THE EXPERIENCE OF PLAYING VIDEO GAMES AS A POSSIBLE BUILDING BLOCK FOR LIFE STORY NARRATIVES

Piotr Klimczyk[1]

Summary. Following paper regards the notion of impacting life-story narrative by video game experience based on the game Disco Elysium, chosen because of unique game mechanics that resemble works in narrative psychology. Participants had to answer a self-made questionnaire inspired by McAdams life story interview. Gathered data was analyzed using guidelines from hermeneutic and interpretative phenomenological methods. Out of 47 answers 23 narratives made into final sample of data. An in-depth analysis of two narratives was given as an example. From these two examples, it seems, that experience of playing Disco Elysium through emotional impact, unique way of presenting adult themes like mid-life crisis or alcoholism, and forcing self-reflection was possibly incorporated into life story of participants. Examples of found themes: experienced emotions; player as a therapist; player as independent being; longing for past; life as a value itself; protagonist as a social actor. Contexts in which these themes fit: avatar as other; personal context; existential context.
Key words: narrative, identity, video game, role playing game, life story, cyberpsychology

Introduction

As technology develops we see more and more of its influence on our day-to-day life. From social media to online shopping technology changed the way we live our lives. There are many fields where science tries to comprehend how the relationship between people and technology works. Fields such as cyberpsychology, new media studies, communication theory, and so on. One of the interesting aspects of this relationship is how we consume this media, and, what is most

[1] Państwowa Uczelnia im. Stefana Batorego w Skierniewicach (Stefan Batory State University in Skierniewice), ORCID: 0000-0002-3137-4211.

Adres do korespondencji: Piotr Klimczyk,
e-mail: klimczyk2d@gmail.com

important for the presented paper, how video games influence players. As Christy and Fox (2016) wrote it is unknown how the experience of playing narrative-driven games can influence a player's way of thinking and world perceiving.

As many scholars of narratives have stated, human beings can be described by the stories told to themselves and to others. Narration is also the way how people interpret and comprehend the reality that they live in, people they meet, events that they experience, and so on. So is there a possibility that video games that are, in a way, interactive stories could influence how people perceive real life? Can video games influence self-life stories? This paper tries to answer this question on the example of *Disco Elysium*, a role-playing game that is unique in its genre.

What makes this game a great example for studying possibility for video game playing experience to be included in the life narratives is that there are some theories in narrative psychology that can be found in the game, although it's not stated by developers that they were inspired by any of them. That's why in the part of explaining Disco Elysium to the reader these theories will be described for a better understanding of game mechanics and to show why it is the right game for studying narratives.

This study aims to be a building block for larger research interests regarding media and personal, narrative growth.

Psychology behind Disco Elysium

Disco Elysium is a role-playing game developed and published by Estonian company *ZA/UM* in October of 2019. Despite being released at the end of the year it won several awards, including Best Narrative, Best Independent Game, and Best Role-Playing Game (Makuch, 2019), and kept being nominated or won several others in 2020. The developer claims that the full script for the game contains over a million words and the main part of the gameplay is reading them, which makes the game heavy in narrative content.

The opening of the game consists of a conversation between the protagonist (player's avatar) and his two parts of the brain: the *limbic system* and the *ancient reptilian brain*, that informs the protagonist that he *drunk himself into oblivion*. The player can choose to either wake up from that state or stay in the blackness, which kills the protagonist. After waking up in a demolished hotel room protagonist cannot remember anything about his life, the world that he lives in, and even his name. After that, he is greeted by *Kim Kitsuragi*, an RCM (*Revachol Citizens Militia*) officer of the 51st precinct, that informs the protagonist that he was assigned to investigate, with the protagonist, death of a hanged man in the cafeteria backyard. In this short sequence, the player can start to form the protagonist's identity, for example when meeting the cafeteria manager, the player can choose to be sorry for demolishing his room or brag about it being his style. Choices like that shape the story and iden-

tity of the protagonists (for a more in-depth analysis of the game, details about the plot and its narrative agency see (Bodi, Thon, 2020).

As opposed to most games in the RPG genre Disco Elysium has no combat. Instead, player progress through events of the story by passing (or falling at some points) skill checks and talking with *NPCs* (*Non-player character*, every character that can be interacted with but which player cannot control). The player asserts 12 points to 4 main attributes (intellect, psyche, physique, motorics) that each consists of 6 skills, or chooses one of three archetypes (thinker, sensitive, physical) prior to the start of the game. Based on that choice a different set of points will be given to certain skills that make up the main attribute, e.g. 5 points in intellect will give 5 points in rhetorics and drama, 1 point in psyche would give 1 point in empathy, and so on. This game mechanism constitutes something that could be described as the protagonist's personality. For instance a cold, unemotional, case solving thinker or not an intelligent and emotional but strong and dominating cop. Skill points are important since they serve as an inner voice for the protagonist that can come up in in-game dialogs. Many points in *drama* might lead to dialog pop up suggesting in between interrogation that someone is telling a lie, while low points in that skill will lead to information not showing up. There are parts of the story where these inner voices of protagonists would get in the conflict together or contradict themselves.

In a way, it resembles theory in narrative psychology called Dialogical Self (Hermans, Kempen, van Loon, 1992; Hermans, 1996; 2001; 2003) which states that the human mind validates experiences by giving them meanings through selection, interpretation, and assembling events into a coherent unity. Authors suggest that it is possible by putting in the perspective different *voices of Self*. Our minds function in a dialogical exchange between ourselves and different parts of our *Self* or imagined interlocutors that often resemble real life people (for example when we imagine our possible dispute with such person). Different perspectives in such *communication* sometimes contradict themselves. These parts are independent and are not bound by time constricts, for example, someone can imagine himself, in a distant future, as a successful scholar while struggling with coming up with an interesting study. The successful scholar can be uplifting since it shows the results of hard work. So the dialog between these two narrative parts of self influences the behavior and thoughts in a certain context. It emphasizes human ability to develop different, not always coherent, and often contradicting but based on the same facts and experiences narratives that are being interpreted based on different points of view. These different points of view bring different contexts for narratives. Bringing back successful scholar example, someone might also imagine himself failing in not so distant future and dialogue with that part of self can lead to dropping from the academia. Disco Elysium pictures this when, for example, while interrogating an attractive, female suspect *drama* skill (which constitutes the protagonist's ability to detect lie) *tells* that she does not lie and the *empathy* skill brings up points about her being in a difficult,

emotional situation. The player is given a context that this woman is a victim here. But if the player put enough points in *volition* skill a new context appears. The other skills, as *volition tells*, are compromised and the attractiveness of the suspect makes the protagonist not to think clearly and in extent other skills are not thinking clearly. Based on that internal dialog, just like Dialogical Self theory proposes, the player chooses a certain narrative to uphold and decides accordingly.

The way in which the game is played can also be looked at through the lens of building a narrative identity (McAdams, 1995; 1996; 2001; McAdams, McLean, 2013). Each passing in-game day brings new memories that can be carved and put in the protagonist's life story, e.g. choosing a certain political worldview based on inter-actions with *NPCs*, or recollect lost memories and incorporate them back into a life story. But the player is not forced to do it, he can influence the life story by disregard-ing thoughts about certain events. Building a certain narrative for the player's avatar changes the way he interacts with in-game events and *NPCs*. In a way, the player creates a semantic web that is put on the in-game world for the protagonist, to help him understand the reality, life that he has and the psychological crisis that he had which made him abuse alcohol and narcotics to the point in which he suffered from the self-induced amnesia. Such mechanics and narrative have not been yet seen in video games design and it is unclear how in that setting the dynamic between im-mersion and presence of the player makes him feel about his role in the story.

Experience of playing a video game and narrative building implications of it

The emotional impact of the event plays a crucial role in incorporating it into narrative identity (Bruner, 1990; McLeod, 1997, as cited in Kallay, 2010). It is possible that such an emotional impact can be given by the video game. Presence and immer-sion are important in the gaming experience, especially in narrative-based games, as Christy and Fox (2016) showed, although as authors said, that study was exploratory and further research should be conducted on that topic. How a player might feel about his avatar is also crucial here. Banks (2013, as cited in Bowman et al., 2016) and Banks and Bowman (2014; 2016 as cited in Bowman et al., 2016) identifies two types of relationship between player and game's avatar. First is *avatar as me* orientation where the player steps into the shoes of the on-screen character, second is *avatar as other* orientation where the player assumes the role of a caretaker, feels like a friend of a character, recognizing the on-screen character as a legitimate social actor with its own desires, needs, wants and tries to help him fulfill these needs. In both of them, but as the authors implied more in the second orientation, the player assumes a kind of socioemotional engagement with the game that might give a feeling of insight or deeper introspection that is affiliated with meaningful media experience.

The connection, that player has with the game's avatar, was also a topic of work of Hefner, Klimmt and Vorderer (2007; Klimmt, Hefner, Vorderer, 2009). As the authors propose, video game is a type of interactive entertainment where player,

using narrative in-game elements, is assigned a certain role that he has to fill. He contributes to the story unfolding because of his actions as if he *is*, for example, a police officer or soldier. The Player's *self* is merging with the protagonist, rather than looking at him as a virtual, social entity distinct from the player. Understanding that relationship converges with the concept of identification.

Social psychology defines identification as a temporary alteration of a media user's self-concept through perceiving and adapting characteristics of a media person (Klimmt, Hefner, Vorderer, 2009), such as the game's protagonist. Studies have shown that when players identify with in-game character or role that they are given it leads to an automatic shift in self-perception. Such pattern, as a study has shown, is stable in time (Klimmt et al., 2010). Giving example from Disco Elysium someone might identify with the protagonist and feel as if his empathy, addiction, great detective skills, or way with people are player's. This might be more present here since the player chooses parts of the protagonist's personality and builds his identity through in-game decisions, although such identification might not be constant in time and might be on certain dimensions only. The genre of the game plays a key factor in this process, since RPG games are for *role playing*, acting in certain ways because game mechanics allows such freedom for the player.

These are valid, psychological needs and mechanisms that fit into the gaming experience. All of the above contribute to the emotional impact of a playthrough, especially in the game like Disco Elysium that touches many adult-like themes, for example, mid-life crisis, alcohol abuse, murder, or political history.

Narrative identity

Narrative identity is treated as a significant semantic structure that organizes chosen elements in a person's biography and builds a complex, coherent, autobiographical narrative (see: Dryll, 2010, as cited in Tokarska, 2014; Adler et al., 2017). This structure is being imposed on reality, holding events in a space-time continuum, in which a person can perceive himself and others as protagonists in passing life stories (Baszczak, 2011). Oleś (2008; see also McAdams, 1996), based on McAdams's works, proposes that from different periods of life derives:

1. theme, that describes dynamic and reciprocal interactions in motifs of strength/power and intimacy/love;
2. identity in life story, certain personal interpretation, in regards to questions like *Who am I?* or *What is important to me?* – made in a certain psychosocial and ideological context;
3. *imago*, person or persons that represent wanted adult life standards;
4. generative script and more developed, wider narrative identity made through effects of mid-life changes;
5. integration of personal life story from the perspective of a fulfilled or unfulfilled life.

All these elements constitute a multi motif life story, whose role is to integrate different aspects of human life.

According to McAdams (1995; 1996; McAdams, McLean, 2013), through narrative identity people convey to others (and themselves) who they are, how it happened that they are as they are and in which direction, according to them, life will take them. Constant interaction with others shapes personal stories, rework them, reinterpret them, tell them all over again. Stories are under influence of many external, social factors. Because of that, the person telling his story is slowly expending and integrates the narrative of his identity. This mechanism is not only for developing identity but serves as a socializing process (McAdams, 1995; 1996). Someone, through his story, might suggest that the event that he describes is an illustration or explanation of a certain character trait, a problem that he is facing, a goal that he aims towards, or schemas in his life. Such narratives are posted by users of Disco Elysium groups and forums every day regarding the game, but often some users use in-game events as an explanation or allegory for their own life story.

Life story does not have to be a monolithic and vast. It can consist of smaller stories (McAdams, 1995; 1996), often not related to one another directly, describing a concrete and important event or be related to important themes regarding one's values. People select and choose certain memories that are made into the foundation of a life story (McAdams, 2001). Context and the psychosocial environment are also important in that process. Living in a postmodern (McAdams, 1996), media and internet connected world makes humans, in words of Sampson cited by McAdams (1996), look for many and different ways to integrate facts into narrative biography. The modern human is not fully autonomic, rather he is a conglomerate of different pressures coming from other people through the internet. Elements of culture, in which one resides, can be found in personal life stories. Depending on narratives that one surrounds himself with, they can have different influences on the narrative. It is possible that though other media users, that contribute to the general narrative about Disco Elysium someone might incorporate its element into his own narrative not only about the game but also about life itself.

It is important to note here the relation between self-concept and the life story and whether the life story is always represented in self-concept. McLean and others (McLean, Pasupathi, Pals, 2007) suggest that conceptually, the stories that someone tells about oneself represent different aspects of one's self-concept directly or indirectly. Life stories might not contain all aspects of one's self-concept, but one should be able to tell a story to explain one's beliefs about the self. Without such storied evidence, others may be less likely to believe that the characteristic under discussion is indeed a part of the self.

Narrative identity, and to be precise the life story that makes it, is a construct prone to criticism, like many relatively new concepts. Adler and associates (Adler et al., 2017) addressed two of the main critiques of this approach. The first one is that

the stories people tell about their lives might not actually be true or accurate. The second is that narrative methods are more time-consuming, extra labor self-report instruments. As the authors suggest, both criticisms miss what is essential about narratives.

Like all autobiographical memories, narratives about personal experiences and events are dynamic reconstructed representations, not the true copy of them (like a recorded movie or taken picture). Every time someone is recalling a memory, the retrieval process is made of complex interactions between internal neural context and sociocultural, the external context, modulated by the functions that remembering serves at the exact moment the memories are being recalled. That's why narratives are deeply idiographic. They are dynamic reflections of how individuals recall their experiences and serve context-specific functions (see: Singer et al., 2013).

Narratives are constitutive of identity because the way how we make sense of our experience and who we perceive ourselves to be are bilaterally related (McAdams, Pals, 2006; McLean, Pasupathi, Pals, 2007). And since narratives are deeply embedded in the sociocultural interactions across life, how individuals story their lives reflects the explicit effort at meaning-making and implicit ways of being in the world (Fivush, Merrill, 2016). The narrative approach to identity is a different level of analysis that focuses on subjectivity in a unique way and it can't be reduced to self-report measure (Adler et al., 2016).

That's why this theoretical view on narrative identity was used in the presented study. The specific game mechanics, the genre of the game, and complex way of interacting with video games can be susceptible to a variety of different interpretations and sense-makings. And as it was stated before, any experience that can be emotionally impactful and meaningful can be incorporated into the life story.

Methods

Research questions

As it was previously stated narrative identity is made of experiences that are building blocks for themes and motifs in a person's life narrative. This study aims to answer the question *How Disco Elysium can influence a player's life story narrative?*

Being a specific type of narrative game it is possible for the experience of playing it to be important, meaningful, and maybe perception changing for the player and his view on his own life.

Participants

Participants were recruited using social media platforms and game forums. Link to the google formula document containing questionnaire with narrative questions was posted on *facebook* groups: *Disco Elysium Official*; *reddit – r/discoelysium*;

Disco Elysium forum in *Steam*, *youtube's* comment section in films about Disco Elysium: *Disco Elysium is a Role-Playing Dream Come True*; *Disco Elysium Critique*; *Disco Elysium An Analysis of Existential Nihilism*. Participants were informed that the study is anonymous and they can quit at any point.

47 participants took part in the study. 37 (78.7%) of them were male, 8 (17%) female, 1 (2.1%) prefered not to say and 1 (2.1%) was non-binary. Mean age of participants was 27 ($SD = 7.12$; range 18–50). Out of all the participants 45 (95.7%) finished the game at least once, while 2 (4.3%) did not finish the game.

Questionnaire

The questionnaire starts with an introduction written in a way to induce a narrative type of thinking in participants (see: Sools, 2012; Paufler, Amrein-Beardsley, 2015):

> *This study aims to collect narrative data concerning the playthrough of Disco Elysium – a heavy narrative-driven game. It is unknown how such experience can influence someone's worldview, values that they uphold, or can it influence narratives about their own life.*
>
> *You're going to be given a couple of questions. Please try to answer them with as many details as possible. The longest they are the better. Thanks to the rich narrative of the said game there have been many discussions online by players. Please try to make the same impact with your answers.*

After that participant had to answer questions about age, gender and did he finish Disco Elysium at least once.

The main part starts with the first narrative stimulus that is an open question build in a way that McAdams structured his interview procedure (Budziszewska, 2013):

> *I would like you to tell me about your experience with Disco Elysium. For some video games are a way of entertainment, for others they are means for escapism, getting off reality for a while, and some people see games as an art form, a medium for deeper meaning, life lesson, or another perspective on life. Please tell me about your experience with Disco Elysium – how it influenced You, is it important for you, how did you feel after you completed it? Please write as many details as you can.*

After that there were additional questions that focused on certain parts or in-game events that would be emotional enough to impact players narrative:

> *Was there a certain stage in the game, some event, turn of action, or dialog between depicted people in it that influenced You in any way? Tell me about it.*

There were also two additional questions regarding Kim Kitsuragi that will be used in another paper and were not used in the analysis of this publication.

Procedure

Before the main part of the analysis, the whole text has been read a few times to get immersed into the story given by participants. Answers given by participants were interpreted using a self-made method based on the work of hermeneutic analysis made by Zagórska and Majewska (2019). As the authors suggest, the formal structure of narration reflects the structure of the meanings of the narrator.

The aim is to specify themes that are present in the narrative and put them in larger contexts taken from the narrative work (table 1) of Bartosz (2004) to which extra types were added based on the presented theoretical background, such as *avatar as other*.

Table 1. Categories describing autobiographical experiences

Context of the experience	Themes of the experience	Spectrum of feelings (examples)
Personal	failure risk fight for oneself	acceptance, knowing one's limits self-reliance independence
Emotional	friendship love family	bond safety apathy
Social	home meeting people	tolerance trust being misunderstood
Gathering knowledge	school/university travels	openness understanding dissonance
Doing [something]	professional work	activity apathy impotence
Spiritual	religion	harmony inspiration losing faith
Existential	death sickness povert	sense of life self-growth escape from life

Source: Bartosz (2004). Translation: author.

Using guidelines from the interpretative phenomenological analysis made by Pietkiewicz and Smith (2014) general interpretation of meanings in narrative has been made. To illustrate context and theme quotes from participants were cited.

Aim of the IPA framework is to give evidence for participants' making sense of experiencing phenomena and, at the same time, document the researcher's sense-making. In this process psychologist is looking at the data from a psychological lens, interpreting it with an application of psychological concepts, theories, or results from other psychology-based works.

At the same time, it is important to be aware that each experience and sense-making is different, so to protect oneself from psychological reductionism, the researcher has to uphold the idiographic approach to the data. That does not mean that psychological theories should be used only as loose guidelines, rather they can add an outsider's perspective, help to develop a higher level of insights that the respondent might not have access to.

The authors do emphasize that IPA provides a set of flexible guidelines which can be adapted according to the research and its objectives. They propose, based on the qualitative analysis of their work, the following steps:

1. multiple reading and notes making – transcript should be read a number of times to immerse the researcher in the data. Each next reading could, and often does, provides some new insights. At this stage, it is advised to make notes about observations and reflections that one gets, for example, about content, language use (features such as metaphors), context (here provided by works of Bartosz and added two based on literature), and initial interpretative comments.

2. transforming notes into emerging themes – at this point researcher should work on notes rather than transcription. Based on the effects from the first step there should be enough source material to work on. The aim is to transform notes into a concise, more abstract phrase that may refer to psychological conceptualization. Even though the researcher is not working with transcription alone, notes were made based on it, it still influences the conclusions in a hermeneutic circle type of way.

3. seeking relationships and clustering themes – based on conceptual similarities, the researcher connects emerging themes and group them together. In practice, as the authors state, it means compiling themes for the whole transcript before looking for connections. Some of the themes may be dropped off the analysis if they do not fit well with the emerging structure or if they have a weak evidential base. The final list may comprise of numerous themes and subthemes.

Answers that didn't fit the criteria of narrative (there was no clear *hero* of the story, no themes or parts considering the emotional engagement of the narrator, or no interpretations of events given by the participants) were deleted from the final sample. Also, answers that were only one or two sentences long or resembled a review of the game without any pieces of information regarding the par-

ticipants were deleted. The final sample consisted of 23 answers that fitted the narrative criteria.

Results

Each of the 23 narratives was analyzed to discover if Disco Elysium had, declared by the narrators, influence on player's narrative about self. The narrator either expressed it directly (e.g. *The game basically saved my life*; *This game encouraged me to life*) or it was implied by describing strong emotional feelings that made the narrator's perspective to change [e.g. *(…) this realisation clicked something in me; I love Disco Elysium because it makes me feel sad. Sad that I will never go back to those old happy days. But it also shows that there is a lot of good in life. That one must go forward and enjoy this wild trip filled with angry, infinitesimally small apes because otherwise there's just the void; The most important event that ill remember for all my life, was the phasmid reveal that makes me cry and dialogue with it was one of the most inspirational part of my life*].

Table 2 shows in how many narratives this influence was described spontaneously and in which ones it was given by answering a question from the questionnaire (*Was there a certain stage in the game, some event, turn of action, or dialog between depicted people in it that influenced You in any way? Tell me about it*).

Table 2. Declared influence of the game on the narrator

		Influence of the game on player's self-narrative	
		Yes	No
Influence present in the spontaneous narrative	Yes	18	–
	No	4	1

After that all of the narratives were analyzed in search of contexts and themes that were contained in them. Table 3 shows what contexts and themes were identified.

Table 3. Themes identified in the narratives and context in which they occurred

Context	Themes
Avatar as other	Experienced emotions
	Player as a therapist
	Player as an independent being
	Protagonist as a social actor
	Understanding the protagonist

cont. table 3

Context	Themes
Avatar as me	Getting immersed in the avatar's feelings and situation
	Insights into own mental states through the avatar's actions
	Feeling connected with the avatar on an emotional and biographical level
Personal	Emotions regarding Self
	Disco Elysium as an important experience
	Perception shift
Existentialism	Longing for past
	Fear of evanescence
	Life as a value of itself
	Personal growth
	Playing Disco Elysium as a therapeutic method

Since it's not possible to show all of the in-depth analysis, two of them were selected as examples.

Disco Elysium – getting in touch with own emotions by helping virtual other

The narrator opens his story with a reflection on his emotional experience regarding playing Disco Elysium. He wrote that it has been a *beautiful* experience, regardless of him not identifying with the protagonists. He did feel empathy for him which, as he wrote, was not hard to do. Participant, as a player, took the role of a therapist for his in-game avatar, someone who tries to *fix him*, give him a happy end.

At this early point in the story, written by the participant, the narrator points out that he is not personally attached to the game's story. But soon after that he once again makes a point about the emotional aspect of this experience. He loves Disco Elysium just as he would love his favorite childhood book. As he makes that point he is unable to define why he loves this game so much. Asked about an important in-game event that impacted him in any way he writes about one of the game mechanics, the *thought cabinet*. He wrote that he wanted to help the protagonist reclaim some of his lost history, to give him some stability. Therefore he chooses *lonesome long way home* thought. But as it turns out, the in-game effect of that thought was not what the narrator expected. He quotes the game *"…You no longer live there. Those times are gone, and so are those people. Why did you come here? Why are you still here?…"*. Once again he had to confront the emotional aspect of this experience, which was hard for him.

At this point in the narrative participant realized why he loves Disco Elysium so much. It is because, as he wrote, it makes him sad. Sad because he can't get back to the *old happy days*. He is afraid of time passing, misses old relationships, people he once knew, places he once visited. On the other hand, Disco Elysium gives him hope. Life can have much good in it and everyone should go forward and get as much as he can from this *wild trip filled with (…) small apes*. He points to the events from the game that illustrate this premise.

Emotional theme end with the narrator describing the character of *The Pigs*. As he wrote she is a manifestation of his melancholy and fear about the future *multiplied by 1000*. The story ends with a description of the tribunal scene that made the participant *be on the edge*, praising the authors of the game.

Table 4 presents contexts and themes found in the narrative with statements from participants for its illustration.

Table 4.   Analysis of narrative from a 22 year old, male participant

Context	Theme	Statement from narrator
Avatar as other	Experienced emotions	*So it is not personally touching for me. It's just a very well written story.*
	Player as a therapist	*For Du Bois, I was feeling like a therapist. Like someone trying to fix him and get a happy ever after for him.*
		I selected „Lonesome Long Way Home" and thought that that will let me get Du Bois back home. Get some stability, You know? Fixing the past and such things.
	Player as independent being	*It was just beautiful. Although I did not reflect much with Du Bois, he is really easy to feel empathy for.*
		Me playing as him does not change the fact that I did not see myself in him.
Personal	Emotions regarding Self	*And this beauty is why I love it. Love it as much as my childhood's favorite books.*
		One of the brightest memories is the melancholic feeling I got after realising how thoughts worked.
		But no, „…You no longer live there. Those times are gone, and so are those people. Why did you come here? Why are you still here?…". This hit me hard.
		The Pigs. Take my melancholy and fear of the future, multiply it by 1000 and you get The Pigs. Felt really fucking sorry for her. Probably saw a lot of myself there.
	Disco Elysium as an important experience	*In short, it is my favorite book that is not a book, if that makes sense… It is actually surprisingly hard to explain why I love it.*

cont. table 4

Context	Theme	Statement from narrator
Existentialism	Longing for past	*Probably because I miss things, people, places.*
		I love Disco Elysium because it makes me feel sad. Sad that I will never go back to those old happy days.
	Fear of evanescence	*I am afraid of time passing.*
	Life as a value of itself	*But it also shows that there is a lot of good in life. That one must go forward and enjoy this wild trip filled with angry, infinitesimally small apes because otherwise there's just the void.*
		That is beauty. To have so much hope, so much fire and brightness in such a drab and depressing setting! Also, setting up the nightclub with the boys. Was heartwarming. Really shows living is worth it, mostly.

It is possible that Disco Elysium had an impact on participants' narrative identity. There is a clear theme in the narrative regarding emotions and emotional engagement in the game throughout all of the specified contexts. Even though the narrator's perception did not shift and his Self has not been fused with his avatar the relation between them was important. The participant upholds here the role of therapist, someone that has a certain task to do regarding another person. He draws a clear line between him and the protagonist. This distinction resembles what Banks and Bowman, cited before, called treating avatar as a social agent.

The existential context seems also important for the life story that the narrator develops. Emotional themes of longing for the past, fear of evanescence, thoughts on life and it's values. These are strongly present in the narrative. Disco Elysium made the narrator confront these emotions, made him admit that he has them. It is interesting that at the beginning this wasn't present in the narrative but after additional questions, that probably made the participant reflect more on the experience, they emerged.

Disco Elysium – how to simulate being an alcoholic

The participant begins her story with the art style of the game. It was like kryptonite for her, the crystal that made *Superman* from the comics weaker. This experience was hard for the narrator so much that she got used to it after approximately five to six hours during which she felt anxiety. At that state she wasn't able to feel empathy for the protagonist or make in-game decisions that she would agree with. This period of experiencing the game she called a *lucid nightmare*.

In time, as she wrote, she realized that this must be what it means to be an alcoholic. To live life with no self-esteem. This revelation *clicked* something inside the narrator. With this new insight she reevaluated in-game events, her perspective changed. She *met the new* protagonist, she changed her view of him, called him emotionally vulnerable and not understood, that he has a need to be loved in a cruel, pointless world.

Sometimes she felt that the protagonist's perspective is skewed and not always worthy of her trust. She arguments that statement with his judgment being broken by amnesia, depression, and his past substance abuse. But that perspective made the narrator feel that the world *made sense* to her, through the protagonist's *eyes*. She did not specify if it was about the in-game world or the real world.

The narrator wrote about a skills system that, for her, represents the protagonist's mental functions. She called them *signs of insanity*. But in those signs, she sees a valuable lesson that having a mental imbalance can have its pros and cons. At first, this mechanic was scary for her, especially the *inland empire*, that constitutes protagonist's imagination, instincts, thinking in cosmos like scope. When this skill was high the protagonist would talk with inanimate objects. In time she accepted that and understood these aspects better, with exception of *Electrochemistry*, since it embodied things that the narrator despises of, mainly substance abuse, in her words: *have a biased hatred towards the urges represented*.

The way in which the protagonist discussed in-game issues with parts of his psyche was relatable for the narrator. She wrote that it teaches her that everybody is weird in a special way and being a bit intimidating does not equal being dangerous. But only if you control your weirdness.

The narrator was charmed by the game's general lack of achieving *big things* by protagonists. She illustrates this by describing a few in-game events: the necessity of working for someone, being unable to save a child from his abusive father, and the fact that you have to watch people die in an unfair situation. Nevertheless, she has a feeling that in the end, the protagonist got someone important and valuable, a chance. To emphasize this narrator brings up Jordan Peterson, whose work is important for her. His thesis, that she brought up, is about taking responsibility for yourself and the need to uphold identity true to yourself. It is important to the narrator and it seems that the protagonist's history is an embodiment of that thesis.

The narrator ends her story with recurring protagonist's nightmares and sleepless nights. It became an inspiration for a novel that she is working on. Another important, inspirational event was the tribunal scene, that taught her how to lead the narrative properly.

Table 5 presents contexts and themes found in the narrative with statements from participants for its illustration.

Table 5. Analysis of narrative from a 25 year old, female participant

Context	Theme	Statement from narrator
Avatar as other	Protagonist as social actor	*I experienced anxiety in the first 5–6 hours and it was hard to empathize with the characters or make the decisions I would agree with.*
		Through that I've met a misunderstood, emotionally vulnerable protagonist who wants to be loved in a cruel, hopeless world. Even if I felt his perspective sometimes untrustworthy (as his perception and judgement has been corrupted by amnesia, depression and his past addiction), the world through Harry's eyes made sense to me.
		The mental functions (skills) that were the signs of Harry's insanity in some interpretation (…).
		(…) you had to watch people die and my unfair situations happened without even realizing them in a deeper sense, however I still had the sensation that in the end of the game Harry achieved something important and meaningful: a chance.
	Understanding the protagonist	*However with time I realized that probably this is how it feels like to be an alcoholist with zero self-esteem and this realization clicked something in me.*
Existentialism	Personal growth	*However with time I realized that probably this is how it feels like to be an alcoholist with zero self-esteem and this realization clicked something in me.*
		At first glance I was frightened by Harry because of them (especially of Inland Empire, even if I find this aspect of my own consciousness important), later I learned to embrace and understand them more (except Electrochemistry … I have a biased hatred towards the urges Electrochemistry represented).
		I also found this kind of „talking with your inner mental kit" way of thinking relatable, so I can say that I learned that everyone is weird in their way and being a bit scary does not equal with being dangerous – if you have your weirdness under control.
Personal	Emotions regarding self	*It was a lucid nightmare I never want to experience.*
		I really loved the experience that in the game you couldn't achieve big things.
	Perception shift	*I reconsidered the events I've experienced before and I tried to look at the story from this perspective.*

cont. table 5

Context	Theme	Statement from narrator
	Disco Elysium as an important experience	*(…) showed me that having some kind of mental inbalance has its pros and contras.*
		And as I really admire Jordan Peterson's work (he believes, the middle ground in society is to find your own responsibility within the many and maintaining the individual you are with staying true to yourself) I really support this message.
		The recurring nightmares/ sleepless nights are a big inspiration for a story I'm working on.
		Also the Tribunal Scene taught me a lot about action imagieries.

As in the previous example, the emotional factor is also strongly present in this narrative. It seems that through Disco Elysium narrator learned important life lessons regarding human nature and her own psyche with a clear distinction between the participant's Self and the protagonist, just like in the previous narrative. Thanks to this experience narrator have grown, this theme is present in couple parts of the story She told. A new perspective on alcoholism, look on her own mental condition, new perspective on people, and first appearances.

Disco Elysium was also important for the participant not only in an existential sense but in a personal dimension too. First of all, she found some of her values that are important for her present in the game. The game taught her not only lessons about life and self but also helped her to improve her writing. As she mentioned, she was working on her novel at that time and history and pacing of narration in-game were very helpful in her own workings with words.

Based on the results of the presented two analyses of narratives it seems that practical psychological knowledge can also be found here. For the first narrator, it seems that playing Disco Elysium was an experience of safe emotional openness which made him reflect on his life and the fact that he is getting older, maybe even gave him some solace for it. Such therapeutic effects could be used in clinical practice or as a form of personal growth or emotional competencies training. The fact that the narrator wanted for the game's protagonist to have a happy ending might suggest a prosocial effect that the game had on him and could be used to help develop such tendencies in others. It could be an effect of the narrator's personality and the way he is, but there is a possibility of the game influencing these qualities or being a possibility for these qualities to flourish.

The second narrator's experience provides insights into possible ways of helping people that feel odd or that have a problem with fitting in into larger groups. Rather than make them change, the game shows how one can accept that there is

nothing wrong with how they feel, communicate, or simply are. The important insight found in that narrative considers the notion of alcoholism and how it is possible to change one's opinion about it. For the narrator, the game was a new perspective and made her more understanding and sympathetic towards the alcoholic protagonist. Since alcoholism has a negative social stigma, and some people portrait alcoholic as a person that *got what he deserved* such video game could bring a much-needed change in this view and could be used by professionals to make that change happen.

Finally, such game could give a person a blueprint for learning how to consolidate their own life story, as they are helping/doing it for the protagonist of the game but what was also present in narratives about own life from the participants. It is hard to tell, at this point, if such a game presents this notion in a manner suitable for everyone, but findings from this study could be, in the future, helpful for this problem in later studies.

Discussion

Gathered data suggests that games like Disco Elysium can have an important impact upon building narrative although it is hard to show in which direction the narrative might turn because of it. Both stories that were given as an example showed personal growth, emotional engagement, and even choice of a certain role made by the players. The branching narrative structure of the game, as shown by Moser and Fang (2014), leads to greater enjoyment from the video game playing experience and helps a player get more immersed in the game. This could potentially make that experience more emotional, and as cited before works showed, this contributes to the selection of an experience and incorporating it into the life narrative. Similar findings were found in other research. Although the study of Arbeau and colleagues (2020) focused on a multiplayer, online video game, they found that video games are an important part of players' life. They offer meaning, pleasure, and opportunity for growth which in the end help in developing their identity. Disco Elysium had a similar effect to the premise described by Frasca (2001) and his idea of a simulator game (in his article *The Sims* was used as an example) that could be designed to raise players' awareness and build critical opinions on social and personal problems. Given narrative examples show that such effect was possible by Disco Elysium. In first example opinion about the evanescence of life, in second about ones' view on alcohol addiction.

For the first narrator, emotions that he felt while playing Disco Elysium were somber, the game made him sad but this sadness was the reason why he loved this game so much and why it is important for him. Negative emotions, that are present in this narrative, can make an event significant (Campos et al., 1994), in this case, playing Disco Elysium. Based on gathered material it is impossible to predict if the impact of the game on life narrative is permanent. In the future, the longitudinal

study could give an answer to that question and present a possible convincing case for narrative games influencing the way people perceive life and events in it. Such findings could be helpful in many fields in psychology. For example in personal development methods or some forms of therapy. Therapeutic effects of video games were found in some studies but research in that field is somewhat limited and more studies should be made in the future to fill this space (see: Franco, 2016; Eichenberg, Habil, Schott, 2017; Barnes, Prescott, 2018).

For the second narrator, emotions were also somber but the focus of them was the protagonist, not herself, and because this game evoked such strong emotions her perspective on life changed. It is unknown if this change can actually have a lasting impact upon her narrative, although quoted before studies suggest that the emotional impact of the event can influence narrative identity. It is probable that more accurate data can be gathered when someone would be interviewed using McAdams's life story interview (Budziszewska, 2013) and the Disco Elysium theme would pop up naturally.

On the other hand, narrative identity is something that is constructed *here and now* (Stemplewska-Żakowicz, 2002). It is not monolithic, never-changing construct but something that can be influenced and changed by new experiences. Narratives of other people can change the way we look at our past experiences, make them more important, based on the new idea or looking at something from a time perspective. As stated, it is difficult to predict if the experience of playing Disco Elysium will have a lasting impact on life narrative but the narrators did choose to present life narratives at that moment using it, especially when they described how the game made them feel, what new perspectives on own or others life it gave them and so on.

Some might argue that playing video games is not the same narrative experience that someone gets from other media, mainly reading books (see: de Mul, 2015). The story is not linear as presented in literature so for every player the experience of the game can be different and influence in-game events that they might not be aware of. For example, someone might never take upon getting into another death that the player can investigate in-game. Finale of that quest can lead to confronting with own fears, the notion of alcoholism, or make the tone of the game more somber than it really is. Emotions can influence our judgment on things (see: Prinz, 2006; Clore, Huntsinger, 2007; Allen et al., 2011) so based on the game style and awareness of and use of all content in that game experience can differ and narrative can differ drastically between playthroughs.

It is important to note that even though Disco Elysium is deemed as the best tabletop RPG simulation by many players and reviewers it has its limitations to the player's freedom. Player can choose many options and decide to take part in many different in-game events. The outcome of these choices can have a variety of different impacts on the game and the protagonist but those are still limited. The player can not actually make whatever he wants, he can only choose a premade way and

as much freedom as the creators intended. In the future study this restriction could be addressed by asking the participant if he could do anything he imagined with the avatar, would he do something different than choices that were given to him. This does not change the fact that the game's narrative did or did not have an impact on the participant's life story or narrative identity. Rather, this issue might clarify how deep was the intention of the player to move his avatar in a certain direction or that for some of the participants Disco Elysium did not make an impact at all, possibly because they could miss out on some important in-game events that other players experienced.

There is a chance that present narratives were constructed using elements of other Disco Elysium player's narratives. Participants were recruited from social media groups that provide a fluid exchange of experiences, interpretations of them by others, and perspectives given from many different points of view. Such interaction between players regarding game that they are deeply involved in is quite common in literature (see: Crawford, Gosling, 2009). Because of that, it is possible that themes that were identified in narratives were similar or common in most of them.

References

Adler, J.M., Dunlop, W.L., Fivush, R., Lilgendahl, J.P., Lodi-Smith, J., McAdams, D.P., …, Syed, M. (2017). Research Methods for Studying Narrative Identity: A Primer. *Social Psychological and Personality Science, 8*(5), 519–527.

Adler, J.M., Lodi-Smith, J., Philippe, F.L., & Houle, I. (2016). The incremental validity of narrative identity in predicting well-being: A review of the field and recommendations for the future. *Personality and Social Psychology Review, 20*(2), 142–175.

Allen, A., Connelly, S., Waples, E., & Kligyte, V. (2011). The influence of discrete emotions on judgement and decision-making: A meta-analytic rewiev. *Cognition and Emotion, 25*(8), 1393–1422.

Arbeau, K., Thorpe, C., Stinson, M., Budlong, B., & Wolff, J. (2020). The meaning of the experience of being an online video game player. *Computers in Human Behavior Reports, 2*(4), 100013.

Barnes, S., & Prescott, J. (2018). Empirical evidence for the outcomes of therapeutic video games for adolescents with anxiety disorders: systematic review. *JMIR Serious Games, 6*(1), e3.

Bartosz, B. (2004). Ludzie chcą opowiadać swoją historię: konstruowanie rzeczywistości w narracji (przez pryzmat doświadczeń autobiograficznych) [People want to tell their stories: Narrative construction of reality (through the lens of autobiographical experiences)]. In E. Dryll, & A. Cierpka (Eds.), *Narracja. Koncepcje i badania psychologiczne* [Narration. Concepts and psychological research] (pp. 227–240). Warszawa: Wydawnictwo Instytutu Psychologii PAN.

Baszczak, B. (2011). Tożsamość człowieka a pojęcie narracji [Human identity and narration]. *Analiza i Egzystencja*, *14*(2011), 123–140.

Bodi, B., & Thon, J.N. (2020). Playing stories? Narrative-dramatic agency in Disco Elysium (2019) and Astroneer (2019). *Frontiers of Narrative Studies*, *6*(2), 157–190.

Bowman, N., Oliver, B.M., Rogers, R., Sherrick, B., Wooley, J., & Chung, M.Y. (2016). In control or in their shoes? How character attachment differentially influences video game enjoyment and appreciation. *Journal of Gaming & Virtual Worlds*, *8*(1), 83–99.

Budziszewska, M. (2013). Wywiad biograficzny Dana McAdamsa – adaptacja polska i niektóre możliwości interpretacyjne [A Polish adaptation of Dan McAdams's "Life Story Interview"]. *Przegląd Psychologiczny* [The Review of Psychology. Official Journal of the Polish Psychological Association], *56*(3), 347–362.

Campos, J.J., Mumme, L.D., Kermoian, R., & Campos, G.R. (1994). A Functionalist Perspective on the Nature of Emotion. *Monographs of the Society for Research in Child Development*, *59*(2/3), 284–303.

Christy, K., & Fox, J. (2016). Transportability and Presence as Predictors of Avatar Identification Within Narrative Video Games. *Cyberpsychology, Behavior and Social Networking*, *19*(4), 283–287.

Clore, G., & Huntsinger, J. (2007). How emotions inform judgement and regulate thought. *TRENDS in Cognitive Science*, *11*(9), 393–399.

Crawford, G., & Gosling, V.K. (2009). More than a Game: Sports-Themed Video Games and Player Narratives. *Sociology of Sport Journal*, *26*, 50–66.

De Mul, J. (2015). The Game of Life: Narrative and Ludic Identity Formation in Computer Games. In L. Way (Ed.), *Representations of Internarrative Identity*. London: Palgrave Macmillan, doi: 10.1057/9781137462534_10

Eichenberg, C., Habil, P., & Schott, M. (2017). Serious games for psychotherapy: A systematic review. *Games for Health Journal: Research, Development, and Clinical Applications*, *6*(2), 127–135.

Fivush, R., & Merrill, N. (2016). An ecological systems approach to family narratives. *Memory Studies*, *9*(3), 305–314.

Franco, E.G. (2016). Videogames and therapy: a narrative review of recent publication and application to treatment. *Frontiers in Psychology*, *7*, article 1085, https://pubmed.ncbi.nlm.nih.gov/27471487/

Frasca, G. (2001). Rethinking agency and immersion: Video games as a means of consciousness-raising. *Digital Creativity*, *12*(3), 167–174.

Hefner, D., Klimmt, C., & Vorderer, P. (2007). Identification with the Player Character as Determinant of Video Game Enjoyment. In L. Ma, M. Rauterberg, & R. Nakatsu (Eds.), *Entertainment Computing* – ICEC 2007. ICEC 2007. Lecture Notes in Computer Science, vol. 4740. Berlin, Heidelberg: Springer.

Hermans, H. (1996). Voicing the Self: From Information Processing to Dialogical Interchange. *Psychological Bulletin*, *119*(1), 31–50.

Hermans, H. (2001). The Dialogical Self: Toward a Theory of Personal and Cultural Positioning. *Culture & Psychology, 7*(3), 243–281.

Hermans, H. (2003). The construction and reconstruction of a dialogical self. *Journal of Constructivist Psychology, 16*(2), 89–130.

Hermans, H., Kempen, H., & van Loon, R. (1992). The Dialogical Self: Beyond Individualism and Rationalism. *American Psychologist, 47*(1), 23–33.

Kallay, J. (2010). Rethinking Genre in Computer Games: How Narrative Psychology Connects Game and Story. In R. Van Eck (Ed.), *Interdisciplinary Models and Tools for Serious Games: Emerging Concepts and Future Directions* (pp. 30–49). Hershey: IGI Global.

Klimmt, C., Hefner, D., & Vorderer, P. (2009). The Video Game Experience as "True" Identification: A Theory of Enjoyable Alterations of Players' Self-Perception. *Communication Theory, 19*(4), 351–373.

Klimmt, C., Hefner, D., Vorderer, P., Roth, C., & Blake, C. (2010). Identification With Video Game Characters as Automatic Shift of Self-Perceptions. *Media Psychology, 13*(4), 323–338.

Makuch, E. (2019). The Game Awards 2019 Winners: Sekiro Takes Game of the Year. *GameSpot*. Retrieved 13 December 2019, https://www.gamespot.com/articles/all--winners-from-the-game-awards-2019/1100-6472169/

McAdams, D. (1995). What Do We Know When We Know a Person? *Journal of Personality, 63*(3), 365–396.

McAdams, D. (1996). Personality, Modernity, and the Storied Self: A Contemporary Framework for Studying Persons. *Psychological Inquiry, 7*(4), 295–321.

McAdams, D. (2001). The Psychology of Life Stories. *Review of General Psychology, 5*(2), 100–122.

McAdams, D., & McLean, K. (2013). Narrative Identity. *Current Directions in Psychological Science, 22*(3), 233–238.

McAdams, D.P., & Pals, J.L. (2006). A new Big Five: Fundamental principles for an integrative science of personality. *American Psychologist, 61*(3), 204–217.

McLean, K.C., Pasupathi, M., & Pals, J.L. (2007). Selves creating stories creating selves: A process model of narrative self development in adolescence and adulthood. *Personality and Social Psychology Review, 11*(3), 262–278.

Moser, C., & Fang, X. (2014). Narrative structure and player experience in role-playing games. *International Journal of Human-Computer Interaction, 31*(2), 146–156.

Oleś, P. (2008). Autonarracyjna aktywność człowieka [Autonarrative activity of people]. In B. Janusz, K. Gdowska, & B. de Barbaro (Eds.), *Narracja. Teoria i praktyka* [Narration. Theory and practice] (pp. 37–52). Kraków: Wydawnictwo Uniwersytetu Jagiellońskiego.

Paufler, N.A., & Amrein-Beardsley, A. (2015). Jerome Bruner at the Helm: Charting a New Course in Cultural Psychology Through Narrative. In G. Marsico (Ed.), *Jerome S. Bruner beyond 100. Cultural Psychology of Education* (pp. 185–195). Cham: Springer.

Pietkiewicz, I., & Smith, J. (2014). A practical guide to using Interpretative Phenomenological Analysis in qualitative research psychology. *Psychological Journal*, *20*(1), 7–14.

Prinz, J. (2006). The Emotional Basis of Moral Judgment. *Philosophical Explorations*, *9*(1), 29–43.

Singer, J.A., Blagov, P., Berry, M., & Oost, K.M. (2013). Self-Defining Memories, Scripts, and the Life Story: Narrative Identity in Personality and Psychotherapy. *Journal of Personality, 81*(5), 569–572, doi: 10.1111/jopy.12005

Sools, A. (2012). "To see a world in a grain of sand": Towards Future-Oriented What--If Analysis in Narrative Research. *Narrative Works, 2*(1), 83–105.

Stemplewska-Żakowicz, K. (2002). Koncepcje narracyjnej tożsamości. Od historii życia do dialogowego "ja" [Concepts of narrative identity. From the history of life to dialogical Self]. In J. Trzebiński (Ed.), *Narracja jako sposób rozumienia świata* [Narration as a way of understanding reality] (pp. 82–113). Gdańsk: Gdańskie Wydawnictwo Psychologiczne.

Tokarska, U. (2014). Status podejścia narracyjnego we współczesnej psychologii [Status of narrative psychology in contemporary psychology]. *Czasopismo Psychologiczne* [Psychological Journal], *20*(1), 65–71.

Zagórska, W., & Majewska, M. (2019). Rozpoznawanie podmiotowych znaczeń. Analiza hermeneutyczna autonarracji osób w późnej dorosłości z zastosowaniem oryginalnej metody interpretacji treści [Recognition of Subjective Meanings. Hermeneutic Analysis of Self-narration of People in Late Adulthood Using the Original Method of Content Interpretation]. *Psychologia Rozwojowa* [Developmental Psychology], *24*(2), 43–60.

DOŚWIADCZENIE GRANIA W GRY WIDEO JAKO MOŻLIWY ELEMENT KONSTRUKCJI HISTORII ŻYCIA

Streszczenie. Artykuł przedstawia wyniki badania dotyczącego relacji między doświadczeniem związanym z graniem w grę wideo, a konstruowaniem narracji dotyczącej własnego życia, na przykładzie gry Disco Elysium, wybranej z powodu wyjątkowych mechanik przypominających koncepcje w psychologii narracyjnej. Badani mieli za zadanie odpowiedzieć na pytania kwestionariusza skonstruowanego na podstawie wywiadu biograficznego McAdamsa. Uzyskane narracje zostały przeanalizowane z użyciem zasad metod hermeneutycznych i interpretacyjnej analizy fenomenologicznej. Z 47 uzyskanych narracji 23 zostały zaklasyfikowane do analizy, a dwie spośród nich przedstawiono jako przykładowe zobrazowanie relacji między graniem w Disco Elysium, a treścią konstruowanej narracji. Wnioskuje się, że poprzez treści powodujące silne reakcje emocjonalne, wyjątkowy sposób przedstawienia tematyki dla dorosłych (dotyczących takich kwestii, jak kryzys wieku średniego czy alkoholizm) oraz wywoływanie refleksji na temat swojego życia u gracza mogło dojść do inkorporacji tego doświadczenia do historii życia. Przykłady tematów zidentyfikowanych w narracjach: doświad-

czane emocje; gracz jako terapeuta; gracz jako niezależny byt; tęsknota za przeszłością. Konteksty, w których zamykały się zidentyfikowane schematy: awatar jako ktoś inny; osobisty kontekst; egzystencjalny kontekst.

Słowa kluczowe: narracja, tożsamość, gry wideo, gry rpg, historia życia, cyber-psychologia