, Massachusetts: The MIT Press, 2013, p. 122.

8 HUIZINGA, J.: *Homo Ludens: A Study of the Play-Element in Culture*. Boston, MA: Beacon Press, 1950, p. 18.

9 MONT’ALVERNE, A.: *Jogos móveis locativos: estudo de casos brasileiros*. [Master Thesis]. Salvador: RI UFBA, 2011, p. 22. [online]. [2018-03-18]. Available at: <<https://repositorio.ufba.br/ri/handle/ri/3776>>.

10 NIANTIC: *Ingress*. [digital game]. San Francisco, CA: NIANTIC, 2013.

11 ROCKETCHICKEN INTERACTIVE: *Code Runner*. [digital game]. Vancouver: RocketChicken Interactive, 2013.

12 XMG: *Ghostbusters: Paranormal Blast*. [digital game]. Toronto: XMG, 2012.

13 NIANTIC: *Pokémon Go*. [digital game]. San Francisco, CA: NIANTIC, 2016.

14 ANDRADE, L. A.: *Jogos Digitais, Cidade e (Trans)mídia: A Próxima Fase*. Curitiba: Editora Appris, 2015, p. 111.

sis of interactions in gameplay also appears in other locative games’ genres, such as the alternate reality game/ARG, pervasive game, Augmented Reality Game/AR Game, Live Action Role Playing Game/LARP, Mixed-Reality Games, among others. In GPS Musical Crosswords Puzzle’s gameplay, GeoTags are used to hide clues, which work like a crossword puzzle. The players have to move around the city landscape, launching the locations matched by the GeoTags. Thus, we can realise how the game space mixes itself with the city, reflecting part of the funny way provided by locative games. The application for Smartphone serves as a central support for the game; guiding the physical mobility of the player through Petrolina urban space. Locative games might reflect an important shift in the role of space in gaming culture – the spatial turn in game studies. In computer games that don’t use locative media, such as the video games and some mobile games, space is a residual component, a background with little or no importance for players’ interaction. In video games, the players can choose any space to play or change it randomly, whenever something disturbs their attention. On the other hand, in locative games space is the basis for player’s interaction; it should remain the same until the end of the match; if the player decides to restart the game using another space, he’ll lose all the progress he has acquired in the match.¹⁵

Locative games and the city

The appropriation of urban space for ludic purposes is not so modern. The city always offered space for games such as play tag, stickball, cops and robbers, dodge ball and so on. With the spread of video games consoles in the 1980s, perhaps some people commonly believed that the playful appropriation of the city as a playground would be deprecated, resulting in an eventual encapsulation of the players at home in their attempt to play these games. On the other hand, locative gaming can point to a manner for a ludic appropriation of urban space using locative computer games. The computer paradigm that allowed a resumption of the city as a game board and consequently caused the phenomenon of the spatial turn in game studies is called ubiquitous computing (UBICOMP). This model was proposed in 1988 by Mark Weiser to refer to networks and computer systems embedded in everyday objects. For Weiser,¹⁶ computers would evolve in a few years reducing the number of PCs, such as desktops and being incorporated into the environment. Following Weiser’s vision, the first decade of the 2000s marked the rise of ubiquitous computing, considering the emergence of the first smartphones (around 2005), the rise of the operational systems Apples’ iOS and Google’s Android both in 2008, which lowered the costs of these devices. It’s important to register the launch of iPad in 2010, which definitely popularised the tablet format. Another important moment in this timeline occurred in 1997, with the announcement of the 802.11 protocol, which gave rise to wireless networks such as Wi-Fi, Wi-Max, among others that enhance what Weiser called ‘distributed computing’, due to the dissemination of binary data ‘in the clouds’.

William Mitchell is one of the pioneers in the discussion about the new context of urban space created by the dissemination of ubiquitous computer networks and systems. According to Mitchell,¹⁷ the City of Bits will be the capital of the 21st Century, modelled according to patterns of connectivity and accessibility, broadband restrictions, also considering the features of physical space. In this typology of urban space, places would be built

15 ANDRADE, L. A.: *Jogos Locativos*. Salvador: Ed EdUFBA, 2016, p.65.

16 WEISER, M.: The computer of the 21st century. In *Scientific American*, 1991, Vol. 265, No. 3, p. 68-73.

17 MITCHELL, W.: *City of Bits: space, place and the Infobahn*. Cambridge, London: The MIT Press, 1995, p. 47.

with machines and software connected to the doors, windows, streets and so forth. Malcon McCullough¹⁸ presented the concept of digital ground referring to the environment built with ubiquitous computing, affecting the ways in which each human being inhabits physical space. The environment, in this case, becomes more interactive, being able to recognise and respond to the actions that happen in their domains. For McCullough, the digital ground has embedded processors, sensors that can detect actions, applications modelled for specific locations and situations; tags that help identify things and users, screen dissemination and interfaces based on gestures and on movement, among others. These aspects tend to complement the new cycle of user experience introduced by the ubiquitous computing paradigm. The spread of ubiquitous computing gives birth to what Adam Greenfield called "Everyware", a concept proposed to refer to information distributed and processed 'in the cloud'. For Greenfield, "the most significant consequence of spreading computers on all sides is that this implies distributing information on all sides".¹⁹ Thus, according to Greenfield's view, the environment and everyday objects can work as sites for information processing. This kind of scenario built from the information constantly available in space laid the foundations for Mark Shepard's vision of "Sentient City". This concept refers to a feature present in the City of Bits, which works to feel changes in a subjective way without the human characteristic of consciousness. Shepard emphasises that consciousness means to possess wisdom, knowledge, or the perception of all that can be felt and heard. The "Sentient City", according to Sheppard is the one that can feel and listen to things that happen to it, without necessarily having prior knowledge: the city feels the user without necessarily knowing anything about them.²⁰

In this direction, Shepard points out two ways to think of the reconfiguration of a contemporary city following the spread of ubiquitous computation. The first is concerned with looking through the materiality of architecture, seeking to understand how hardware and software available in urban infrastructure can help citizens to create new experiences and organizations. The second is addressed at information processed in urban spaces, examining the notion of sentient when applied to non-human actors, such as cities, which produce a rupture within the historical line that defined its nature and the nature of its citizens. These concepts allow reflections regarding the interface between urban space and locative media, thus creating support for the experience available in GPS Musical Crosswords Puzzle. This discussion highlights that computers can only become ubiquitous inside urban boundaries since architecture works as a spatial tool that allows the establishment of limits for the creative use of locative media. Using music as a resource for playful experiences involving locative media, maybe we can insert the idea of acoustic space into gameplay.

Locative games, space, and music

Space is a transdisciplinary concept because it has transversal characteristics, which are widely discussed in different research areas. The articulation of the space with games reminds us of the seminal study of the philosopher Johan Huizinga, a pioneer in

18 McCULLOUGH, M.: *Digital Ground*. Boston, MA : The MIT Press, 2005, p.13-15.

19 GREENFIELD, A.: *Everyware. The dawning age of ubiquitous computing*. Berkeley : New Riders, 2006, p. 23.

20 SHEPPARD, M.: *The Sentient City. Ubiquitous computing, architecture and the future of urban space*. Cambridge : The MIT Press, 2011, p. 31.

the reflections on the ludic and its relation to culture. According to Huizinga, every kind of game is played inside limits of time and space, where their player has to follow specific rules, which are a kind of temporary world created for a special activity.²¹ This special place received a thorough theoretical treatment when Katie Salen and Eric Zimmerman²² published their treatise on the general analysis and development of the constitutive processes of the game – from their analogical components, commonly represented by cards and boards, to their convergence with locative media, where is located the essence of locative media – and has been recently known as the 'magic circle', being inspired by a passage in Huizinga's classic *Homo Ludens*. The proper terminology proposed by Salen and Zimmerman about this typology of the place is Magic Circle. Although the magic circle is merely one of the examples in Huizinga's list of 'playgrounds', the term is used by authors as shorthand for the idea of a special place in space and time created by a game. Locative games produce a specific kind of magic circle because they can appropriate the urban space as a game board. In this way, the ludic can transform some urban elements – streets, cars, everyday objects- into game tokens. Within our proposal to create a relationship between locative games and music, based on this discussion about space, we can use the concepts of acoustic space, sound space, and soundscape in an analysis of the game GPS Musical Crosswords Puzzle. Although these concepts seem very close, they provide different sound experiences, but they can complement each other (see Figure 1).

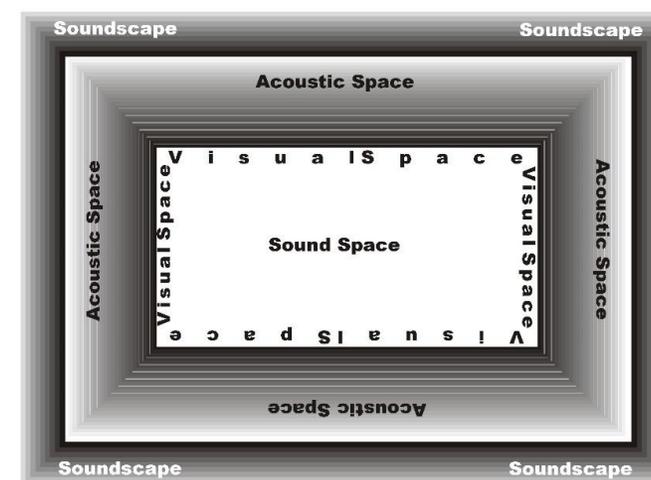


Figure 1: Elements in the space (sound x visual)

Source: own processing

Acoustic space is a term that appears in the work of Marshall McLuhan, especially in those works that bring the discussion about space and its relationship with the media and the arts, as we can see in literature in modernist and postmodernist works (such as James Joyce and Marcel Duchamp, i.e.), who explored the visuality in different languages, maximizing the understanding of visual space. Therefore, acoustic space is born as a counterpoint to this representative of visual hegemony in the works of this period, bringing questions about its limits. Visual space is sequential, linear, asynchronous, static, vertical, evoking the left side of the brain and creating containers or receptacles. Acoustic space is

21 HUIZINGA, J.: *Homo Ludens: A Study of the Play-Element in Culture*. Boston, MA : Beacon Press, 1950, p. 13-14.

22 Ibidem, p.18

its opposite, in the sense that it is simultaneous, synchronous, dynamic, horizontal, evoking the right side of the brain and creating networks. Therefore, the acoustic perception of space has no fixed boundaries or centres, which gives it a multisensory characteristic, which McLuhan brought into the discussion from the emerging of electronic media such as radio, TV, and cinema. He called this ensemble of characteristics, in a few words, as the *sensus communis*. It happens that these two spaces are not exclusive, but may be complementary when we consider, for example, “perceptual coherence”.²³ In fact, their relationship creates what Irene Machado²⁴ will classify as the *resonant sensory environment*, formed by the reverberations of these spaces that blur their edges and smooth them. Thus, while visual space can be limited and cropped by the lens framing of a camera, for example, acoustic space, on the other hand, breaks such limits, causing, in some cases, the impression of an amplification of this previously restricted visual field.

We can observe within the limits of visual space, the appearance of the sound space that is defined, according to Angel Rodriguez, as being “the volumetric perception that appears in the mind of a receiver, as it is synchronically processing all sound forms related to space”.²⁵ Sound space, therefore, is rich in references that can arise from a sound object, defined as a visible sound source, observable within visual space, or an acoustic entity, responsible for the effect of *acousmaticization*, which is non-observable in visual space, that is, outside of a frame, but that can generate a reference in its interior. This is the example of a scene in a movie when someone inside a room hears the sound of steps taken by another person in the hall separated by the wall. The concept of *soundscape* already has an easier understanding, but it cannot be confused with others, i.e. *acoustic space* and *sound space*, inasmuch as we consider a soundscape a set of sounds that compose a certain environment. This term became known through the works of Murray Schaffer,²⁶ a music teacher who developed innovative music teaching and learning techniques. Thus, we can consider a soundscape those sounds that are grouped in a certain environment, not necessarily restricted to the limits of visual space, because it appears as a sound background that can incorporate both the sounds of the acoustic space and the sound space to shape the soundscape.

Before we approach the GPS Musical Crosswords Puzzle in this work, we will show how this type of analysis can be made in a video game and after we will correlate to the characteristics of the locative game. Imagine, for example, a scene in a racing game, where we can see the car controlled by the player, the track, other vehicles controlled by artificial intelligence, background elements, such as bleachers, walls, vegetation and so forth. Applying the framework of the concepts sound space, acoustic space and sound landscape (see Figure 1), we can consider as visual space what is delimited by the framing of the moment of the game, when it is possible to see a “general plan” of a racetrack with a lane, the car in the foreground and a large grandstand in the background. Therefore, sound space is composed of the respective sounds: car engine, reactions as the smoke comes out of the car exhaust, braking and sounds of some player commands on the screen, which despite composing the sound space do not belong directly to the narrative as the sounds mentioned above. Acoustic space consists of sounds that extrapolate the visual space and comprise, for example, acoustic beings such as the sounds of other competitors approaching the pilot, the sounds of the grandstand, as well as the announcements over the speakers about the race in the game mentioned. Finally, in a broader representation of these sounds, creating the sound set that composes the scene; we have the soundscape of the game.

23 RODRIGUEZ, A.: *A dimensão sonora da linguagem audiovisual*. São Paulo : SENAC, 2003, p. 131-240.

24 MACHADO, I.: *Sensus Communis: para entender o espaço acústico em seu ambiente sensorial ressonante*. In *E-Compós*, 2011, Vol. 14, No. 3, p 7-13.

25 RODRIGUEZ, A.: *A dimensão sonora da linguagem audiovisual*. São Paulo : SENAC, 2003, p. 285.

26 SCHAFFER, R. M.: *A Afinação do Mundo*. São Paulo : UNESP, 2001, p. 15-53.

Describing the GPS Musical Crossword Puzzle Project

The GPS Musical Crosswords Puzzle is a locative game²⁷ that uses as a base the urban space of the city of Petrolina in the state of Pernambuco, northeast of Brazil. The project was included in the Public Call for the occupation of CEU (Centre for Arts and Sports Unified), located in the neighbourhood of Rio Corrente, within the framework of the Laboratory of Sensitive Cities - LabCeus - through a call linked to the Research and Innovation Group for Cities (InCiti) of the Federal University of Pernambuco (UFPE) and the Ministry of Culture. The game was developed in parallel to workshops and offered to a group of 17 students. The classes were held at the Centre of Art and Culture Unified (CEU) in the city of Petrolina between March and June in 2015. Four themes were addressed during these workshops: Locative Games Design, Mapping and Locative Media, Smart Citizen and Regional Music.²⁸ After these classes, the students participated in the test stage (called Beta Testing) in the neighbourhood of Rio Current. From the feedback of the students, we launched the final version of the game, which can be played in the region of the border and the centre of Petrolina. Petrolina is a city with a little more than 300 thousand inhabitants, located in the São Francisco Backwoods, northeast of Brazil, and integrated to the neighbouring municipality, Juazeiro, in Bahia, by a bridge with nearly 1 kilometre of extension above the São Francisco River. The region has favourable characteristics for locative games such as flat relief, which facilitates the physical mobility of the players, the constantly clean and open sky, typical of the semi-arid climate, enabling the perfect capture of the GPS signal. Added to this, the colours of the “Velho Chico” (as the São Francisco River is known) create the perfect backdrop for this game.

To play, the user needs to have a Smartphone or tablet and install the GPS Musical Crosswords Puzzle mobile app, which is available for Android,²⁹ iOS and Windows Phone operating systems. The puzzles are linked to points known in the centre and the border of Petrolina, represented on a map, such as Dom Malan Square, Cathedral Sagrado Coração de Jesus, and the pier, amongst others. The key feature of a locative game is its straight relationship to where the game is played, so the puzzles in GPS Musical Crosswords Puzzle can only be accessed if the player is physically close to the locations, pointed at the map by GeoTags. As game designers, it is important to emphasise that these puzzles were elaborated following a progressive system of difficulty, that is, the set of puzzles offers easy, medium and difficult levels. The user interface is composed of three screens, which can be accessed in the buttons at the menu of the mobile app (at the bottom of the screen). The first screen (see Figure 2) shows the positions of the pins and the position of the player on the map of Petrolina. The second screen (see Figure 3) shows a crossword diagram consisting of 10 lines, each corresponding to one of the pins fixed on the map of the first screen. After filling out the horizontal lines in the crosswords, a keyword is revealed in the vertical line. These puzzles are created based on elements of the culture of the São Francisco and north-eastern backwoods, especially the music composed by artists of the region. In the design of game mechanics, references were created by interactions with

27 GPS Coquetel Musical. (Full Video) HD. [online]. [2018-03-20]. Available at: <<https://www.youtube.com/watch?v=FMkvzexElqM>>.

28 ANDRADE, L. A., MEDEIROS, M.: *Jogos Digitais, mídia e (ciber) cultura*. [online]. [2018-03-21]. Available at: <<http://culturadigital.br/games/>>.

29 GPS Coquetel Musical. (Full Video) HD. [online]. [2018-03-21]. Available at: <<https://www.youtube.com/watch?v=FMkvzexElqM>>.

objects typical of the region's culture, such as musical instruments. For example, in one of the puzzles, in order to have access to the music, the player must "shake" the cell phone as if they were playing a Maraca, i.e., a regional percussion piece. Already in another puzzle, the player must interpret a score to play a song played by the local musicians or bands.

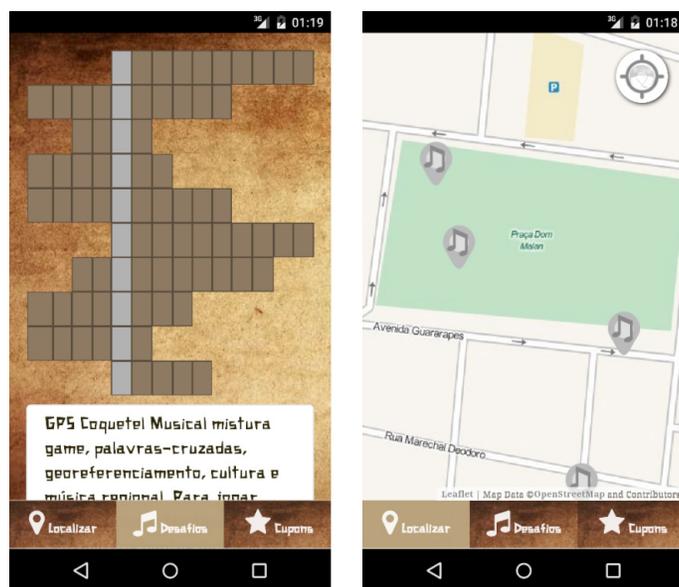


Figure 2: Georeferenced puzzles, Figure 3: Crosswords

Source: own processing

With the purpose of correlating the game GPS Musical Cocktail and the concepts presented throughout this article, we have, at the first frame, the delimitation of the visual space, in this case represented by the geographical limits of the Centre and the border of Petrolina, the only place where game can be played. We can think of these limits as being the edges of the magic circle created by this game, which only make sense for the one who is playing it. Sound space consists of sounds typical of the centre and border of Petrolina, a region appropriate as a game board, which form a kind of background for the player's actions, including car noises, motorcycles, buses and eventually the boats that cross the São Francisco River between Juazeiro and Petrolina. It also covers the noises of people talking as they move in the common places allocated to that portion of space incorporated into the *magic circle*. In the case of acoustic space, it is formed by the reverberation (or resonance) of the sounds in sound space, added to some sounds that are outside the geographical limits of the Centre (visual space), such as for example the sounds of truck engines (sometimes they can be heard when passing on a highway nearby), sounds of police sirens and ambulance, sounds of planes passing above the territory (Rio Corrente is a neighbourhood 10 minutes from the city airport). The soundscape, just like in the race car video game, is the result of this set of sounds that combine to characterise the neighbourhood and compose the urban space or the "urban sounds".

Our intention with this work that discusses the locative game and the "urban sounds" sought to approach players and places, but also to bring regional music as an element added to all these urban sounds. If we want to make a comparison with video game, we can consider the music produced in the region (north-eastern Brazil) as part of the soundtrack of the locative game, since the main objective of the game is to decipher a crossword using regional music tracks produced by local artists who best translate the feeling of those who

live and inhabit this region in Brazil. For this reason, we draw attention to the regional music (as puzzle) that has in its words or song some elements, which refer to the city of Petrolina, the São Francisco River, the bridge connecting the two cities, the stories and legends that emerged from this fertile imagination, that is characteristic of north-eastern Brazil.

Conclusions

At the end of this experiment, it was possible to reach some conclusions. Based on the idea of a *magic circle*, which defines the special place created by the game for its realization, we can think that the GPS Musical Crosswords Puzzle set out a resonant sensory environment, from the notions of acoustic space, sound space, and soundscape. Alongside, the creation of this environment assures a process of mediation, based on sounds, music, and space, between game, player, and reality. Considering the interactions between the player and the puzzles system of the locative game GPS Musical Crosswords Puzzle, we can see that the synergy between visual space, sound space, acoustic space and soundscape, which complement the function of geographical space in the gameplay, represented by the map in the interface and creates the support for the actions of players. Thus, we can conclude that music is now a resource for the puzzles of the game, offering clues to solve crosswords, or as a reward, considering that the player can hear the song in full version when he hits each puzzle in the line. There are other signs of the backwoods that are also present in the interactions stimulated by the GPS Musical Crosswords Puzzle, such as the accordion, *Maraca*, *Caraibeira*, *Caatinga*, besides typical vocabulary words such as *arrocha*, *arretado* and so on, which are used in the construction of the texts in the mobile app screen or user interface. The playful and intelligent use of these signs enhances the creation of a resonant sensory environment from the experience in the locative game GPS Cocktail Crosswords Puzzle.

Thus, this work discussed the relationship between locative games and music, using as reference the notions of sound space, acoustic space, and soundscape. The experiment that guided this paper was conducted based on the game GPS Musical Crosswords Puzzle. Of course, the work presented does not exhaust the possibilities of analysing locative games. Future researches can establish a relationship with similar or more consolidated formats in the universe of games studies, such as pervasive games and alternative reality games (ARGs). A more dense study is needed which points out more locative games and the specificities they bring in them. The next phase of this format may lie in the potential offered by the mobile Apps market.

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The Infectious Aesthetic of Zombies: An Exploration of Zombie Narratives and Unit Operations of Zombies in Videogames

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ABSTRACT:

This document details the abstract for a study on zombie narratives and zombies as units and their translation from cinemas to interactive mediums. Focusing on modern zombie mythos and aesthetics as major influences in pop-culture; including videogames. The main goal of this study is to examine the applications of zombie units that have their narrative roots in traditional; non-ergodic media, in videogames; how they are applied, what are their patterns, and the allure of their pervasiveness.

KEY WORDS:

case studies, cinema, narrative, Romero, unit operations, videogames, zombie.

"Zombies to me don't represent anything in particular. They are a global disaster that people don't know how to deal with. Because we don't know how to deal with any of the shit."
Romero, A. George

Introduction

Zombies are one of the more pervasive tropes of modern pop-culture. In this paper, we ask the question why the zombie narrative is so infectious (pun intended) that it was able to successfully transition from folklore to cinema to videogames. However, we wish to look beyond simple appearances and investigate the mechanisms of zombie narratives. To do this, we employ Unit Operations, a unique framework, developed by Ian Bogost¹ for the analysis of media that utilises elements of both literary theory and computation. We chose Unit Operations as a methodological framework for our exploration of zombie narratives in videogames, for three main reasons. Firstly, the static view of a system-focused analysis would have discarded a lot of the nuance of the procedural nature of emerging narratives that could be manifested through the interactive narratives of many videogames. Secondly, the focus on encapsulated units of meaning and their instantiations lends itself better to the analysis of the recurring themes and patterns of zombie fiction beyond superficialities. Finally, unit operations are the "practical marriage of literary theory and computation";² an argument which can also be applied to ontologically describe videogames,^{3,4,5} which makes Unit Operations uniquely well-fitted for the analysis of videogames.

We will focus on the units in zombie narratives, identifying two key concepts by investigating how the post-Romero cinematic zombie traditions are transferred to videogames. To give a complete picture, we first investigate the cinematic zombie and extract the operations of traditional zombie narratives. In the second half of the paper, we will present three case studies, dedicated to different aspects of zombie operations.

¹ For more information, see: BOGOST, I.: *Unit Operations: An Approach to Videogame Criticism*. Cambridge, MA, London : The MIT Press, 2006.

² BOGOST, I.: *Unit Operations: An Approach to Videogame Criticism*. Cambridge, MA, London : The MIT Press, 2006, p. 7.

³ For more information, see: LAUREL, B.: *Computers as Theatre*. Reading, MA : Addison-Wesley, 1991.

⁴ See also: NEWMAN, J.: *Videogames*. Abingdon : Routledge, 2004.

⁵ NEITZEL, B.: Narrativity in Computer Games. In RAESSENS, J., GOLDSTEIN, J. (eds.): *Handbook of Computer Game Studies*. Cambridge, MA, London : The MIT Press, 2005, p. 227.

Unit Operations

Unit Operations focuses on the examination of discrete 'units' of meaning, their assemblages and interrelations, and how they procedurally form the structure of a system or act as discrete systems themselves.⁶ Units, as mentioned above, are discrete objects that carry meaning, and they "encompass the material manifestation of complex, abstract, or conceptual structures".⁷ Units transform meaning by taking in one or more inputs and carrying out "purposeful actions"⁸ or 'operations' on them. They might work as a singular cell or their interlocking relationships can form complex structures.⁹ Unit operations focuses on the interplay of autonomous and discrete elements, which can take multiple configurations. In this view, complex structures emerge from the interaction of units in a procedural, bottom-up manner as opposed to system operations,¹⁰ which examines complex structures as singular, static entities, made of smaller components in a top-down fashion. Units in unit operations follow the core concepts of object-oriented technology and comply with four main rules.¹¹ Those rules are abstraction, encapsulation, polymorphism, and their instances are governed by cascading inheritance. Summarized, abstraction means a disassociation of the type from the individual instances. Abstract units are blueprints or constructors, which are only expressed in instantiated units with concrete variables. Encapsulation means the autonomous and discrete nature of the object and the limited scope of its functions*. Polymorphism covers the configurable nature of each instance and allows for different unique objects to be created from one class constructor. Lastly, inheritance enables each unit to be a parent of a new object, inheriting its structure and attributes.

Unit operations offer a novel approach to examining recurring, encapsulated units of meaning in certain narratives that are resurfacing again and again across similar narratives. To be seen from the unit operations framework, narratives are built up from interlocking segments that are to be procedurally unveiled through progresses of their temporal sequences.¹² Because narratives are essentially "causal relationships of various sorts and effects",¹³ their macro structures are highlighting interrelations of the very units that create them.

6 See also: BOGOST, I.: *Unit Operations: An Approach to Videogame Criticism*. Cambridge, MA, London : The MIT Press, 2006.

7 BOGOST, I.: *Unit Operations: An Approach to Videogame Criticism*. Cambridge, MA, London : The MIT Press, 2006, p. 5.

8 Ibidem, p. 7.

9 For more information, see: VON NEUMANN, J.: *Theory of Self Reproducing Automata*. Champaign : University of Illinois Press, 1966.; BOGOST, I.: *Unit Operations: An Approach to Videogame Criticism*. Cambridge, MA, London : The MIT Press, 2006.

10 See also: LUHMANN, N.: *Social Systems*. Palo Alto, CA : Stanford University Press, 1995.; BOGOST, I.: *Unit Operations: An Approach to Videogame Criticism*. Cambridge, MA, London : The MIT Press, 2006.

11 BOGOST, I.: *Unit Operations: An Approach to Videogame Criticism*. Cambridge, MA, London : The MIT Press, 2006, p. 39.

12 NEITZEL, B.: Narrativity in Computer Games. In RAESSENS, J., GOLDSTEIN, J. (eds.): *Handbook of Computer Game Studies*. Cambridge, MA, London : The MIT Press, 2005, p. 227.

13 MANDLER, J. M., JOHNSON, S.: Erzählstruktur und Erinnerungsleitung. Eine Grammatik einfacher Geschichten. In HAUBRICH, W. (ed.): *Erzählforschung. Theorien, Modelle und Methoden der Narrativik*. Göttingen : Vandenhoeche Ruprecht, 1978, p. 338.

Zombie Operations and Units of Zombie Tales

The zombie mythos has long left its origins of Haitian folktales¹⁴ and early cinema, with largely colonialist overtones.¹⁵ Between the late 60s and 80s, George A. Romero re-defined the pop-cultural understanding of zombies, filling the mythos and their creatures with new meaning. The prominent colonialism narratives of the early days were replaced by metaphors of radical socio-political changes in Western civilization, which presented zombies as suddenly emerging terrors with little to no background information of how they came to be and how to efficiently combat them,¹⁶ Romero reverses the role of zombies from humans' slaves into humans' destroyers which are responsible for gradual collapses of known civilizations. These characteristics are carried onto post-Romero zombie fictions which employ zombies as ever-changing metaphors of constantly evolving threats to humanity. Although during this transition, the operations of zombies as well other units of their narratives were transformed drastically, the core function of the prototype constructor of zombie units that every instance inherits remains a highly transformative process that takes in another unit as a parameter. In most cases the argument, with which the unit is instantiated is a 'human object', at least in the narrative sense. Interestingly, while cascading inheritance often leads to polymorphism, where new instances take on unique features – especially in videogames –, the zombie prototype constructor erases differences between transformed units. Unique humans go in, uniform zombies come out. However, the transformation of an ordinary unit into a zombie, not only makes the unit part of a uniform mass, it also bastardises them and corrupts their original essence, putting them into opposition to the protagonist, or player character.

Heroes generally reserved some sense of will and/or morality from the world before the balance has been shifted to a wish to resolve the situation by reverting back to the previous status-quo. As Romero explains it, "there's this global change and there's one guy holding out saying, wait a minute, I'm still a human. He's wrong. [...] In a certain sense he's wrong but on the other hand, you've got to respect him for taking that position".¹⁷ Originally, this was not a feasible path – especially in Romero's works –, although later tales show a certain kind of balance recreated. Although, transitioning from the early days of cinema, the instrumental nature of zombies remained, the parent of their units became blurry and often abstract. Mirroring the grand narrative themes of these tales that portrayed worlds out of balance,^{18 19} zombies themselves became small encapsulations of these patterns: fumbling, volatile, ever decaying but undying. The same contrast between early cinema and Romero is also apparent in the creators or originators of zombie units. While in early

14 McINTOSH, S.: The evolution of the zombie: the monster that keeps coming back. In MCINTOSH, S., LEVERETTE, M. (eds.): *Zombie Culture: Autopsies of the Living Dead*. Lanham, MA : Scarecrow Press, 2008, p. 4.

15 OPATIĆ, D.: Zombies in Revolt: The Violent Revolution of American Cinematic Monster. In *Sic: A Journal of Literature, Culture & Literary Translation*, 2014, Vol. 2, No. 2, p. 3-4. [online]. [2018-03-12]. Available at: <https://www.sic-journal.org/ArticleView.aspx?aid=251>.

16 SCONCE, J.: Dead metaphors/undead allegories. In HUNT, L., LOCKYER, S., WILLIAMSON, M. (eds.): *Screening the Undead: Vampires and Zombies in Film and Television*. New York City : Palgrave Macmillan, 2014, p. 333.

17 McCONNELL, M.: *Interview: George A. Romero on Diary of the Dead*. *Cinema Blend*. [online]. [2018-03-12]. Available at: <cinemablend.com/new/Interview-George-Romero-Diary-Dead-7818.html>.

18 OPATIĆ, D.: Zombies in Revolt: The Violent Revolution of American Cinematic Monster. In *Sic: A Journal of Literature, Culture & Literary Translation*, 2014, Vol.2, No. 2, p. 14-15. [online]. [2018-03-12]. Available at: <https://www.sic-journal.org/ArticleView.aspx?aid=251>.

19 SCONCE, J.: Dead metaphors/undead allegories. In HUNT, L., LOCKYER, S., WILLIAMSON, M. (eds.): *Screening the Undead: Vampires and Zombies in Film and Television*. New York City : Palgrave Macmillan, 2014, p. 331-333.

tales most often a centralised will took control over zombies, often highlighting sexual exploitation and racial issues of the time;²⁰ Romero's zombies are born from a troubled equilibrium that encompasses whole societies.²¹ In this sense, these creatures act more like a force of nature, showing the seams along which culture and society tears itself apart. As zombies went from separately created thralls to violent swarms,²² their meaning also transformed from victims of evil to heralds of the all-consuming decay of society.

The originators across different stories are widely different and could serve different messages depending on their individual meanings. The point that connects them to a shared prototype is their immense power opposed to the protagonist and their root in a shifted equilibrium. Their parameters move along the lines of humanitarian and moral crises (like the rise of consumer capitalism, environmental destruction, or – in case of some early stories sexual – and societal exploitation) and they pass these parameters onto zombie units they instantiate as well. The originator of the zombies serves mainly as the “shit”, which we can't handle – in Romero's words.²³ They manifest as a clash between what should be and what is. They can manifest as sole evil-doers to an abstract force of nature. On the fringe of the two types, we can observe disembodied manifestations of corporate greed, for example in *Resident Evil*,²⁴ where the exploitive will of mega-corporations leads to the release of a potent viral infection, which manifests as a more abstract punishment. On the technical side, this type manifests in unique software solutions, like the AI Director in *Left 4 Dead*,²⁵ which acts as a disembodied governing force, standing in as a mastermind behind the zombie horde in the gameplay, the abstract shifted equilibrium in the narrative, and the director in the pacing and dramaturgy of the composition of the larger narrative structure. The exact overarching or micro-narrative depends on the nature of the shift. For example, the endless hunger of the undead was expressed as a literal analogue for excessive consumption,²⁶ which – in the end – devours society itself. The loss of volition replaced by a hive-mind-like behaviour is a very strong element of all zombie units. As they act as instruments of their originators, their basic behavioural patterns are passed onto their constructor by their originators and occasionally cascade down through different zombie types.

Of course, the meaning conveyed by these tales went through many iterations under – and after – Romero. Starting as a commentary on the ambiguity of the political climate of the era and the place of the individual against a pessimistic view on the masses, Romero kept transforming the dead, first into symbols of consumerism, and later to criticism of Ronald Reagan's administration during the waning days of the Cold War.²⁷ Post-Romero, plague-born zombies became the symbols of social devastation, breaking down everything modern society holds at a high value, from individualism to capitalist economies²⁸

20 McINTOSH, S.: The evolution of the zombie: the monster that keeps coming back. In MCINTOSH, S., LEVERETTE, M. (eds.): *Zombie Culture: Autopsies of the Living Dead*. Lanham, MA : Scarecrow Press, 2008, p. 5.

21 OPATIC, D.: Zombies in Revolt: The Violent Revolution of American Cinematic Monster. In *Sic: A Journal of Literature, Culture & Literary Translation*, 2014, Vol.2, No. 2, p. 4-5. [online]. [2018-03-12]. Available at: <<https://www.sic-journal.org/ArticleView.aspx?aid=251>>.

22 WEBB, J., BYRNAND, S.: Some kind of virus: the zombie as body and as trope. In *Body & Society*, 2008, Vol. 14, No. 2, p. 83-86.

23 McCONNELL, M.: *Interview: George A. Romero on Diary of the Dead. Cinema Blend*. [online]. [2018-03-15]. Available at: <cinemablend.com/new/Interview-George-Romero-Diary-Dead-7818.html>.

24 CAPCOM: *Resident Evil (PlayStation version)*. [digital game]. Osaka : Capcom, 1996.

25 VALVE SOUTH: *Left 4 Dead (Xbox version)*. [digital game]. Bellevue, WA : Valve Corporation, 2008.

26 SCONCE, J.: Dead metaphors/undead allegories. In HUNT, L., LOCKYER, S., WILLIAMSON, M. (eds.): *Screening the Undead: Vampires and Zombies in Film and Television*. New York City : Palgrave Macmillan, 2014, p. 335.

27 OPATIC, D.: Zombies in Revolt: The Violent Revolution of American Cinematic Monster. In *Sic: A Journal of Literature, Culture & Literary Translation*, 2014, Vol.2, No. 2, p. 5. [online]. [2018-03-15]. Available at: <<https://www.sic-journal.org/ArticleView.aspx?aid=251>>.

28 BOLUK, S., LENZ, W.: Infection, media, and capitalism: From early modern plagues to postmodern zombies. In *Journal for Early Modern Cultural Studies*, 2010, Vol. 10, No. 2, p. 136-137.

Plagues historically have been associated with trade routes and highly concentrated populations where the moral evils that infect the minds are mirrored through the decay of the environment.²⁹ In this sense postmodern zombies became both symbols of the oppressed, unmotivated masses, and the implosion of society itself under moral decay, consumerism, and capitalist exploitation, which causes its own demise.³⁰ Post-Romero zombie units speed up the unravelling of the world's balance around them. Outbreak-zombies will spread the plague, curse-zombies will expand the curse onto others and so on. However, they also speed up the tipping of the scales by accumulating and increasing the source of the shattered equilibrium. We will show later in the article how zombie-like units in *Dishonored*³¹ spread and accelerate the moral decay of society.

In summary, zombies are largely uniform units that convey a moral and physical opposition to the protagonist. They take in other units as arguments and strip them of their unique features, further pushing the distance between the position of the protagonist and themselves. They accelerate the forces surrounding their conception. Their originators are manifesting as part of a corrupted order and project basic behaviours onto the zombie units. We can say that these two types of units; originators and zombies, are always interconnected, even though the former can take on abstract forms in the narrative.

Case Study 1: Zombie Operations in Resident Evil

In this section we are looking at *Resident Evil*³² as an example of how zombie operations are manifested in videogames in the bounds of a classical outbreak narrative. *Resident Evil* is the first ever iteration of its namesake series and one of the most influential games in the survival horror genre. In *Resident Evil*, players can choose to play as either Chris Redfield or Jill Valentine at the beginning of the game, followed by exploration of a mysterious mansion filled with various zombified creatures. While its sequels are more action oriented, *Resident Evil* is strictly a survival horror game where resources are scarce in which constant direct confrontations with zombie units and other enemy AIs can put players in difficult situation. Zombies in *Resident Evil* are mostly similar in presentations to those of George A. Romero's works where zombies are portrayed as putrid and decaying slumbering yet very persistent single-minded creatures hell-bent on consuming living humans.³³ Their existence, on one hand, can be chalked up to corporate greed as their narrative originator is explicitly explained as a viral outbreak after experiments conducted by the Umbrella Corporation went south. This underlines zombies as critical devices of unchecked capitalism akin to how zombies in *Dawn of the Dead* are semiotically constructed as a criticism of consumerism.³⁴ On the other hand, zombies are also critical devices for an

29 Ibidem.

30 WEBB, J., BYRNAND, S.: Some kind of virus: the zombie as body and as trope. In *Body & Society*, 2008, Vol.14, No. 2, p. 89-95.

31 ARKANE STUDIOS: *Dishonored (PlayStation version)*. [digital game]. Rockville, MA : Bethesda Softworks, 2012.

32 CAPCOM: *Resident Evil (PlayStation version)*. [digital game]. Osaka : Capcom, 1996.

33 SCONCE, J.: Dead metaphors/undead allegories. In HUNT, L., LOCKYER, S., WILLIAMSON, M. (eds.): *Screening the Undead: Vampires and Zombies in Film and Television*. New York City : Palgrave Macmillan, 2014, p. 331. Softworks, 2012.

34 WEISE, M.: The rules of horror: procedural adaptation in *Clock Tower*, *Resident Evil* and *Dead Rising*. In PERRON, B. (ed.): *Horror video games: Essays on the fusion of fear and play*. Jefferson, New York City : McFarland & Co, 2009, p. 251-265.

extreme and twisted Darwinist view of Albert Wesker, a high officer of Umbrella Corporation, who posed as an officer within the S.T.A.R.S. Team and believes that zombies are superior organisms compared to humans and he intends to replace humans as the dominant organisms on earth with zombies. The oppositional interplay of modern zombie narratives between human protagonists and zombies is clearly seen throughout the game. Chris Redfield, Jill Valentine and most of S.T.A.R.S Team are law enforcement agents whose primary goals are to solve the hideous cases of cannibalistic homicides on the outskirts of Raccoon City and bring the balance back to the narrative equilibrium which is law and order. Redfield or Valentine are depicted as hardened and righteous law enforcers who continue to fight zombies despite experiencing discomfort and fear.

However, unlike zombies in cinema, being bitten by a zombie in RE, will not turn the protagonists into zombies. Although detail can be attributed to classic videogame health systems, as narratively zombies still possess their power to transform others, a shift can be observed between movies and videogames. Whereas cinema presents a binary distinction between a zombie and an unbiten protagonist, videogames adhere to other rules defined by game design and platform limitations, making the protagonists impervious to zombie bites' transformative power and distance games from previous iterations of the zombie mythos. This empowerment changes the dynamic of the zombies,³⁵ even if the narrative meaning is conserved and establishes the main difference between cinema and videogame zombies. Zombie units hit the same narrative beats from transforming and bastardising other units, to increasing the acceleration of the imbalance of their environment as Romero and post-Romero fiction, however the volition and power of the protagonists are increased and emphasised. This undercuts the fear of the unknown that is defining Romero's mythos and creates a disconnection between narrative and gameplay. However, this disjointed configuration seeped into other games and became the norm, as Resident Evil's presentations of zombie units, their operations, and their interrelations with other units became the proverbial blueprint for many videogame developers in developing their own zombie games.

Case Study 2: Zombie Originator in Left 4 Dead

In this section, we take a closer look of the aforementioned AI Director in Left 4 Dead³⁶ and observe how a zombie originator unit operates within a game. It is an entry which modernizes the zombie genre of videogames by combining sci-fi-horror elements with multiplayer first-person shooter conventions. Additionally, Left 4 Dead does away with much of the narrative gravity and merely simulates the iconography³⁷ of zombie cinema. In the story campaign of Left 4 Dead up to four players can play as a survivor and battling hordes of the Infecteds. These creatures function very much like zombies in Resident Evil, however – without much narrative framing – they are not more than “ubiquitous hostile agents without emotional resonance, merely a physical aporia”, which means it

35 HUNT, N.: A Utilitarian Antagonist: The Zombie in Popular Video Game. In HUBNER, L., LEANING, M., MANNING, P. (eds.): *The Zombie Renaissance in Popular Culture*. Houndmills : Palgrave Macmillan, 2015, p. 109-110.

36 VALVE SOUTH: *Left 4 Dead (Xbox version)*. [digital game]. Bellevue, WA : Valve Corporation, 2008.

37 BACKE, H. J., AARSETH, E.: Ludic Zombies: An Examination of Zombieism in Games. In *DiGRA Conference Proceedings, Finland. Pittsburgh, PA* : DiGRA, Carnegie Mellon University's ETC Press, 2013, p. 8. [online]. [2018-03-17]. Available at: <http://homes.lmc.gatech.edu/~cpearce3/DiGRA13/papers/paper_405.pdf>.

does nothing more than “ludifies a zombie film experience” without drawing much on the meaning of these narratives other than the thematic similarity^{38,39} of the Infecteds' narrative presentation as threats for humanities which greatly outnumber living humans and gradually replace humans as the dominant entities on Earth. Nevertheless, just as with Resident Evil these themes are only preserved in the framing narratives as players are susceptible to the zombie virus. However, Left 4 Dead is a perfect candidate to examine the operation of an abstract zombie originator in action. Narratively, the game presents a vague outbreak story, largely depending on invoking established tropes. Although it is unclear if the background of the epidemic is an environmental, military, or moral crisis, the abstract originator is embodied by the AI Director.

The *AI Director* (AID) is a robust AI, which is tasked with handling the adaptive pacing of the game.⁴⁰ As a true originator unit, the AID is immensely powerful compared to the players, spawns and controls the zombie units, and creates and manages the conflict in the game. The major difference between the AID and other abstract originators in other media is that the AID is subservient to the player experience. It monitors player behaviour, estimates the emotional intensity and spawns Infected to keep the players interested and holds back the horde if the players get overwhelmed.⁴¹ Nevertheless, the AID is also in the service of the imbalance narratively, being the silent force behind the zombie outbreak. Although it is not against the players in the same way as the world in zombie cinema, to create a compelling gameplay it still opposes the players in the same fashion, as the AID holds control over the game world and the Infected, while the players are empowered through their own volition. In the end, the AI Director of Left 4 Dead suffers from a similar issue as the zombies of Resident Evil. Due to the constraints of game design, players are disproportionately powerful, and instead of an unstoppable horde, they face manageable challenges. Despite these differences, however, these units still reserve their core function as they adhere to the central conflict of these games, often which have a shifted equilibrium at their heart of their background stories in the same vein as more traditional zombie narratives.

Case Study 3: The Many Faces of Zombies in Dishonored

In this section we will examine two main enemy groups in Dishonored,⁴² the zombie-like weepers and the city watch and look at their differences and shared functions. We will highlight the similarities between the two groups and examine their discrete units. We will show that the two groups – although aesthetically very different – work along the same lines, and the encapsulated meaning and disposition of their units are not that different. The forefront narrative of Dishonored is centred around political scheming and betrayal, focusing on Corvo Attano, a former Lord Protector to an Empress, who is assassinated,

38 OPATIĆ, D.: Zombies in Revolt: The Violent Revolution of American Cinematic Monster. In *Sic: A Journal of Literature, Culture & Literary Translation*, 2014, Vol. 2, No. 2, p. 3-6. [online]. [2018-03-20]. Available at: <<https://www.sic-journal.org/ArticleView.aspx?aid=251>>.

39 SCONCE, J.: Dead metaphors/undead allegories. In HUNT, L., LOCKYER, S., WILLIAMSON, M. (eds.): *Screening the Undead: Vampires and Zombies in Film and Television*. New York City : Palgrave Macmillan, 2014, p. 331-335.

40 BOOTH, M.: *The AI Systems of Left 4 Dead*. 2009. [online]. [2018-03-20]. Available at: <http://www.valvesoftware.com/publications/2009/ai_systems_of_l4d_mike_booth.pdf>.

41 Ibidem.

42 ARKANE STUDIOS: *Dishonored (PlayStation version)*. [digital game]. Rockville, MA : Bethesda Softworks LLC, 2012.

and her rule is upended by her Spymaster. The player follows the dishonoured Corvo in his quest to avenge the Empress and restore balance to the empire. However, the background unravels a classically outbreak-style zombie tale, where growing environmental concerns, decaying morals, and bad political decisions lead to a world out of balance and the wake of a zombie-plague. The parallel tales of the Rat Plague and the rise of the Spymaster to power, becoming the Lord Regent, provide two distinct zombie-like units. The weepers are presented as prototypical outbreak style zombies. Just as discussed before, they convert human units into zombies with uniform characteristics. The bastardisation of the original units can be observed through impaired speech and impulsiveness. The classical loss of volition and unravelling of society puts the weepers into stark opposition with the protagonist, Corvo. Individual units accelerate the crisis by spreading the plague, while the narrative background points towards an abstract originator in an environmental punishment or cleansing fire. The Rat Plague – as other plague narratives before⁴³ – symbolises the corruption of society at large. Weepers are shown to come from different social classes, and the moral choices of the player affect the spread of the disease and the “age of industry”, which lead to the rise of society is built on the mistreatment of environmental resources and animal cruelty. One of the central themes of the game, whale hunting is alluded to as a strong contender for another reason behind the zombie plague. The contrast between the industrialised city and the – mostly written – recollections of Pandysia, a faraway paradise provides the same global tension, for which Romero zombie tales are famous. However, the role of morality is also expressed in the game’s mechanics. If the player; as Corvo, chooses to set out on a vicious and bloody vendetta, the plague spreads faster, spawning more rats and weepers along the way.

However, weepers are not the only thing that is affected by the morality of the player’s actions. Corvo’s protégée, Emily, the child empress, also mirrors the player’s choices. Getting increasingly bloodthirsty or balanced based on Corvo’s body count. Similarly, the rebel officers devolve into a small-scale war between themselves if the player chooses the “high chaos” route through the game. Nevertheless, the player’s choices only reflect the schism between the old status-quo and the new – albeit unravelling – world order. Although the main storyline presents a disturbed world, the zombie themes here are not as overt as in case of the weepers. However, it presents a unique instance of a zombie-like unit. Much like the Rat Plague, the putsch-government is also the manifestation of moral decay. In contrast to the mistreatment of the environment, which is seemingly tied to the plague, the new Lord Regent heralds a social crisis, in which masses are exploited, living in poverty, dying of disease and violence, while the rich reap the rewards of the industrial revolution. His pawns, the City Watch, acts much like zombies, at loss of volition, distorted into a caricature of a police-force perpetuating violence and corruption. Similar to weepers, they come from colourful backgrounds, but they go through a transformation when instantiated and become alike. The uniform is a great aesthetic tell-tale of their transformation, mirroring the clenched posture and putrid blood that signifies weepers. In terms of furthering the imbalance, while weepers stick with a classical outbreak-narrative and spreading the plague, watchmen are subtler. Through different inquiries and scripted events, we can learn how the whole City Watch is rotting from the inside, not just taking in prisoners, thieves, and thugs as members, but corrupting all officers, and pushing them to abuse their powers, plunging the city more into chaos

Interestingly, the two zombie-like units share a common originator. Similar to Resident Evil, the plague is a manifestation of the greed and short-sightedness of an elite group

43 BOLUK, S., LENZ, W.: Infection, media, and capitalism: From early modern plagues to postmodern zombies. In *Journal for Early Modern Cultural Studies*, 2010, Vol. 10, No. 2, p. 128-134.

trying to grab power. The Umbrella Corporation creates the T-Virus, while the putsch-government spreads the plague in secret in Dishonored. In both cases, the weaponization of natural artefacts spins out of hand. All the while, the Lord Regent orchestrates the main conflict of the game, exercising immense control over people, taking the volition of the soldiers, who “will follow his orders to the end”. The unquestioned loyalty of the watchmen to their new master – against their former brother-in-arms, Corvo – fits perfectly into the same operations we see in zombie units and their originators. The disposition of these units towards our hero is also mirroring the weepers. While they represent the consequences of a world shifting out of its environmental balance, the corrupted watchmen patrolling the run-down streets are signifying the upheaval of moral and political balance. In both cases, Corvo has all the knowledge and volition to act in line with a morally righteous path, while the opposing units are mindlessly trying to kill the protagonist and assimilate new recruits, while executing the will of their originator, which was passed onto them as a parameter. Dishonored instantiates different units (weepers and city watchmen) from the same prototype constructor. These units have the same functions, accounting for polymorphism, and they interact with the hero unit and their respective originator about the same way. We demonstrated that their place in the larger narrative, and the meaning conveyed by their interplay mirror each other and creates greater narrative arcs that play on the same strings. Essentially both weepers and city watchmen are zombies. We argue that the watchmen of Dishonored are not alone in videogames and in fact many videogame enemies are acting as zombie-like units. They often take something familiar and strip them from their volition, often granting them a uniform look, and put them under the spell of a central agent or narrative theme acting as the originator unit for these enemies.

Conclusion

Although the software and platform limitations make a lot of videogame enemies act like zombies or zombie-like entities,⁴⁴ we argue that this connection goes deeper than the superficial similarities of deadpan characters controlled by simple behaviour trees. We identified two major unit prototypes in zombie narratives. Firstly, the zombie unit itself, which functions as an embodiment of a broken status-quo, which leads to the unravelling of the world order. Zombies take and twist other units, stripping them of volition and unique characteristics, while escalating the circumstances that give birth to them in the first place. Secondly, the zombie originator unit, which acts as a catalyst and manifestation of the cause behind the aforementioned breakdown. Originators instantiate new zombie units and impose a central will over them. Even though a lot of originators could be identified by person, a lot of them are abstract. The heart of the zombie unit and their originators is the twisting of familiar into uncanny and the conflict born from a shifted equilibrium that creates such an easily perceived and compelling narrative, which makes many “the player against the world” stories zombie tales as a modern myth⁴⁵ in the end.

We presented three case studies, in which we examined different aspects of how these units operate in videogame narratives. First, we observed a classical outbreak narrative in Resident Evil, then looked at how an abstract originator could be realised through the AI Director of Left 4 Dead. Finally, we turned to Dishonored and examined two different

44 HUNT, N.: A: Utilitarian Antagonist: The Zombie in Popular Video Game. In HUBNER, L., LEANING, M., MANNING, P. (eds.): *The Zombie Renaissance in Popular Culture*. Houndmills : Palgrave Macmillan, 2015, p. 115.

45 For more information, see: DELEUZE, G., GUATTARI, F.: *Anti-Oedipus: Capitalism and Schizophrenia*. Minneapolis : University of Minnesota Press, 1984.

enemy types and how they embody zombie-like units in similar ways, despite their aesthetic differences. We argue that a large majority of videogames today operate with the same units as zombies in fiction, even if we move beyond superficial and easily recognisable features, like virus that infects Mavericks in *Megaman X*,⁴⁶ or the turning of woodland creatures into machines in *Sonic the Hedgehog*.⁴⁷ We demonstrated through Dishonored how non-zombie antagonists act as zombies, not just in action, but as a narrative unit, and with close inspection, other videogame antagonists can be classified as zombie-like units as well. *Shin Sangokumusou*⁴⁸ or *Assassin's Creed*⁴⁹ are perhaps good examples of videogames which do not feature zombies, however, they do feature a uniformed mass of soldiers, who are clearly made up from the populus, and are almost completely subservient to a morally corrupt power, which have risen from the shift of a geo-political equilibrium.

Ultimately, many antagonist units function as antitheses to protagonists in their quest to restore the balance of narratives' setting, however not all manifest as the consequences of a world already in peril. Hidden zombies in videogame narratives might have been born from platform limitations, where these kinds of scenarios were easier to establish to explain the relatively empty or lifeless gamespace⁵⁰ but the current pervasiveness of zombie-like entities, their originators, and the narratives their interactions form - especially in AAA games - can be chalked up to genre conventions with increasing probability. It is not to say, however, that we advocate the end of zombie-like videogame characters, but we would like to shine some light on the interestingly common roots of many contemporary games. We are not here to herald the doom of unique takes in games, but as far as unseen consequences go, the over reliance on zombie-like narrative units has already infected videogames.

Endnotes

* In computer programming encapsulation generally refers to the restrictedness of the access to the components of discrete objects. The functions of the object can be invoked as methods of the unit, but its components are hidden from other objects.

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46 CAPCOM: *Megaman X (SNES version)*. [digital game]. Osaka : Capcom, 1993.

47 SONIC TEAM: *Sonic the Hedgehog (Sega Mega Drive version)*. [digital game]. Tokyo : Sega, 1991.

48 OMEGA FORCE: *Shin Sangokumusou (PlayStation version)*. [digital game]. Yokohama : Koei, 2000.

49 UBISOFT MONTREAL: *Assassin's Creed (Xbox version)*. [digital game]. Rennes : Ubisoft, 2007.

50 ROUSE III, R.: Match Made in Hell: The inevitable success of the horror genre in video games. In PERRON, B. (ed.): *Horror Video Games: Essays on the fusion of fear and play*. London : McFarland, 2009, p. 15-16.

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Pathological Gambling and Co-dependence

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ABSTRACT:

Pathological gambling is one of the addictions that is widespread in our society, but despite its seriousness, it does not receive sufficient attention. The economic consequences of pathological gambling are comparable to other addictions, although in the overall context, their economic impact is much greater. The social consequences of pathological gambling are even greater than in case of other addictions, as pathological gamblers mostly have a family, and because of their dependence, their family often becomes dysfunctional, with all the related consequences. There exist several effective treatment approaches to treat pathological gambling, as in the case of substance dependencies. For an understanding of pathological behaviour in online games and digital games, it is also necessary to understand the development of related phenomenon – pathological gambling. The aim of this article is to briefly describe pathological gambling and co-dependence.

KEY WORDS:

addiction, co-dependence, family, games, pathological gambling.

Introduction to pathological gambling

Play is a natural part of human life. People have been playing since time immemorial. Dutch historian Johan Huizinga in his original work „Homo ludens“ presented the view that human culture originates and develops in the game and as a game. The game can be understood as a means of creating anchor frames, searching for meaning. The game is a means, a method, a way of knowing, developing knowledge, verifying this knowledge. The game is necessary for a future possible way of existence, „learning“ communication, abilities, forming attitudes and behaviour. All this is accompanied by psychological gains, by experiencing pleasant feelings, excitement states, satisfaction from play itself or possible winnings, by releasing intrapsychic tension. In addition to the development of computer skills, computer games have many other positive effects – development of memory, thinking, collaboration with others, coordination of movements, attention. They can be used as a learning tool.

Nowadays, computer games are part of the entertainment industry. The Internet has enabled access to gambling - the player can play right from his home, no one can see him or her playing. The first online casino was created in 1994. In recent years, the number of site operators, which allow players to join gambling in real time, 24 hours a day, has risen sharply. Favourite online gambling games include poker, casinos, sports betting, bingo or lotteries. In online gambling, the player is motivated by the lure of profit. This, at the same time, requires the player to put his money into the game. Participation in gambling is forbidden to persons under the age of 18. Online gambling differs from digital games primarily in terms of its constant availability, easy access and ability to bet for uninterrupted periods in private, facilitated by the interactive environment and internet environment. Gamblers who play in online as well as digital games appear to have the greatest risks of harm, which is related to their greater gambling involvement. It may thus be a mistake to look for characteristics that are common to all gambling activities and constitute their

essence, because there is no essential characteristic common to all games. Instead we should look at the ways in which some games and some gambling activities resemble each other in some respects but not in others, as do members of the same family. The most fundamental difficulties arise from two features peculiar to online gambling. The first is that new communications technologies make it possible for people to gamble anywhere in the world and, in particular, in the privacy of their own homes. The second is that e-gambling services can not only be consumed anywhere in the world; they can also be supplied from nearly anywhere in the world.

One should see online gambling as essentially part of the home entertainment business, whose future will be closely allied to the future of that whole industry. Presumably, like the rest of the entertainment industry, growth will be closely related to increases in the amount of time and money that people have to spend on recreation. Even when people can gamble at home with greater ease than at present, I would still expect there to be a large number of people who will prefer, either regularly or occasionally, to go out to a casino or other venue where they can play the games of their choice or bet on sporting and other events as they watch them. As long as, and to the extent that, going out to gamble remains an attractive option when people want to go out to have fun, the land-based industry will continue to flourish. On the other hand, gambling is predominantly an activity that is popular with the less affluent, and there is some reason to think that the popularity of all types of gambling—especially machine gambling—will decline. This relates to the kind of gambling that is likely to be popular as home entertainment. Already it is significant that at virtual casinos, machine gambling is far less popular than table games, a trend that is the reverse of the situation at land-based casinos. It may also be expected that people who have grown up playing TV and computer games will want to play adult gambling games that require a higher degree of intellectual or manual dexterity than is offered by fruit machines.

In the context of the present article, we are focusing on the „dark side of the games“ and we deal with the problem of when the game ceases to be a positive phenomenon and becomes negative – a psychopathological disorder that requires treatment intervention. The fact that a person develops pathological gambling cannot be explained solely by one cause, similarly to other phenomena of social pathology. Contemporary science rejects mono-causal theories and emphasizes an interplay of several factors of bio-psycho-social nature.¹ Gambling is an activity based on impulses, without awareness of consequences. It is typical for gambling that the gambler can buy the opportunity to win. Gambling is a common activity performed in public in most countries. A gamble, as stated by Nešpor, Marhounová,² is a dialogue with one's environment that contains an element of experimentation with other people and with one's own abilities. This gamble has its own model and its own logic, but the addicted player ceases perceiving the gamble and pays attention to the model behaviour that absorbs him or her. Thus, the player does not realise his or her losses, and loses control over the gamble.

According to a survey conducted in 2008 in the Czech Republic, 32% of pathological gamblers reported experience with slot machines, casinos and sports betting before the age of 18. Gambling caused the pathological gamblers the greatest problems in the areas of finances in 97% and in the family in 89% of the respondents. Mental health issues related to gambling were also common (79%), and so were work-related problems (57%).³ In a survey conducted among patients treated at Predna Hora, results show that more

1 PRUNER, J., HRONCOVÁ, J.: *Pedagogické a psychologické aspekty patologického hráčstva*. Zvolen : Pedagogická fakulta UMB v Banskej Bystrici, 2009, p. 239.

2 NEŠPOR, K., MARHOUNOVÁ, A.: *Alkoholici, fetišci a gambleri*. Praha : Empatie, 1995, p. 110.

3 NEŠPOR, K., SCHEANSOVÁ, A.: *Názory patologických hráčů na legislativu týkající se hazardních her a jejich zkušenosti s jejím dodržováním*. In *Alkoholismus a drogové závislosti*, 2008, Vol. 43, No. 2, p. 119.

than 50% of respondents have their first gambling experience before the age of adulthood. Gambling on slot machines is the most common type of gambling (80%). Some of the most frequent consequences of gambling included relationship problems in 92% and financial problems in 84% of the pathological gamblers. 92% agreed with banning gambling advertising as it is a risk factor of craving.⁴ The definition of pathological gambling according to ICD-10 is: for at least one year, two or more episodes of gambling occur in a person. These episodes are not profitable for the person; however they are repeated despite the fact that they cause distress and disrupt everyday life. The person describes a strong compulsion to gamble, which is difficult to control, and states that he or she is not able to resist gambling by the force of their will. They are absorbed in the ideas and fantasies of gambling and in circumstances accompanying this activity.⁵

There were postulated „positive support“ models, based on the premise of the initial positive experiences that stimulate the individual to display repeated responses. The main „positive support“ for the player is the fantasy of winning money.⁶ Sharpe argues that in a depressed individual, the motivation to gamble can come from the desire to dispel experienced stress, or a need to get rid of unpleasant states.⁷ „Configuration of certain personality traits can promote pathological gambling, similarly to the way other impulse disorders significantly contribute to other addictions.“⁸ The analysis of the biological and neurobiological aspects related to problem gambling is relatively new compared to research into other factors. Studies suggest that numerous systems of neural pathways play a role in pathological gambling. According to Ibanez et al.⁹, there exists evidence of the role of serotonin in gambling. It appears that certain occurrence of this substance and substances related to it correlate with high levels of impulsivity. There exist also associations of pathological gambling with the dopamine mechanism. The dopamine mesocortical limbic system forms the basis of reward and reinforcement in both healthy and disordered states. According to Comings and Blum, studies indicate that psychological states experienced during reinforcement originate in the release of dopamine from the Diencephalon.¹⁰ The main symptom of pathological gambling is repetitive, persistent gambling, which continues and often escalates despite the unpleasant social consequences, such as weight loss, disorders in family relationships and disruption of family life. A number of mental disorders need to be distinguished from pathological gambling in the process of differential diagnosis. Most commonly, these mental disorders are induced by the effect of alcohol.¹¹

In pathological gambling, the course of actions itself is ego-syntonic, that is, it corresponds to a conscious wish, unlike in the case of ego-dystonic behaviour in obsessive-compulsive disorder, when a patient does not feel good during their obsessive or compulsive

4 BENKOVIČ, J., MARTINOVÉ, M.: *Hazardný priemysel v SR a jeho dôsledky z pohľadu patologických hráčov*. In *Alkoholizmus a drogové závislosti*, 2011, Vol. 46, No. 5, p. 303.

5 KONČEK, V., FERIANEC, V.: *MKCH-10. Medzinárodná štatistická klasifikácia chorôb a príbuzných zdravotných problémov. 10. revízia: Príručka*. Bratislava : Obzor, 1993, p. 75.

6 PRUNER, J., HRONCOVÁ, J.: *Pedagogické a psychologické aspekty patologického hráčstva*. Zvolen : Pedagogická fakulta UMB v Banskej Bystrici, 2009, p. 239.

7 SHARPE, L.: A reformulated cognitive-behavioral model of problem gambling. A biopsychosocial perspective. In *Clinical Psychology Review*, 2002, Vol. 22, No. 1, p. 20-22.

8 PRUNER, J., HRONCOVÁ, J.: *Pedagogické a psychologické aspekty patologického hráčstva*. Zvolen : Pedagogická fakulta UMB v Banskej Bystrici, 2009, p. 84.

9 IBANEZ, A., BLANCO, C., SAIZ-RUIZ, J.: Neurobiology and genetics of pathological gambling. In *Psychiatric Annals*, 2002, Vol. 32, No. 3, p. 183.

10 COMINGS, D. E., BLUM, K.: Reward deficiency syndrome: genetic aspects of behavioral disorders. In *Progress in Brain Research*, 2000, Vol. 126, No. 1, p. 331-332.

11 KONČEK, V., FERIANEC, V.: *MKCH-10. Medzinárodná štatistická klasifikácia chorôb a príbuzných zdravotných problémov. 10. revízia: Príručka*. Bratislava : Obzor, 1993, p. 75.

sive course of actions.¹² According to Nešpor,¹³ the stages of development of pathological gambling are as follows:

- Stage of winning: casual play, frequent fantasies about great winnings, inappropriate optimism, more frequent winnings, blissful excitement before and during gambling.
- Stage of losing: Thinking mainly of the game and inability to stop gambling, playing alone, thoughts are focused only on gambling, loss of control, lying, neglect of a family or partner.
- Stage of despair: raising of bets, time spent playing becomes longer, loneliness, feelings of guilt, blaming others, remorse without concrete steps to change, suicidal activity, illegal actions.

Similarly to the stages of alcoholism, the course can be atypical. There exist cases when the pathological gamblers were able to keep their gambling secret for quite a long time. Hupková states that there are three types of pathological gamblers:¹⁴ 1. *Social gamblers* – they play for financial gain or due to a short-term life crisis, addiction if not fully developed in them; they are able to stop gambling when they lose a predetermined amount or when they experience problems due to gambling. 2. *Gamblers with personality disorders* – they have low stress resistance, difficulties with self-control, they act impulsively, quickly and unwisely, they have difficulties to adapt to reality and escape into problems, they typically do not feel guilty about gambling. 3. *Players with low self-esteem* – the game is for them a way of releasing tension and anger that accumulates in them due to avoiding conflicts with specific people, playing gives them a feeling of higher self-worth, after gambling they feel guilt and shame.

Consequences of pathological gambling

A family member who is addicted to gambling significantly disturbs family life, as well as the lives of other family members. Pathological gambling puts in danger the fulfilment of the basic functions of the family. Children of gamblers or other parents with other dependencies (alcohol, drugs...) are more vulnerable to addiction than children of healthy parents. These children are typically very anxious and fearful. Because of long-term stress, they are more often sick; at school and among peers, they are less successful. Due to premature "adult worries" they more rarely experience joy, and they are more prone to deviations in mental development, which can even lead to mental disorders. Children of gamblers have problems with assertivity among peers or may be overly aggressive. They commonly experience feelings of fear, disappointment, loneliness, rejection, helplessness, uncertainty, and guilt about the desperate situation. Many problems, especially low self-confidence, accompany them into adulthood.

Similarly to the life of children, the partner's life also depends on the gambler's winnings and losses, his or her mood swings due to winnings and losses. This is termed the co-dependence of relatives. The family atmosphere is filled with tension, conflicts and disturbed communication. Occasionally it is refreshed by glimpses of hope that the situation

12 ŽIVNÝ, H.: Patologické hráčstvo a jeho terapia. In OKRUHLICA, L. et al.: *Ako sa prakticky orientovať v závislostiach*. Bratislava : Inštitút drogových závislostí pri Centre pre liečbu drogových závislostí, 1998, p. 276.

13 NEŠPOR, K.: *Už jsem prohrál dost*. Praha : Sportprag, 2006, p. 130.

14 HUPKOVÁ, I.: Vybrané aspekty problematiky patologického hráčstva. In *Sociálna prevencia*, 2009, Vol. 58, No. 2, p. 16-18.

will improve. After many vows and disappointments, relatives may give up efforts to solve the problem, and by their passivity they actually maintain the gambler and themselves in addiction. In other cases, the gambler's partner chooses relief for themselves and their children in the form of breaking up or divorce, and the family disintegrates. It is important to point out that together with the gambling member of the family, the entire family „becomes sick“. The real solution to the worsening situation is therefore the treatment of gambling addiction by professionals. Similarly, it is necessary to provide assistance to relatives of the gambler, in order to break the vicious circle of co-dependency and in order for them to actively participate in the recovery process. For them, family members are often part of the groups of recovering gamblers.

Family with a dependent member

According to Gjuríčová and Kubička,¹⁵ our lives within families are not only governed by our voluntary decisions; they take place under certain social conditions, habitual behaviours and the meanings that are associated with them. „Family homeostasis“ refers to the concept that family is a system which is closed in order to maintain a relatively stable state such that if the whole system or part of it is subjected to balance-disturbing forces, the previous equilibrium is restored by feedback. This occurs during points of crises in the cycle of family life or after significant changes in life.¹⁶ According to Munichin,¹⁷ the family can be functional or dysfunctional depending on how it can adapt to different stressors, which in turn depends on the clarity and reasonableness of the boundaries of its subsystems. In healthy families, parental and children's borders are clear and semi-diffusional, allowing parents to interact with children with a certain amount of authority and to negotiate methods and goals of parenthood with them, which are sufficiently clear and non-complicated from the point of view of the children.

Ritvo and Glick¹⁸ note that individuals, but also family systems have characteristic patterns to combat stress. The first form of family defence is to create and strengthen adaptive mechanisms that the family has used in the past. White¹⁹ states that serious family problems such as addictions, abuse, family secrets or other major stresses cause chaos and place the family at risk. Lindenmeyer²⁰ describes family processes in alcohol dependence and mentions adaptive mechanisms of families with an alcohol-dependent member - family closure towards the outside world in order to avoid the negative consequences of drinking, or to hide them; a change in the division of roles, taking over the duties of the dependent person in order to release them from burden and, at the same time, for the family to protect itself from the consequences of the dependent person's unreliability; obsequiousness and avoiding conflicts with the dependent person in the hope that this will reduce the consumption of alcohol but also to prevent the increase in alcohol-related violence. The family with a member who is dependent on a psychoactive substance is severely criticized by society. The family suffers for something which is not its fault, says

15 GJURIČOVÁ, Š., KUBIČKA, J.: *Rodinná terapie. Systematické a naratívne prístupy*. Praha : Grada Publishing, 2003, p. 184.

16 RITVO, C. E., GLICK, D. I.: *Párová a rodinná terapia. Stručný sprievodca*. Trenčín : Vydavateľstvo F, 2009, p. 198.

17 VALKOVIČ, I.: Salvador Minuchin a jeho štruktúrálna rodinná terapia. In *Empatia Bulletin*, 2007, Vol. 14, No. 4, p. 20.

18 RITVO, C. E., GLICK, D. I.: *Párová a rodinná terapia. Stručný sprievodca*. Trenčín : Vydavateľstvo F, 2009, p. 198.

19 WHITE, L.: *Foundations of Nursing*. Clifton Park, NY : Delmar Cengage Learning, 2005, p. 1762.

20 LINDENMEYER, J.: *Závislosť od alkoholu. pokroky v psychoterapii*. Trenčín : Vydavateľstvo F, 2009, p. 137.

Jílek.²¹ Many authors share the view that if someone in the family begins to use drugs, not only he or she becomes addicted. The entire family becomes sick and suffers from this.^{22 23} Janíková states²⁴ that the family in which the dependent person lives becomes co-dependent and the changing personality of the family member with dependence changes the functioning of the household as well as the mental states of other family members. Pavelova agrees with this view.²⁵ According to her, family, relatives, friends, employers and colleagues, all suffer from the behaviour of the person with dependence. The entire family is affected, entangled in the consequences of the disease and is itself secondarily dependent. According to Whitfield,²⁶ co-dependence is not the most prevalent addiction, but it is the base from which all our addictions develop. In the background of almost every addiction, there is co-dependence.

Dependent and co-dependent behaviour is characterised by a denial of reality, poor estimation of one's own abilities, over-estimation, accusation of the others, reproaches towards other people, which are based on the idea of restraining the dependent person's power, disdaining the opinions of others, self-deception, blaming others that they lack thankfulness, exaggerated care, and manipulation of others towards life according to one's own preferences.²⁷ According to Jílek,²⁸ the „rescuers“ of the addicts have a problem with accepting the fact that events do not go according to their preferences. Events take their own way, and we can help them and watch them until they stop rolling like an avalanche, and then we can save those who are stuck. As far as someone walks through places where there is an avalanche risk, we can warn them; we cannot remove them from there by force. The result of such effort would be that they will put up resistance against us. A co-dependent person is one who is “influenced by the behavior of the other person and feels the urge to control the behaviour of the other person”.²⁹ “Co-dependence is a reactive process. Co-dependent persons are reactive people and their behavior is a reaction, seldom an action”.³⁰ According to other authors, co-dependence is not a disease; it is a normal reaction to abnormal people.³¹ Others claim that it is a chronic disease. Beattie³² states that co-dependence is a disease. This is due to the fact that the behaviour of the co-dependent person and his or her other destructive forms of behaviour become a habit. The co-dependent individual repeats these habits without thinking. The co-dependent person develops an addictive system of thinking, feeling and behaviour, which causes them pain.

21 JÍLEK, J.: *Ze závislosti do nezávislosti (spoluzávislí a nešťastní)*. Praha : Roční období, 2008, p. 223.

22 KREDÁTUS, J.: Rodina a závislý člen. In *Čistý deň*, 2004, Vol. 2, No. 2, p. 6-7.

23 JANÍKOVÁ, K.: Rodina so závislým členom – postihnutá rodina, alebo čo otvára bránu k etiketizácii rodiny s drogovou závislým členom. In *Prevencia – informačný bulletin zameraný na prevenciu sociálno-patologických javov*, 2007, Vol. 6, No. 2, p. 69-70.

24 JANÍKOVÁ, K.: Rodina so závislým členom – postihnutá rodina, alebo čo otvára bránu k etiketizácii rodiny s drogovou závislým členom. In *Prevencia – informačný bulletin zameraný na prevenciu sociálno-patologických javov*, 2007, Vol. 6, No. 2, p. 70-71.

25 PAVELOVÁ, L.: Základné funkcie rodiny v kontexte závislosti od alkoholu. In *Čistý deň*, 2006, Vol. 4, No. 2, p. 24-25.

26 WHITFIELD, CH. L.: *Co-dependence: Healing the Human Condition: The New Paradigm for Helping Professionals and People in Recovery*. Florida : HCL, 1991, p. 327.

27 JÍLEK, J.: *Záchránci a nezachránění (1)*. [online]. [2018-02-15]. Available at: <[28 JÍLEK, J.: *Záchránci a nezachránění \(3\)*. \[online\]. \[2018-02-15\]. Available at: <\[29 BEATTLIEOVÁ, M.: *Koniec spoluzávislosti. Prestaňte kontrolovať druhých začnite starať o seba*. Trnava: Spolok svätého Vojtecha, 2006, p. 47.\]\(http://www.bud-fit.cz/zavislosti/zachranci-a-nezachraneni-\(3\)/>.</p>
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30 LASKOVÁ, Š.: Kodependencia. In *Psychiatria pre prax*, 2007, Vol. 2007, No. 4, p. 164.

31 BEATTLIEOVÁ, M.: *Koniec spoluzávislosti. Prestaňte kontrolovať druhých a začnite sa starať o seba*. Trnava : Spolok svätého Vojtecha, 2006, p. 280.

32 Ibidem.

The co-dependent person is characterized by at least three of the following features: depression, insomnia, alcohol and/or medicines abuse, denial of reality.³³ The co-dependence has 4 stages – initial stage (we take care of others, in order to gain self-respect which was lost by living in a dysfunctional family), obsession (we want our partner to change their habits, we threaten him or her, we feel that we're the reason of the partner's problems, and we condemn ourselves for that), secret life (we hide the bad behaviour of the partner, we are watching him or her, we feel responsible for the partner) and the last stage – loss of control (we control partner's eating by force, we fight with him, we react violently and lose self-control). Beattieová³⁴ states that every co-dependent person must pass through all these stages. Hollis³⁵ quotes Fritz Perls that “the only way out leads through this process”. The first step towards change is becoming aware of reality and the second step is the acceptance of the reality.³⁶

Treatment of pathological gambling

The course of treatment is similar to that of other addictions. The ideal treatment is characterised by a multidimensional approach, aimed at managing the somatic, psychological and social symptoms of the disease. In general, treatment can be inpatient or outpatient. Due to some similarities with alcoholism, similar treatment methods are often implemented as in the case of alcohol treatment, mostly in combination with individual psychotherapy, focused on motivation and on obtaining an insight into the disease. At the same time, it is necessary to treat possible accompanying disorders, especially depressions, manias, and psychoactive substance use. It can be concluded that only a person who has problems and wants to solve them, can be treated, i.e. only a person who does not only need treatment but wants to be treated. A prerequisite for treatment is an insight into the disease, the realisation that without treatment the patient cannot manage himself or herself and, last but not least, the willingness to cooperate.³⁷ The basic therapeutic strategies used in the treatment of pathological gambling include: psychoanalysis, pharmacotherapy, paradoxical intention, aversion therapy, systematic desensitisation, subconscious desensitization, stimuli control, behavioural counselling, supportive therapy, problem-centred treatment, marital group therapy, cognitive restructuring and cognitive-behavioural therapy (CBT). Basic therapeutic strategies are complemented by equally important additional procedures in the treatment of pathological gambling such as: motivational training, dynamic therapy, relaxation, techniques to increase self-confidence, relapse prevention, behavioural training, psychodrama, art therapy, working with the family, physical exercise and yoga as a means of improving the emotional state and as part of a healthy lifestyle, legal counselling, long-term aftercare, self-help groups of anonymous gamblers, and pharmacological interventions as a supportive treatment.³⁸ Pathological

33 HRKOVÁ, G.: *Liečebnica. Spoluzávislosť – kozávislosť*. Malacky : PUBLIC, 1998, p. 28.

34 BEATTLIEOVÁ, M.: *Koniec spoluzávislosti. Prestaňte kontrolovať druhých začnite starať o seba*. Trnava: Spolok svätého Vojtecha, 2006, p. 280.

35 Ibidem, p. 162.

36 Ibidem, p. 280.

37 ŽIVNÝ, H.: Patologické hráčstvo a jeho terapia. In OKRUHLICA, L. et al.: *Ako sa prakticky orientovať v závislostiach*. Bratislava : Inštitút drogových závislostí pri Centre pre liečbu drogových závislostí, 1998, p. 276.

38 NÁBĚLEK, L.: Nelátkové závislosti. In ONDREJKOVIČ, P. et al. *Sociálna patológia*. Bratislava : VEDA, 2009, p. 580.

gambling manifests itself in the affected individual in physiological changes, changes in thinking, changes in the emotional area, behavioural changes, and changes in social life, and therefore all treatment programmes should also take into account these factors.

Generally speaking, the goal of therapeutic approaches is to change specific behaviours that prevent a person from existing independently. Concrete goals of the treatment are determined by a therapist together with the person with dependence, these goals are then included in the therapeutic contract. The therapist helps the patient to find a way how to think more constructively and how to limit the impact of disease symptoms on their behaviour. The patient learns how to understand the symptom of his or her disease (possibly also its triggers) and to test them. The therapist helps him or her reduce the degree of discomfort, the impact of the symptoms on their behaviour, the symptoms frequency as well as the degree and conviction of their „truthfulness“.³⁹ According to Prochaska and Norcross,⁴⁰ the therapeutic relationship has the greatest share in inducing change, among all effective factors in psychotherapy. According to Deitch⁴¹ the therapeutic relationship is the factor of change. It brings into therapy themes, whose content is relationship and obstacles in relationship, transference, and misunderstanding. The therapeutical relationship, according to Mikota,⁴² is corrective and, for the client with the addiction, is an exception in the client's generalized and deeply rooted distrust of other people and conveys the importance of real interpersonal relations, which were, until now, functional relationships for the client. In CBT, a wide-spread method of working with addicts is relapse prevention⁴³ as well as motivational interviewing according to Miller and Rollnick. Relapse prevention is conceptualized as a short-term complementary therapy that seeks to promote self-control in a client with a dependence problem. Relapse prevention is based on the theory of social learning, cognitive therapy, and on lifestyle change approaches and behavioural skills training.⁴⁴ Tate, Brown, Unrod and Ramo claim that many relapse prevention programs focus on the most prominent, so-called „active“, emotions (such as, for example, anger, frustration and agitation), but for clients with an associated diagnosis of depression or posttraumatic stress disorder, relapse prevention should also include addressing the “more passive” painful affective conditions (e.g. sadness, guilt and insecurity), which proved to be significant causes of return to drug use in these individuals.⁴⁵

Family therapy is part of the treatment in younger patients, but also in adults who live with their parents. After being discharged from hospital, the patient returns to the environment where his mental disorder actually started. Some family problems may be the cause of the first onset of a mental disorder; others may trigger repeated episodes of the disease and thus perpetuate its symptoms. Family psychotherapy is based on the basic assumption that if we cannot influence the environment in which the patient lives, we cannot change his or her problems and solve them. Also here, the rule is that the main initiator and performer of the changes is the family itself; the family therapist only takes on the role of a “guide.” The experts agree that family therapy supports the client's ability to complete treatment and improves the treatment outcomes.⁴⁶ In addition to the satis-

39 PRAŠKO, J., MOŽNÝ, P.: Kognitivně behaviorální terapie. In VYBÍRAL, Z., ROUBAL, J. (eds.): *Současná psychoterapie*. Praha: Portál, 2010, p. 744.

40 PROCHASKA, J. O., NORCROSS, J. C.: *Psychoterapeutické systémy*. Praha: Grada Publishing, 1999, p. 476.

41 KALINA, K., MIOVSKÝ, M.: *Psychoterapie v léčbě závislostí*. In KALINA, K. (ed.): *Základy klinické adiktologie*. Praha: Grada Publishing, 2008, p. 388.

42 Ibidem.

43 Ibidem.

44 NAJAVITS, L. M., WEISS, R. D.: Variations in therapist effectiveness in the treatment of patients with substance use disorders: an empirical review. In *Addiction*, 1994, Vol. 89, No. 6, p. 681-682.

45 TATE, S. R., BROWN, S. A., UNROD, M., RAMO, D. E.: Context of relapse for substance-dependent adults with and without comorbid psychiatric disorders. In *Addictive Behaviors*, 2004, Vol. 29, No. 9, p. 1715-1716.

46 FROUZOVÁ, M., KALINA, K.: Rodinná terapie a práce s rodinou. In KALINA, K. (ed.): *Základy klinické adiktologie*. Praha: Grada Publishing, 2008, p. 196-197.

faction and recovery of the family member, the family can benefit, in the first place, from overcoming the feelings of failure, shame, guilt, anger, accusation and self-blaming, but also from increased competence in coping with problems and strengthening the sense of belonging (including the sense of belonging with the client). For the family and relatives it is often difficult to find the right amount and form of motivation for the patient to be active at home or outside the home. It is a mistake to force him or her into something for which he or she does not feel the self-confidence yet. It is advisable to leave up to him or her the decision whether and to what extent he or she will participate in the activities. Family and close friends should give the patient a clear indication of their support and, by that, help him or her to gradually build up their lost self-confidence and self-trust.

Conclusion

In the past century, gambling has undergone a profound transformation in the types of games available, accessibility, widespread acceptance, and appeal. Once regarded as economically marginal, politically corrupt, and often morally dubious, it was now become widely accepted by society as a socially acceptable form of entertainment and a significant generator of revenues for both the industry and governments. The expansion of gambling worldwide is an enormous social experiment with obvious social and personal costs. Pathological gambling is one of the dependencies widespread in our society but, despite its severity, is not getting sufficient attention. Although most people gamble occasionally for fun and pleasure, gambling brings with it inherent risks of personal and social harm to the same vulnerable and susceptible individuals. Pathological gambling is a multifaceted rather than unitary phenomenon. Variations in the motivations and characteristics of gamblers, and in gambling activities themselves, mean that findings obtained in one context are unlike to be relevant or valid in another. In essence, addictive disorders represent the outcome of a complex interplay of multiple factors – a paradigm that resembles the public health triad of host, environment, and agent. Thus, the types of games played also impact the development of gambling problems.

Dependence is a complex disorder; how an individual becomes dependent is probably as complex as the brain itself. Some aspects of the syndrome are clear, but much remains to be learned, for instance in the areas of craving and loss of control. Thus, despite our knowledge about such matters as vulnerability, mechanisms of tolerance, withdrawal and craving, we presently cannot predict who will lose control over gambling and become dependent. A lot thus remains to be learned about these processes when studying the neuroscience and social science of dependence related behaviours.

The social consequences of pathological gambling are even greater than those of other addictions because pathological gamblers have families and their dependence renders them often non-functional, with all the consequences. Pathological gambling manifests itself in pathological gamblers by physiological changes, changes in thinking, changes in the emotional area, changes in behaviour and social life. In pathological gambling the load of the addicts and the dependent families is the same. The family in which the dependent person lives becomes co-dependent and the changing personality of the family member with dependence changes the functioning of the household as well as the mental states of other family members. Co-dependents often take on a martyr's role and become “benefactors” to an individual in need. When the caretaking becomes compulsive, the co-dependent feels choice less and feels helpless in the relationship, but is unable to break away from the cycle of behaviour that causes it. Co-dependents view themselves

as victims and are attracted to that same weakness in love and friendship relationships. Social work with families at risk and rehabilitation of the family is one of the easiest ways to come to terms with their situation but to also actively participate in changing the lives of its members.

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THE “FATHER” OF THE NINTENDO ENTERTAINMENT SYSTEM IN SLOVAKIA FOR THE FIRST TIME

Interview with Masayuki UEMURA

Zdenko Mago (Z. M.): Profesor Uemura, how did you realize that working in the digital gaming industry would be the best choice for you? Which were the major factors that influenced your decision?

Masayuki Uemura: When I started working for Nintendo, it could hardly be said that there was a gaming industry. No such thing as a gaming industry existed then, so it cannot be said that I would decide on the basis of wanting to work for the gaming industry. At that time, Nintendo was considered to be a toy company, and when I received this job offer I imagined that I would earn money and do an interesting job – inventing new things. But when I entered this career I found out that it was really difficult to earn money and invent interesting things.

At that time, the video game industry began to expand in America and that is why I decided to work for Nintendo. But even today, I consider Nintendo to be only one of companies in the gaming industry. I do not consider it to be a company that would represent this industry.

Z. M.: When I was young, we used to call any gaming console available in our country at that time “Nintendo”. What do you think about the fact that people consider you as the founder of Nintendo?

Masayuki Uemura: I am really honoured that people in Slovakia called all game consoles “Nintendo”. I am delighted about this particularly because of the fact that I can know how the world of games is perceived in Japan. But what I find really interesting, is how it is perceived by people abroad as well as in Slovakia. If I had not been invited to this conference I would never have learnt this kind of information that people are telling me. So, this is really beneficial for me from a research point of view as well.

Z. M.: Together with your team you created many iconic games. Why did you decide to create a separate game for Mario who was originally just a character in the game Donkey Kong? Did you feel even then that he could become one of the most famous characters in the digital-gaming world?

Masayuki Uemura: Unfortunately, I was not personally involved in the development of Mario or Donkey Kong because they were evolving at different times, but I can tell you the words of Mr. Miyamoto who was involved in the development of both these games: Donkey Kong is a game created out of the boredom of people contributing to the development, and eventually creating a final product. If game developers do not feel that “this is interesting”, “this should be further developed”, “this should be worked on”, then it is hard to develop something. It is inevitable to have an idea. There were also situations that Nintendo was introduced to ideas by people from outside which Nintendo implemented, and one such idea was Donkey Kong.

When Mr. Miyamoto was developing Donkey Kong, one of the things he applied in the game was jumping – because children like jumping. When he was a child he liked jumping, too. And that is why he tried to implement it into the game. So, then we all, the employees, thought about this idea and later, Super Mario was invented based on this idea of jumping in the game.

Z. M.: Is there a particular piece of work or character you created for Nintendo of which you are most proud?

Masayuki Uemura: Rather than being proud of something specific, I wonder what has been achieved in Nintendo in general such as NES, Famicom and so on. So, these are the things I think about in general. Nintendo, of course, has significantly evolved from its beginning until the present. But when I come back to the original design from where the initial ideas for the original video games were born, that is probably what I am most proud of – that even now people still like it.

Z. M.: I know that you occasionally work for Nintendo as a consultant. On which of Nintendo’s recent projects have you consulted?

Masayuki Uemura: I officially terminated my employment last year, on March 31. However, even today, Nintendo developers still look to me to ask for advice. I signed a contract of discretion, so even though I can talk to Nintendo employees, I can answer their questions, I can express my point of view but, of course, I am not allowed to discuss these issues in public.

Z. M.: After you retired from Nintendo, why did you decide to enter and work in the academic world?

Masayuki Uemura: Originally, I did not think of nor did I have the ambition to work at university but I was attracted to research. Ritsumeikan University was about to open a new study programme for games and video games and I was approached and asked whether I would like to participate in this research and contribute to it. As I like challenges and new things I said to myself I would try.

Z. M.: Which areas of game research are you dealing with at the Ritsumeikan Centre for Game Studies?

Masayuki Uemura: Our research centre works by bringing together several teachers, several professors and exchanging views and insights into things. Mr. Inaba, who is here

with me, is also a member of this centre. We are also committed to creating a database of games and related affairs, and also the state supports the centre in these activities.

Z. M.: How many games does the Ritsumeikan Center archive contain at the moment? Could you describe the game archiving process?

Masayuki Uemura: It will be several thousands of games. We have a database consisting of games that have been created outside of Japan because, of course, not all of them are in Japan. Most of the games are in the USA in The National Museum of Play and at The University of New York, also in Germany at Leipzig University and in the UK. This year or in 2018, all these databases are planned to be linked and it will be possible to search for information about the games also on the Internet.

Z. M.: Do you consider digital games as cultural heritage?

Masayuki Uemura: I would wish that.

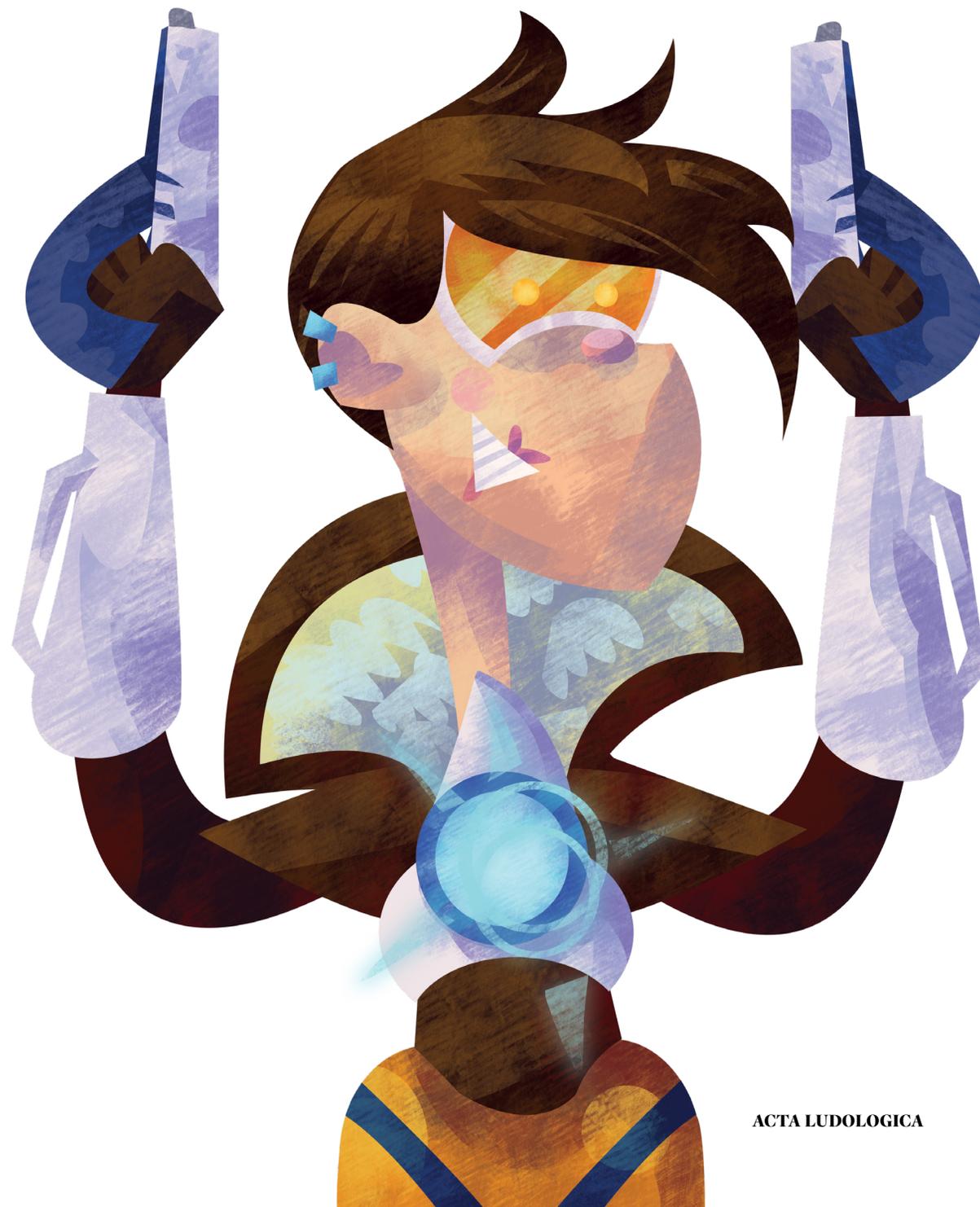
Masayuki Uemura

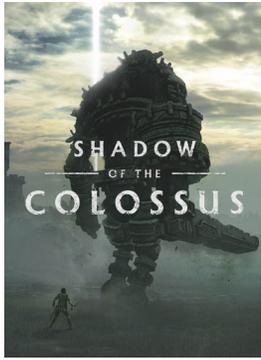
Since 1972, he has worked for the Nintendo Company on solar cell technology for the Laser Clay System Shooting project (simulation of shooting with a light weapon developed by Nintendo in 1973) and Beam Gun SP project. Due to the growing demand for development, he was in charge of the management of the Research & Development 2 Division in which they worked on the development of several hardware devices such as games for colour televisions, Nintendo Family Computer (Famicom), Nintendo Entertainment System (NES), Super Nintendo Entertainment System or BS-X Satellaview. Uemura and his group were responsible for a wide range of hardware and software projects (Donkey Kong, Mario Bros). Since 2004 he has been formally retired but he is still acting as a consultant for Nintendo.



Within academia, he acts as a professor at Ritsumeikan University (College of Image Arts and Sciences / Department of Image Arts and Sciences; Graduate School of Core Ethics and Frontier Sciences) in Kyoto, Japan, with a focus on digital games and gaming studies. At the same time, he is acting as a director of the Ritsumeikan Centre for Game Studies, which was founded as part of Ritsumeikan University The Kinugasa Research Organization Institute in April 2011. The centre conducts specialized and comprehensive research in a wide range of games and gaming, from traditional toys and game equipment to games using the latest technology.

Professor Masayuki Uemura holds the Special Achievement Award from the Japan Media Arts Festival 2015 and on April 25, 2017, he was awarded Doctor Honoris Causa by the University of Ss. Cyril and Methodius in Trnava, Slovakia.





SHADOW OF THE COLOSSUS

BLUEPOINT GAMES: *Shadow of the Colossus* (PlayStation 4 version). [digital game]. Tokyo : Sony Interactive Entertainment, 2018.

[Juraj Malíček](#)

Whenever the relationship between video games and the art is somehow thematic, contained in the (open) concepts themselves, and when shifting from general considerations to an argument based on a reference which is, however, not a real argument, almost always the video games ICO and SHADOW OF THE COLOSSUS, and sometimes THE LAST GUARDIAN will appear as examples of video games which somehow are or could be, should be art.

Unless they would not appear, which only means that the interlocutors did not play the games, do not know them or that they prefer other platforms and therefore they are bound by other video-game mythology.

ICO, released in 2001 on the Playstation 2 platform, was so different, so itself and at the same time so distinctive and strong that players and reviewers, because ICO was not such a commercially successful game, felt that when describing the game experience with ICO they should expressively reinforce this experience with the natural significance of the word „art“. The word, not the concept, but we might get to that later. Reviewers simply considered ICO to be art because the audiovisual component of the video game in conjunction with its game model, i.e. playability, was the holder of other cathartic qualities rather than qualities typical for video games.

What does it mean? Quite simply, ICO appeared to be different because it was more contemplative-meditative rather than hedonistic-orgiastic, it was more silent and slow rather than fast and loud, subtle rather than crude, rather Apollonian than Dionysian, rather introversial than extroversial, and so on. An action adventure that was neither too action-filled nor too adventurous with music, that does not roar but sounds, and with an image that does not flicker but illustrates.

An extraordinary experience, representing minority and on top of that, the name of the creator – Fumito Ueda.

ICO made sure that when Shadow of the Colossus came out on the same platform in 2005 it was no longer just a video game but it was the second video game of Fumito Ueda. The Fumito Ueda, the author of ICO. There was ultimately an arena for comparing and the author poetics could finally achieve respectability. Ueda, of course, was not the first and in no way the only designer of video games who began to be considered as the holder of a specific style but it was finally clear to a layman what was being referred to.

Because Shadow of the Colossus looked similar to ICO, it sounded similar, it was played similar, it gave out similar emotions.

A story trapped by mystery, with its own mythology felt behind it, a non-heroic looking hero, a rather shrugged boy, an ethereal girl to be rescued, disenchanted, rescued, not to take her by the hand but to defeat sixteen monsters. The game takes place in the exceptionally vast open air, in a diverse landscape, with the diversity defined by the same art style. Video games discovered chiaroscuro. The hero rides a horse throughout the coun-

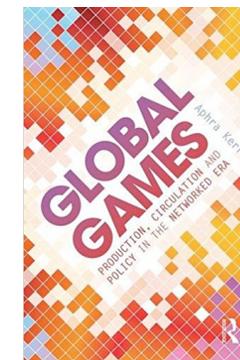
try, the reflection of the sun's rays from the blade of the sword, the colossus must first be found and then it must be figured out how to beat them. It is the same yet different, poetic like ICO, but more accessible. Shadow of the Colossus became a video game representing good taste. Again, the word 'art' was exploited abundantly, as if art was something more than a game, as if art added something to the game, something that is not natural to the game. Art as a higher level of the game, the next thing that video games are aiming for in order to get some rehabilitation. It is not a self-serving pastime, waste of time anymore but it can already bear some true values.

Regardless of the extraordinary amount of naïve ideas of art that have appeared in the rhetoric describing the uniqueness or otherness of the Ueda games, the fact remains that both ICO and Shadow of the Colossus indicate how much video games have changed over the last two decades.

It is the struggle for their own dignity – as an expression of this struggle are discussions about video games and art – but the struggle has turned into open door banging. Overall, video games are treated as copyright works, just like films, novels or operas, and what is most important, video games have identified their own canon, they have been mollycoddling it and taking care that the canon really lives.

Those who are interested in video games more deeply, more essentially, those who do not consider them as an immediate pastime but as something that has its own history, poetics, language, those do not have a problem to return to the old games on new platforms, and that is extremely important. Playing a game for twelve hours, alone, offline, immersing oneself in the story, experiencing it, thinking, feeling, becoming part of it – this experience alone can be new for players two generations younger for whom playing equals a playing online experience that they simply did not expect from a video game. And some may like it, just like some viewers like old black-and-white, silent films. Because of this, the canon makes sense.

That is the reason why ICO and Shadow of the Colossus were released together on Playstation 3 in 2011 and this is also the reason why Shadow of the Colossus has been released for the third time on Playstation 4. Of course, this game looks a bit different, it is renewed but it is exactly the type of renovation that basically does not change anything, it only reaches out to the fact that time is passing. It would be less comfortable to look at the unrenovated battle cruiser Potomkin, an unrenovated Shadow of the Colossus would be played less comfortably, there are no other significant differences.



GLOBAL GAMES: PRODUCTION, CIRCULATION AND POLICY IN THE NETWORKED ERA

KERR, A.: *Global Games : Production, Circulation and Policy in the Networked Era*. New York : Taylor & Francis, 2017. 228 p. ISBN 978-0-415-85887-8.

[Róbert Halenár](#)

Dr. Aphra Kerr is a senior lecturer in the Department of Sociology at Maynooth University in Ireland. Global games: production, circulation and policy in the networked era is a book based upon ten years of her discussion and research. As the au-

thor says, „this book aims to provide a theoretically robust and empirically informed but accessible analysis of the political, economic, social and cultural factors shaping production in the digital games industry and analyze how it is globalizing its production operations and localizing its content and services to reach the most lucrative markets“.

The book situates game production in the contemporary socio – historical context. It examines how the influence of liberal democracy and late capitalism in Western developed societies exists alongside the state – driven capitalism of China and other forms. The focus of the book is on commercial market productions. It also provides examples from non – market public, artistic and amateur productions, particularly where they are connected to networks of commercial productions.

The second chapter examines the structure of the games industry at a macro level. It also tries to determine the influence that globalization, the western financial crisis, changing policy regimes and technology have had on trends over the past decade.

The third chapter explores how the digital games industry produces its games and what type of work is involved. The author believes that just as work has become more socialized in the information industries, employment has become more individualized.

Chapter four sets out to challenge the perception, that while marketing gets some attention, other processes are often overlooked – “dismissed as below the line, as non – creative and non – strategic”. It is described how marketing departments have become involved in player acquisition, the analysis of player data and content generation aimed at customer relationship management. The author also explores their growing ability to collect, manage and utilize business, technical and player data. She believes that an area which is crucial to the circulation of games is localization, which often begins at the creation stage where code and assets are internationalized and made ready for localization.

Chapter five analyses policies aimed at encouraging game development in particular locations. The author looks at different situations in Europe and North America or Canada and in China or South Korea where policies are framed in opposition to neighbouring countries, and finance is targeted at the development of healthy games drawing upon historical themes. A related trend which this chapter explores is the rise of collectives, communities and pop – up events that are bottom up, underground and not driven purely by the market. The final aspects are new legislative and regulatory acts and concerns, which again vary across space and offer us a way of thinking about how companies, states and other participants attempt to shape game production.

The author in this book focused on changes in the professional production of market – orientated digital games as they harness and adapt to online and offline networks. She also examined broader organizational, institutional, legal and policy shifts and tensions surrounding these changes. She believes, and we must agree that the digital games industry provides media, communication and games scholars with a rich terrain for research – enabling us to challenge and renew existing theories and concepts.

Aphra Kerr in this book provides a very complex introduction to every step of the game lifecycle. Production of a game is a very complex area in which can be found a wide variety of influences. It must have its main idea coming from historical contents or everyday needs, it must have a target group which can bring the game to real economy life, it must have a production team which starts from the basic facts

known about the games field. In the first phases of lifecycle it requires a huge human input, work, ideas, time and of course capital. The socio – historical context may be different in every country around the world, but only if the main idea is right, can worldwide success be achieved. This book takes a look into the complexity of game production and defines several milestones in this path.

Only a complex team can provide a complex background of success production. Successful games must be supported by the strong structure of the games industry at any level. Aphra Kerr describes the influence of globalisation at a macro level, western and eastern cultures, policy regimes with their indirect influence. Also financial crisis and technological progress is not forgotten.

Production teams are people located in their environment, from which they receive ideas. Aphra Kerr describes the effect of, for example, social networks on game authors and employees.

After mass production the next step is the marketing of a game. It has to be creative because a new game must be interesting and strategically effective to be able to present the product in a very short space of time. Customer referral seeks only such a game that will appeal to him and hence the task of marketing is to convey information in a short hand form.

Around the world exists a network of players with which players are involved, as well as associations and companies producing games. This network covers data in the form of games and their ideas on one hand, and on the other hand data that travels as feedback from players. The entire interchange mechanism is continuous and interconnected. Many companies do not only process the data, but convert it into new products. The gaming net is then fed by this circle, as detailed in Aphra Kerr's book.

Business around the world has the same goals but can have different local policies. The Global Games book also deals with these differences based on the different historical circumstances of each region and country. These differences between Western Caribbean countries such as North America, Canada and Europe or China, South Korea and Japan are described in the book. Different perceptions of fun and humour, actions and drama must be taken into account not only in the game but also in communication and marketing. The book accompanies and draws on the various currents and trends that have a fundamental and spill-over effect on the area.

Digital games are expanding around the world. No part of society is completely immune. It is therefore very important to know the rules that move these worlds and which are also involved in transforming our society. This book by Aphra Kerr is definitely an important part of this international information exchange. In the digital world, which is invisible to our eyes, the mechanism of the creation and consumption of individual game components is revealed. At various stages, it shows the impact of social factors, historical ties, economic opportunities, plural efforts and motivations of individuals and societies. All this is displayed over a longer time horizon and by taking into account changes in individual cultures. Aphra Kerr has created a book that can be an encyclopaedia of the past, or a manual for the future. In one place, it gathers comprehensive information about the world of digital games in a global company.



BECOMING A VIDEO GAME ARTIST: FROM PORTFOLIO DESIGN TO LANDING THE JOB

PEARL, J.: *Becoming a Video Game Artist: From Portfolio Design to Landing the Job*. Boca Raton: CRC Press, Taylor & Francis Group, 2017. 219 p. ISBN 978-1138824935.

[Anna Hurajová](#)

John Pearl is a design director and principal artist at Gunfire Games. Over the past 17 years, he has worked in different positions including for example, character art director or technical art director, which enabled him to work with a number of different styles and genres of games while in these positions. He is one of the founders of Gunfire Games and the author of the *Darksiders Franchise* including the recent *Darksiders II: Deathinitive Edition*. Not being a researcher involved in truly academic research, the author's ambition was to write a book that would be "a testament of the community within the games industry of people who want to see others succeed." The video games industry is a growing industry. With more people getting into gaming there is a greater demand for talented artists to construct video games. John Pearl knows this well because he is a concept artist with long experience.

The title of this book suggests a comprehensive overview of the general concepts and skills an individual needs to acquire to get into game development and land a job. The game industry has continued to grow over the years. Nevertheless, competition in getting a job in video games still remains fierce. *Becoming a Video Game Artist* endeavours to guide readers through all the stages, from making a portfolio to being successful in a job interview. The book is filled with detailed descriptions of the types of jobs, their responsibilities, the required skill sets and characteristics of professionals as well as interviews with working professionals about their career advice and experience. During the last 17 years, the author has worked in different positions within the game industry and his close work with artists in other disciplines such as concept art, user interface, visual effects and animation as well as having reviewed hundreds of portfolios for various art positions has resulted in writing this detailed and comprehensive book.

The book consists of eighteen chapters and an introduction written by the author himself. It explores the different jobs related to the video games industry and their responsibilities. Furthermore, each chapter contains questions raised to various industry professionals in the form of interviews to enhance the readers' understanding. The book is not intended to teach future professionals how to draw or construct their ideas, nor is it meant to teach them to design and it certainly does not have any ambition to improve their artistic abilities. What the chapters will present to them is to begin the experience of a career in video games industry by teaching them how to make their portfolio stand out from others, what to expect once given a job in the industry and what it takes to become a concept artist or designer working on professional games for studios.

The chapters may notionally be divided into thematically oriented sections focusing on different aspects of getting a career in video games. Leaving aside the Introduction, which is the author's personal contextualization of the issue, the second chapter entitled 'General Concepts and Skills' looks at some general skills and personal traits that are of-

ten required to get any art-related game development position. The chapter deals with the universal skills for any development position and that are vital for any game artist, such as creativity, attitude to solving problems, team collaboration, excellent communication skills, a readiness to 'prototype' something, to implement new character types or animation techniques for the game, or the ability to be organized and to work under tight deadlines.

The next seven chapters, from chapter three to chapter nine, focus on key skills and the core competencies of different artists which are listed in job postings. John Pearl explores the key professional skills required to be an animator, a character artist, a concept artist, an environment artist, a technical artist, a user interface artist and a visual effects artist. Each of the chapters includes relevant information related to the job and an explanation of the fundamental elements of the games on one hand, and one or two interviews with various former game artists on the other. The interviews provide first-hand accounts while also reinforcing the topics. Moreover, visual examples are provided throughout the chapters to reinforce the learning objectives of the book. At the end of each chapter, the author refers to upcoming chapters that deal specifically with preparing a portfolio for different artists to allow them to demonstrate their skills and competencies as described in the previous seven chapters of the book.

The following section of the book, including chapters ten to seventeen, deals with crafting a portfolio for different art jobs. Chapter ten explores 'some of the general concepts and theories behind building a strong portfolio' (p. 99). It primarily focuses on principles to keep in mind when assembling a portfolio and covers universal ideas that are applicable to any of the art disciplines. If there is any weakness in the book, it may be the treatment of the general concepts and theories. The background behind building a strong portfolio is clearly described, also accompanied by an interview, can easily be understood and is generally adequate. On the other hand, however, general theories are not dealt with as well as the question of the practical implementation of key skills, responsibilities and competencies into the art portfolio.

In chapters eleven to seventeen, the author immerses 'more into the specifics of tailoring a portfolio to a particular career path' (p. 99). The chapters are practical, providing information on key items related to specific art jobs and giving advice and recommendations by experienced professionals in the form of interviews on how to craft a good portfolio. Animation in games, character art, concept art, environment art, technical art, user interface art and visual effects art are highly competitive fields and the aim of the book is to help a reader's portfolio 'stick out from other portfolios' (p. 132).

The last chapter of the book represents the final section and is focused on the preparation that should be taken into consideration before applying to a company, namely writing a cover letter and looking at the interviewing process. This may be perhaps the least exciting part of the book to read because, as the author himself remarks, cover letters are often a formality and 'may never make it to the portfolio reviewers or even to the hiring managers' (p. 197). These views are, however, refuted by the professionals' answers in the interviews included in the chapter.

The comprehensive scope of the book covers all important aspects of a career in the video games industry. Rather than being a theoretical book on video games, the work may be considered a 'roadmap' in guiding those who seek a job in the field of video games. The different art related jobs and their responsibilities are explored utilizing an understandable and enjoyable approach. The book is well written. The layout of the chapters and visual examples make it clear and attractive. To sum up, the book should be considered a good choice if one wants to learn about the challenges of art-related jobs before getting one's foot in the door of a video game company.

Butterfly Effect, the new education program

At the beginning of September 2017, several Slovak well-known companies (i.e. Edufactory by Pixel Federation, Sygic, Leaf, HubHub) introduced an original project bearing the name "Butterfly effect". The term means that even a small change at one end can bring about a large change at another. The purpose is to prepare students and professionals to conquer one of the most competitive arenas, known as digital business.

The program is founded and hosted by top experts from three main fields: graphic design, programming and business, from international companies and successful start-ups. They will share their know-how and teach students in the Games lab to develop games, and in the Apps lab to improve their business solutions via mobile platforms and to work on their own apps. The main partners are thinking about the future of Slovakia in the digital world. They emphasize that the program will be focused on real case studies, workshops and discussions with experts to inspire the future generation. There is so much one can learn and take from this: from a great network, through a new community of like-minded people, to advanced craftsmanship in the wire-framed world.

Eight Slovak universities have joined this education program and the following three universities have offered support to their students: the Academy of Fine Arts and Design in Bratislava, the Faculty of Electrical Engineering and Informatics in Košice and the Faculty of Mass Media Communication in Trnava. The best students from the Faculty of Mass Media Communication, who apply for a full time educational program lasting 6-12 months starting January 2018, can receive financial support from the university. In order not to miss out on the academic year, students are offered a special individual study program. The Dean of the Faculty, doc PhDr. Petranová, PhD. said, that success is granted to those who study hard and undertake research in the areas of digital games and digital marketing. The aim is to enable students to develop the skills and knowledge which they have acquired during their studies at our Faculty.

Butterfly effect is a completely new and attractive program of practical education for digital business to educate talented students from Slovakia.

Central and Eastern European Game Studies Conference Digital Games Life & Afterlife

The Central and Eastern European Game Studies Conference 2017 was held in Trnava, Slovakia at the University of Ss. Cyril and Methodius, Faculty of Mass Media Communication on September 28th-30th. It aimed to integrate the community of Central and Eastern European game scholars and professionals and served as a platform for academic exchange and networking. The conference was a continuation of the events hosted by Masaryk University in Brno in 2014, Jagiellonian University in Kraków in 2015, Maria Curie-Skłodowska University in Lublin in 2016. Its purpose was to establish a platform for game

studies scholars from and beyond the region and to facilitate the emergence of a unique perspective into the international arena of game studies.

The theme of the CEEGS Conference 2017 was Digital Games' Life and Afterlife. A wide variety of topics were presented by 70 leading university scholars from 15 countries. A range of differences between digital games and other media, history, life and the viability of digital games at the present time and in society were thoroughly discussed. Two high-quality workshops were held, one bearing the title, Games and Monstrosity (J. Švelch, University of Bergen and D. Vella, University of Malta) and the other, Digital Games Markets in Post-Socialist Countries (S. Buček, University Ss. Cyril and Methodius, T. Z. Majkowski, Jagiellonian University)

Conference participants had the opportunity to hear from some fantastic keynote speakers and many other presenters. Melanie Swalwell from Flinders University, Adelaide, Australia captivated listeners totally with her lecture entitled Practice makes persistent: On history, temporality and memory. She sought to bring the contemporary moment into dialogue with the past, tracing the ways in which some microcomputer users were deploying their deep knowledge of – and love for – 'obsolete' systems and coding routines. In her keynote speech, the author and journalist Tristan Donovan reflected interestingly on the process of writing and researching his 2010 book, called Replay: "The History of Video Games. Back to Reality". Espen Aarseth from IT University of Copenhagen, Denmark presented his paper, entitled "Back to reality": The case against ludo – fictionalism.

The CEEGS Conference 2017 was held in Trnava at the University of Ss. Cyril and Methodius, Slovakia and the place of the next conference will be announced soon.

UniCon

The Unicon Games Festival, which is organized yearly by teachers and students of the Faculty of Mass Media Communication at the University of Ss. Cyril and Methodius, Trnava champions and showcases the cultural power of interactive entertainment. In February 2017, it attracted over 1000 people. This year's Games Festival takes place between Friday, 13 April and Sunday, 15 April. The Games Conference, the leading event of the festival will announce the Call for Papers.

The 2017 festival started with a welcome event, where game fans played an old game called "Maxihra" and enjoyed the wit of the two entertaining game commentators Andrej Bičan and Didiana. It was complemented with an abundance of interesting and diverse activities, so much to do for everyone, great for gamers, kids and adults alike. The mascot of the Festival was Crash Bandicoot.

A series of panel discussions were held on the following topics: "Roleplay vs. Cosplay, Games in Education and Esports Events in Europe". At the same time, three workshops were being realized with expert guidance. The Virtual Reality workshop introduced HTC Vive, Microsoft HoloLens, Samsung Gear and PlayStation VR. The Retro Games workshop presented old computers and consoles including PlayStation 2, but also offered PS4 and Xbox One. The Gaming Keep workshop presented board and social games. It was all filled with hands-on opportunities for all visitors, who tried out many new and old games.

Digital game tournaments were also hosted by the Festival over a two day span. A Cosplay contest was prepared as well, offering the opportunity to enjoy some iconic game characters and designs. The Unicon Games Festival in Trnava offered an exciting and diverse array of events, explored the positive power of digital games and virtual technologies over three days of keynotes, panels, tournaments and workshops. The Festival will return this year and will provide many new surprises to be announced soon.

Editorial Policy

Acta Ludologica is dedicated to provide a forum for the publication of theoretical and research articles dealing with professional scientific reflections and academic discourses in the field of digital games and games studies. The journal's Editorial Board and Scientific Committee dedicate their work to offer a high quality open access, double-blind peer-reviewed interdisciplinary journal useful for the exchange of knowledge and experience between domestic and foreign academics and researchers. The editors of Acta Ludologica consistently respect the principles of securing content and formal relevance of the published texts via set criteria. They actively participate in domestic and foreign academic cooperation in the name of scientific-research progress and the expansion of existing sets of knowledge in the fields of digital games and game studies and related topics and issues.

The authors and co-authors of the published texts are presumed to be skilled academics, scholars and professionals who are able to work with various information sources and technologies to apply corresponding theoretical-methodological approaches, originality and innovation in relation to the elaborated themes and issues. The Editorial Board of the journal expects from the authors that the final texts to be published become subject to consistent spelling, stylistics and formalities in accordance with the citation rules of the journal and the current content arrangement of the articles (see Guidelines for Authors). The pre-set templates are available in electronic form at: <http://actaludologica.com/>

If a published text (or a manuscript intended for future publication) in any way violated the principles of ethical or professional approach to academic writing, e.g. by inappropriate use of works published by other authors, eventually if the entire texts or their parts are proven to be plagiarisms or the authors' own texts already published in the past (or simultaneously in other specialised publications), the authors and co-authors would take full responsibility. After accepting the final versions of manuscripts, the editors of Acta Ludologica pay special attention to ensure that all professional procedures and standards set for publishing scientific texts and the ethical principles associated with citing and paraphrasing works of other authors have been fully preserved and respected.

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Any fundamental changes to authorship of already submitted final texts (e.g. amendment of co-authors, change in the order of authors, copyright interests in the text) are liable to the prior consent of the Editorial Board. The authors or co-authors who have submitted the text for publication must ask for a change in the copyright data or modification of their order by sending a formal, written request to the following e-mail address: actaludologica@fmk.sk

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Guidelines

Acta Ludologica accepts various kinds of academic writings – theoretical articles, theoretical articles combined with presentations of research results or research results including their implementation into practice as well as reviews of monographs or other publications, shorter news articles, essays and interviews with renowned game theorists, scholars and professionals., which have not been publicly published yet. Each received study will undergo a double-blind peer review process and the editorial board will decide whether to accept or reject the text for publication on the basis of the elaborated reviews. The Editorial Board may accept the text conditionally and require correction of the text by the author(s) according to the remarks or suggestions of the reviewers. All manuscripts must be written in **English**. The journal consists of the following sections:

- **Game Studies:** theoretical articles in the extent of 21,600-54,000 characters (12-30 author pages); research results and their practical implementation in the extent of 12,600-54,000 characters (7-30 author pages)
- **Reviews:** reviews of monographs and textbooks from the fields of digital games and game studies, which are not older than one year, in the extent of 5,400-9,000 characters (3-5 author pages); reviews of digital games based on specific context of theoretical or research framework, in the extent of 5,400-9,000 characters (3-5 author pages);
- **News:** news related to digital games and the game studies sphere (profiles of game conventions and events, scientific events, projects, profiles of scholars, etc.) in the extent of 3,600 characters (1-2 author pages)

Text format (unless specified otherwise in brackets below):

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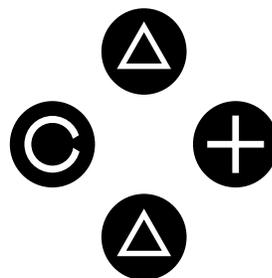
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