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Pixels as People

An exploratory study concerning the application of parasocial interaction in games

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Abstract

Since its inception at the hands of Horton & Wohl, parasocial interaction has been applied to various media. Indeed, new media settings such as gaming, have not evaded its application, demarcating entities and situations in which the parasocial might emerge. However, through its reliance on a constructionist informed grounded theory approach, this exploratory study re-examines the extant borders of PSI through its adherence to actor-network theory, effectively emancipating the computer as a valid performer in videogames. Combined with other theoretical approaches such as psychological ownership and place-making theory, this study will develop a new PSI model suited to explore the occurrences of PSI, as well as para-sensory experiences of virtual embodiment, within games, and check this model against the life worlds and experiences of players themselves through qualitative in-depth conversations.

Keywords: *actor-network theory; informed grounded theory; parasocial interaction; para-sensory experiences; game studies*

Words: *24.890*

1. Introduction

The term parasocial interaction (henceforth PSI) was first coined by researchers Richard Horton and Donald Wohl as one of mass media's primary characteristics, entailing an illusion of quasi face-to-face communication experienced by the media-user.[1] Ever since, parasocial interaction has occupied an important place in Communication and Media Studies. However, in spite of its more than 50-year old legacy, research into parasocial interaction has yet to pierce some of the younger fields of Media Studies, and has been mostly preoccupied with television and film.[2] It follows that gaming has largely evaded research into the application of PSI within a videogame setting, though one could argue that videogames provide a highly fruitful environment to further research the implications and applications of parasocial interaction. Indeed, they surpass the qualities of traditional audio-visual media such as television or film by allowing the media-user to interact with the game-environment.[3] Following Schramm and Hartmanns hypothesis that television's audio-visual nature makes it likely to possess a stronger ability to solicit an illusion of face-to-face interaction, games might very well possess an even greater affinity for the parasocial.[4]

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[1] HORTON (Donald) & WOHL (Richard). Mass Communication and Para-Social Interaction: Observations on Intimacy at a Distance, in *Particip@tions*, 2006, vol. 3, nr. 1., p. 1.

[2] GILES (David C.). Parasocial Interaction: A Review of the Literature and a Model for Future Research, in *Mediapsychology,* 2002, vol. 4, p. 280-283.
HARTMANN (Tilo) & GOLDHOORN (Charlotte). Horton and Wohl Revisited: Exploring Viewers' Experience of Parasocial Interaction, in *Journal of Communication*, 2011, vol.61, p. 1104-1105.

[3] LIANG TONG (Wee), CHENG CHYE TAN (Marcus). Vision and Virtuality: The Construction of Narrative Space in Film and Computer Games. In KING (Geoff), KRZYWINSKA (Tanya) ed. *Screenplay, cinema/videogames/interfaces.* London, Wallflower Press, 2002, p. 99.

[4] SCHRAMM (Holger) & HARTMANN (Tilo). The PSI-Process Scales. A new measure to assess the intensity and breadth of parasocial processes, in *Communications*, 2008, vol. 33, p. 386.

Although the research regarding parasocial interaction in videogames is limited compared to the heritage of the concept within television and film studies, its application and limits have been subjected to a fair amount of scrutiny. This is especially the case for the wide array of digital entities that users interact with during their excursions into virtual space.[5] Kavli makes note of the problems concerning the separation of the audience and performer roles described in Horton and Wohl's research, which consequently make the avatar –as the most prominent intersection between player and character – a thorny subject concerning the application of parasocial interaction, as it blurs the crucial distinction between audience and performer. As such, the prevailing conclusion assumes that the application of PSI is impossible in cases involving an avatar, as this would make it unlikely to regard the performer and audience as separate actors, and presume that the player in essence is having a parasocial interaction with herself. Other digital characters on the other hand such as *Player Characters* with an estalished narrative and personality, or AI-driven *Bots* are assumed to allow the possibility for PSI.[6] This representation of parasocial interaction in games appears debateable. Indeed, it can be argued that it pays insufficient attention to the way in which actions take place in videogames as the result of human and computer interaction, as opposed to an interaction between players and developers.[7]

As shown by researchers such as Giles and Sood & Rogers, parasocial interaction has been the topic of various pathologies since its inception.[8] Indeed, while Horton & Wohl underlined how parasocial interaction is complementary rather than derogatory to *"normal"* social interaction, it has often been related to loneliness or media dependency.[9] Although subsequent researchers have sought to highlight the same complementary nature of PSI as Horton & Wohl originally did, it is important to rekindle this notion within game studies. Indeed, as Shaw demonstrated in her work on gamer identity, videogames remain a heavily debated topic, riddled with stereotypes and social stigmas. Indeed, it comes to no surprise that during various interviews, this stereotype, as well as the stigma of videogame player's social ineptitude, emerged during the conversations I had with players who noted how gaming was often perceived as asocial.[10]

This study therefore seeks to further explore the possibilities of parasocial interaction within games by approaching the subject using a combination of the Informed and Constructionist Grounded Theory methodologies, and qualitative in-depth interviews with players. Thusly, it will make use of a systematic literature review throughout and preceding the research process as suggested by Thornberg's informed grounded theory.[11] Moreover, it will betray its adherence to a constructionist

[5] KAVLI (Katrine). The Player's Parasocial Interaction with Digital Entities, in *MindTrek 2012*, 2012, p. 83.
[6] IDEM, p. 83-84, 86-87.
[7] GALLOWAY (Alexander). *Gaming: Essays on Algorithmic Culture*. Minneapolis, University of Minnesota Press, 2006, p. 2.
[8] GILES (David C.). *Op. Cit.,* 2002, p. 284.
SOOD (Suruchi) & ROGERS (Everett M.). Dimensions of Parasocial Interaction by Letter-Writers to a Popular Entertainment-Education Soap Opera in India, in *Journal of Broadcasting & Electronic Media*, 2000, nr. 44, vol. 3, p. 388.
[9] HORTON (Donald) & WOHL (Richard). *Op. Cit.*, 2006, p. 10.
[10] SHAW (Adrienne). Do you identify as a gamer? Gender, race, sexuality, and gamer identity, in *New Media & Society*, 2011, vol. 24, nr. 1, p. 31.
ATTACHMENT A, p. 207, 235-236.
IDEM, p. 158.
IDEM, p. 93.
[11] THORNBERG (Robert). Informed Grounded Theory, in *Scandinavian Journal of Educational Research,*2012, nr. 56, vol. 3, p. 245.

ontology through its research design and underwriting of theories describing games, as well as their narratives and characters as the results of interactions between players and machines. By supplying new theoretical frameworks to the analysis of PSI in games, this study will allow for the re-evaluation of the possibility for there to be both an audience and performer present within an avatar character by shifting the attention not to a possible interaction between developers and players, but to an encounter between the player and the machine.

Several key questions have been drafted in order to explore parasocial interaction within games. Firstly, the question *"How can parasocial interaction be applied to gaming, and what are its limitations?"* will examine whether the application of new theoretical frameworks such as actor-network theory, Galloway's gamic action, place-making theory and psychological ownership allows for new insights into the application and understanding of parasocial interaction within game environments. The answer to this question will be answered at the end of this study's literature review, which sought to develop a model fit to examine the possibility for PSI to occur within games. The question *"In what way do players describe the bond and interaction between themselves, the game and its characters?"* will evaluate the player's interaction in order to check the viability of the influencing factors suggested in this study's PSI model by examining their occurrence in the experiences described by players during interviews.

As such, this study will begin with a literature review, which first paints a broad picture of previous research on PSI and its established models. Afterwards, the literature review will turn to the arena of videogames, drawing on various theoretical frameworks in order to develop a model that might better account for the different experiences media users go through when playing games compared to traditional media such as film and television. In this chapter, Kumar & Benbasat's characteristics of a medium will be refitted to the case of videogames, and a new model for PSI will be proposed. Moreover, this model will seek to stay true to later models of PSI by taking a more flexible approach to the subject by developing a toolkit rather than a rigid model or typology.

The subsequent empirical chapter will use a comparative analysis in order to check the viability of the proposed model by analysing the conversations with players and checking the emergence of the influencing factors proposed in this study's PSI model. However, the clear-cut distinction between the literature review and the empirical analysis of the conversations with players somewhat hides the grounded theory approach followed by this study. Indeed, as shall be noted later on, the conclusions drawn from the literature review are chronologically equal to those conclusions drawn from the empirical analysis, as both phases were intertwined throughout the research process. As noted earlier, this analysis is based on interviews, which were conducted by using semi-structured questionnaires in order to retain the sense of an ordinary conversation as much as possible, and avoiding inequalities in the relation between the researcher and conversational partner consistent with constructionist grounded theory.[12]

[12] RUBIN (Herbert J.) & RUBIN (Irene S.). *Qualitative interviewing: the art of hearing data.* London, Sage, 1995, p. 122.
MILLS (Jane) et al. Adopting a constructivist approach to grounded theory: Implications for research design, in *International Journal of Nursing Practice,* 2006, vol. 12, nr. 1, p. 9.

2. Parasocial interaction

Before delving into the application of PSI within gaming environments, it is key to gather a thorough understanding of the term itself, where it originated, and how it has changed over time. This first chapter will therefore chronicle the origins of parasocial interaction in Horton & Wohl's research, and highlight different scales to measure and further define PSI that were drafted by researchers such as Rosenberg and Hartmann & Schramm. Indeed as scales were developed and an effort was made to materialize PSI into clear-cut indicators, problems arose regarding the original definition and description of the concept as put forth by Horton & Wohl. By highlighting the way in which PSI has been, over time, subjected to critical re-examination, this study endeavours to offer an equally critical examination of the application of PSI within gaming environments.

2.1. A brief history of parasocial interaction

Researching performer-audience interaction occurring in traditional mass media such as television, radio and film, Horton & Wohl described the way in which audiences can appear to become implicated in the actions on-screen. A performer, they described, will often appear to be directly addressing the viewers in a personal fashion, evoking the illusion that the viewers are not merely spectators to the interactions on-screen, but equally part of it.[13] By describing this *"simulacrum of conversational give and take"*, whereby spectators feel part of an actual conversation, Horton & Wohl first coined the term parasocial interaction.[14] At the centre of this concept lies a specific actor that takes precedence throughout Horton & Wohl's discussion of PSI, namely the persona. This persona is described in contrast to other actors that are prevalent in television and film drama's where an agent quite literally acts out the role of another character in a theatrical performance. The persona, however, is the central figure of what Horton & Wohl come to call the personality program. They are the quizmasters, interviewers and plethora of characters featured on-screen "as themselves".[15]

Indeed, it is the very nature of their performance and the authenticity that it implies that is at the core of Horton & Wohl's description of PSI as an illusion of conversational give and take. Through their presentation and mode of address, personae appear to be speaking to the audience as one would in a face-to-face conversation, leading over time to a sense of intimacy on the part of the spectator. Horton & Wohl stress however that the development of this sense of intimacy is there by design, and that the persona is equally artificial as would theatrical actors, as it is one engineered by agents operating behind the scenes such as managers, producers and the actors themselves.[16] Regardless, its artificial nature often remains hidden behind a veil of (hyper-) reality evoked through several means, described by Horton & Wohl, which laid down the foundations for future research into the development of PSI measuring scales.

In their research, the authors describe the way in which personae offer continuing relationships. Indeed, the repetitive nature of the persona's appearance is a key influence in the development of parasocial relations with the spectator. Similarly, Moores cites John Ellis who notes that this

[13] HORTON (Donald) & WOHL (Richard). *Op. Cit.*, 2006, p. 1.
[14] IBIDEM.
[15] IDEM, p. 2-3.
[16] IBIDEM.

repetitiveness is *"one of the defining principles of broadcasting"*.[17] The personality program described by Horton & Wohl, then, exemplifies this central element of broadcasting, albeit on a micro scale. The various quiz shows, talk shows and news features belonging to it are a daily and to be expected occurrence intertwined with the routines of the audience's daily life. As such, one could presume that these programs and their respective personae in time become endowed with an emotional significance afforded to them by their regularity.[18] However, Horton & Wohl's demonstration of the repetitive and artificial nature of the persona's appearance also demonstrates an inherent flaw in the persona-audience relationship that distinguishes it from actual social interaction, namely its one-sided character. Indeed, while a spectator might develop the sense that they have intimately come to know the persona, Horton & Wohl note that there is no actual reciprocity present in their relationship and, thusly, place the development of emotional attachments entirely on the side of the spectator.[19]

This in turn further highlights the illusory nature of parasocial interaction as the development of the relationship takes place entirely in the spectator's mind and occurs only by grace of the spectator's participation, which the format solicits through the presentation of personae in a way that closely resembles face-to-face interaction. The persona will, describe Horton & Wohl, strive to blur the line between herself and the spectator by means of informal language and small-talk, referring to other on-screen actors in a similarly informal fashion and highlighting character traits which they present to their audience throughout the show. The latter, Horton & Wohl note, strengthens the impression on the part of the spectators that the knowledge they gather about the persona's personality and characteristics is a genuine and organic one, accumulated and formed through repeated interactions.[20] Additionally, personality programs will often draw on the participation of a studio-audience, allowing viewers to call-in or tools such as the subjective camera whereby the camera is operated as if it registers the world through the eyes of an actual person.[21] This last point will prove particularly salient, considering the use of first-person camera positions in various videogames.

As is clear from the above factors soliciting parasocial interaction, a key property of personality programs consists of the fact that throughout the interaction with personae the spectator will retain her own identity. Indeed, Horton & Wohl note that while the drama program will guide its viewers towards identification with one or various on-screen characters, the personality program continually references the spectator's own identity. Thusly, it enthrals the viewer with a sense of participation while retaining her own consciousness.[22] The latter point, raised by Horton & Wohl, sheds an interesting light on the entirety of the PSI process, making it a valid concept to take into account when considering the ways in which users interact with characters in various media settings. Most notably, while the authors mention that these programs will actively incorporate mechanisms in order to solicit PSI behaviour in their viewers, offering a starting point for the

[17] MOORES (Shaun). *Media/Theory, thinking about media & communications*. London, Routledge, 2005, p. 19.
[18] IDEM, p. 16,17.
HORTON (Donald) & WOHL (Richard). *Op. Cit.*, 2006, p. 3.
[19] IBIDEM.
[20] IDEM, p. 4.
[21] IDEM, p. 4-5.
[22] IDEM, p. 5-6

discussion and importance of the program's production context, Horton & Wohl note that in order for PSI to take place, *"the spectator must be able to play the part demanded of him"*.[23] In raising the issue of role-taking on the part of the audience, Horton & Wohl provide room for other audience responses; including rejection of the proposed role should it differ and alienate the spectator from her *"normal self"*.[24] This opens up parasocial interaction to questions of a political nature which will be referred to later on.[25] Now that we have demonstrated the way in which Horton & Wohl discussed PSI, the following chapter will highlight the way in which PSI itself has evolved over time. Indeed, in order to use PSI as a starting point for further comparisons to other concepts, it is useful to first establish a contemporary view on parasocial interaction.

2.2. Parasocial interaction, how it changed over time

In his literature review of parasocial interaction, Giles draws a clear picture of how it changed and evolved after Horton & Wohl's coining of the term. During the 1970's, he notes, PSI resurged as it was picked up in research by McQuail et al, whose respondents appeared to be relating to soap opera characters on a parasocial level. It is in McQuail et al's study, among others, that authors such as Giles and Sood & Rogers identify the roots of PSI's relation to negatively framed *deficiencies* such as loneliness or media dependency.[26] To be sure, Horton & Wohl themselves noted the possibility for extreme parasocial interactions to occur, whereby *"the socially isolated, socially inept, the aged and invalid"* as well as the *"timid and rejected"* are enticed by the personality program to compensate for a given missing value in their daily lives.[27] However, regardless of the problematic nature of Horton & Wohl's identification and association of these groups with an implied emotional fragility that allegedly puts them at a higher risk for extreme parasocial interactions, Horton & Wohl do underline that parasocial interaction in itself should be regarded as complementary to what they term *"normal social life"*.[28] uses and gratifications theory (UGT), however, brought a distinct look at parasocial interaction with it, highlighting a user's search for parasocial interaction as one to fulfil a basic need.[29] Consequently, in focusing on the fulfilment of needs, authors subscribing to this theory strengthened the bond between PSI and deficiencies by suggesting that turning to the parasocial implies the existence of a lack in the individual's social life, in need of compensation through parasocial interaction. This, contrary to the core of Horton & Wohl's original point, turned parasocial interaction away from what Horton & Wohl appeared to consider inherently social behaviour occurring in a heavily mediated society.[30]

Much of the subsequent research into parasocial interaction, Giles notes, can be situated within the uses and gratifications approach, much of which relied heavily on the PSI scale devised by Rubin,

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[23] IDEM, p. 6-7.
[24] IDEM, p. 7.
[25] COHEN (Jonathan). Defining Identification: A Theoretical Look at the Identification of Audiences With Media Characters, in *Mass Communication & Society*, 2001, vol. 4, nr. 3., p. 248.
HORTON (Donald) & WOHL (Richard). *Op. Cit.*, 2006, p. 7-8.
[26] GILES (David C.). *Op. Cit.,* 2002, p. 284.
SOOD (Suruchi) & ROGERS (Everett M.). *Op. Cit.*, 2000, p. 388.
[27] IDEM, p. 10.
[28] HORTON (Donald) & WOHL (Richard). *Op. Cit.*, 2006, p. 10.
[29] RUBIN (Alan M.), PERSE (Elizabeth M.), POWELL (Robert A.). Loneliness, Parasocial Interaction, and Local Television News Viewing, in *Human Communication Research,* 1985, vol. 12, nr. 2, p. 157.
GILES (David C.). *Op. Cit.,* 2002, p. 280.
[30] HORTON (Donald) & WOHL (Richard). *Op. Cit.*, 2006, p. 10.

Perse and Powell.[31] Indeed, Rubin at al, while offering some criticisms regarding former uses and gratifications research, can equally be situated within the same theoretical category. However, they sought to distinguish their research from previous studies by drafting a parasocial interaction scale, in order to further measure and concretize PSI through defined indicators and variables. At the core of their study, however, still lies UGT, showing itself through the need-fulfilment perspective from which they approach PSI, originating from deficiencies such as loneliness. Clearly, the deficiency hypotheses that Giles identifies throughout various studies has rooted itself deep within parasocial interaction theory. However, few studies, including the work of Rubin et al, have managed to supply data that confirms a positive correlation between PSI and loneliness.[32] It follows that research approaching PSI from perspectives other than the deficiency hypothesis may offer more salient results regarding the way in which individuals react to personae, a conclusion equally shared by Rubin et al at the end of their research.[33]

Thusly, one could note that Rubin et al's research ends by further building upon many points raised in Horton & Wohl's original work, while complementing it with empirical data as well as a measuring instrument. Examples can be found in their analysis of PSI as not only an outcome of media use but, in some cases, an influence for future media use and interactions.[34] This same hypothesis also emerges in the research of Schramm & Hartmann discussed later in this chapter, which seeks to draw clearer distinctions between the concepts of parasocial interaction and the parasocial relationships they might lead to. In doing so, Schramm & Hartmann note that parasocial interaction, *"restricted to the duration of media exposure"*, could be regarded as the onset to a parasocial relationship, but more importantly, that this relationship may in turn influence future occurrences of parasocial interactions in the individual's media use.[35] One may turn to Rubin et al's lack of distinction between parasocial interactions and parasocial relations, as noted by Schramm & Hartmann, to elucidate some of the interpretations the authors made of Horton & Wohl's original text. For instance, Rubin et al posit that Horton & Wohl's original conceptualization of PSI is limited to the viewer's exposure to the media text. However, taking a look at how Horton & Wohl note that *"the experience does not end with the program itself"*, and that it may be *"during discussion which the spectator may undertake with other people"* that opinions and meanings regarding personae can continue to be formed, one could note that while Rubin et al offer salient results for PSI theory, there remain insightful points in Horton & Wohl's original text that merit deeper consideration.[36]

In fact, later studies such as those by Gleich and Auter & Palmgreen purposely sought to examine possible blind-spots in previous PSI research and evaluate new theoretical possibilities.[37] Indeed, Auter & Palmgreen quite explicitly addressed the one-dimensional nature of the PSI construct employed in earlier research, noting that many of the original aspects identified by Horton & Wohl remained unexamined. Thusly, while other studies solely focused on the identification with a

[31] GILES (David C.). *Op. Cit.,* 2002, p. 281.
[32] RUBIN (Alan M.), PERSE (Elizabeth M.), POWELL (Robert A.). *Op. Cit.,* 1985, p. 172,173.
[33] IDEM, p. 175.
[34] IDEM, p. 174.
[35] SCHRAMM (Holger) & HARTMANN (Tilo). *Op. Cit.*, 2008, p. 386.
[36] HORTON (Donald) & WOHL (Richard). *Op. Cit.*, 2006, p. 8.
[37] GILES (David C.). *Op. Cit.,* 2002, p. 282-283.
AUTER (Philip) & PALMGREEN (Philip). Development and Validation of a Parasocial Interaction Measure: The Audience-Persona Interaction Scale, in *Communication Research Reports*, 2000, vol. 17, nr. 1, p. 80-81.

favourite character, Auter & Palmgreen's scale equally measured other sub-dimensions such as *interest in a character*, *group identification and interaction* or *liking a character's problem solving methods and abilities*.[38] It becomes clear, then, that these later studies set out to examine both the hypotheses and results of previous PSI research by applying it to untried locations. For instance, Sood & Rogers applied the concept of parasocial interaction to entertainment-education programs in India and, quite remarkably, underlined the possible positive effects of PSI for learning environments, contrary to its use as a marketing mechanism intended to influence people's purchasing behaviour.[39] As shall be further shown in later chapters, highlighting the positive effects of parasocial interaction offers salient opportunities for thinking about the concept, coupled with a perspective on PSI that situates it within normal social behaviour. This allows for a discourse that liberates PSI from the festering swamp of deficiencies.

2.3. Recent models of Parasocial Interaction

Turning to more recent theories on parasocial interaction, such as Giles' model, one may note that subsequent studies on parasocial interaction have sought to broaden the construct either by situating it within a continuum of normal social behaviour, as is the case in Giles' work, or by distinguishing between critical sub-dimensions of parasocial interaction.[40] Indeed, Giles demonstrates how forms of parasocial interaction are not limited to mediated communication but in fact appear throughout different ages and cultures exemplified through the way in which individuals relate to mythological and religious figures.[41]

Citing earlier research by Hoffner regarding 7 to 12 year old children's favourite television characters, Giles notes that their choice seemed largely influenced by the individual's sex. Consequently, boys (and to a lesser extent girls) appeared to predominantly opt for same-sex favourite characters. Thusly, he considers it seems likely that processes of identification play an important role in children's viewer-character relations. In the case of adolescents however, research by Cohen showed that adolescent viewer's favourite characters were often of the opposite sex, indicating that in these cases PSI might be a more influential factor in viewer-character relations.[42] Indeed, instead of a merger of identities occurring between the viewer and character on-screen, Cohen deemed it more likely that teenagers regard their favourite characters as friends.[43] It therefore appears likely that viewer-character relations are highly flexible and interchangeable throughout an individual's media exposure.[44]

As mentioned earlier in this chapter, later enquiries into the subject of PSI gradually refined the construct by developing measuring scales and further outlining sub-categories of PSI. Hartmann et al's works exemplify this by identifying parasocial interaction, which is limited to media exposure,

[38] IDEM, p. 80-81, 83.
[39] SOOD (Suruchi) & ROGERS (Everett M.). *Op. Cit.*, 2000, p. 392.
HORTON (Donald) & WOHL (Richard). *Op. Cit.*, 2006, p. 7, 18.
[40] HARTMANN (Tilo) & GOLDHOORN (Charlotte). *Op. Cit.*, 2011, p. 1104-1105.
SCHRAMM (Holger) & HARTMANN (Tilo). *Op. Cit.*, 2008, p. 386.
GILES (David C.). *Op. Cit.,* 2002, p. 293.
[41] IDEM, p. 287, 288, 290.
[42] IDEM, p. 288.
COHEN (Jonathan). Favorite characters of teenage viewers of Israeli serials, in *Journal of Broadcasting & Electronic Media*, 1999, vol. 43, nr. 3, p. 336.
[43] IDEM, p. 342.
[44] IDEM, p. 329.

and the ensuing parasocial relationships, briefly touched upon earlier in the chapter, as wholly different sides of a same coin. Moreover, one may argue that Hartmann's earlier work, which further divided parasocial interaction into what the author termed *paracommunication* (the feeling of being part of a reciprocal communication) and *parasocial processing* (any possible reaction towards a persona, even if lacking the sense of being in an actual reciprocal interaction), garnered a much more refined way of envisioning parasocial interaction and how it takes place in the daily lives of media users.[45]

Returning to the subject of age and its influence on viewer-character relations, as described in Giles's and Cohen's research, it is highly difficult to explain an individual's entire media exposure through one single construct.[46] Hartmann's distinction between parasocial processing and paracommunication, however, as a form of respectively *soft* and *hard* PSI, more closely resembles the continuum of social-parasocial interaction described by Giles or the spectrum of parasocial relationships in Hai-Jew's work, as it allows for variations between a very broad and more superficial PSI process and a deeply parasocial experience.[47] Similarly, Hartmann & Goldhoorn expand upon Horton & Wohl's original mention of identification processes during parasocial interaction, although without explicitly referring to the concept, through their use of a viewer's *mind-reading* and *perspective-taking abilities*.[48] Indeed, not only when individuals interact with media personae but also during other social encounters, mindreading abilities are activated in order to allow individuals to deduce a target's beliefs, reactions or intentions.[49] Thusly, while identification alone would surely fall short in explaining the many different ways in which audiences relate to media characters, a theory of parasocial interaction which is decidedly flexible and acknowledges identification as an inherent part of social interactions, renders it likely that one's PSI experience might alternate throughout media exposure depending on the media user, her physical location and the media setting in which interaction takes place.

2.4. The canon of parasocial interaction

In concluding the current chapter, it is worthwhile to examine the most critical points that were brought up regarding parasocial interaction. It was shown that after the inception of parasocial interaction by Horton & Wohl, the concept has gradually been reviewed and refined as it passed through the hands of subsequent authors. However, as shown through the arguments raised by Schramm & Hartmann and Auter & Palmgreen, not all elements raised in Horton & Wohl's original theory have received equal attention.[50] Indeed, as is apparent in Rubin, Perse & Powell's research, some of the applications of Horton & Wohl's theory are highly subject to interpretation. Moreover, as may have become clear throughout this chapter, many of the original points raised by Horton &

[45] SCHRAMM (Holger) & HARTMANN (Tilo). *Op. Cit.*, 2008, p. 387.
[46] HORTON (Donald) & WOHL (Richard). *Op. Cit.*, 2006, p. 5.
[47] GILES (David C.). *Op. Cit.,* 2002, p. 294-295.
SCHRAMM (Holger) & HARTMANN (Tilo). *Op. Cit.*, 2008, p. 191-192.
HAI-JEW (Shalin). Exploring the Immersive Parasocial: Is it You or the Thought of You?, in *Merlot Journal of Online Learning and Teaching*, 2009, vol. 5, nr. 3, p. 556.
[48] HORTON (Donald) & WOHL (Richard). *Op. Cit.*, 2006, p. 6.
HARTMANN (Tilo) & GOLDHOORN (Charlotte). *Op. Cit.*, 2011, p. 1106, 1109.
[49] MALLE (B. F.). Three puzzles of mindreading. In MALLE (B.F.) & HODGES (S.D.) (Eds.), *Other minds: How humans bridge the divide between self and other*. New York, NY: Guilford Press, 2005, p. 37.
[50] AUTER (Philip) & PALMGREEN (Philip). *Op. Cit.*, 2000, p. 80.
SCHRAMM (Holger) & HARTMANN (Tilo). *Op. Cit.*, 2008, p. 391.

Wohl were very broadly defined and described, to its own detriment or benefit. Authors following in Horton & Wohl's footsteps have therefore emphasized varying aspects of parasocial interaction such as long-term identification with media figures which, as noted by Hartmann & Schramm, may have led to PSI's highly volatile nature due to possible difficulties this may have caused in defining the borders of what can be considered as parasocial interaction.[51]

Gradually the influencing factors identified by Horton & Wohl, such as the systematic recurrence of personae, modes of address and production techniques (such as first person camera viewpoints or close ups) were further enhanced upon and served as a basis for the first scales attempting to measure the occurrence of parasocial interaction of media users. However, these earlier scales have been found vulnerable to criticisms from more recent models of parasocial interaction, which argue that in order to more accurately measure PSI one has to draw distinctions between parasocial interactions and parasocial relationships.[52] These latter models have also been shown to take a more flexible approach towards PSI, as exemplified by Giles' continuum of social-parasocial interaction, which owes much to their endeavours to situate parasocial interaction within or as complementary to *'normal'* social behaviour, and distance the concept from moral panics and discourse relating it to social deficiencies.[53]

Drawing upon the various examples of PSI research, including the original work by Horton & Wohl, it is possible to propose how the conflicting concepts of parasocial interaction and identification might be reconciled. In examining the mindreading and perspective-taking abilities discussed in the work of Malle and Hartmann & Goldhoorn, one is able to draw comparisons between these constructs and the conceptualization of identification in Cohen's work in order to conclude that identification always plays a part in social interactions, although not necessarily to the extent that a merger of perspectives and identities takes place.[54] Additionally, one may argue that a similar reconciliation between identification and parasocial interaction, and the acknowledgement of their interchangeability, may prove fruitful when researching parasocial interaction in video games. Indeed, as time went on, parasocial interaction has been applied to various media and genres, including videogames, which will be turned to in the following chapter.

3. Parasocial interaction in games

Now that we have broadly outlined the core of parasocial interaction in Horton & Wohl's work, and described how recent studies into PSI have further developed and applied the construct, it is high time to employ this knowledge in order to determine how parasocial interaction theory can be used when researching character-player relationships in videogames. Indeed, as was shown earlier, over time the applications of PSI have extended far and wide beyond the borders of television from

[51] IDEM, p. 385-386.
[52] IDEM, p. 390, 392.
GILES (David C.). *Op. Cit.,* 2002, p. 298.
[53] IDEM, p. 293.
RUBIN (Alan M.), PERSE (Elizabeth M.), POWELL (Robert A.). *Op. Cit.,* 1985, p. 157.
SOOD (Suruchi) & ROGERS (Everett M.). *Op. Cit.*, 2000, p. 388.
[54] HARTMANN (Tilo) & GOLDHOORN (Charlotte). *Op. Cit.*, 2011, p. 1106-1107.
MALLE (B. F.). *Op. Cit.*, 2005, p. 37
COHEN (Jonathan). *Op. Cit.*, 2001, p. 247-248.

which it originated. In the current chapter, I will therefore highlight the research which serves as a bridge between the more dominant line of PSI research within television and film studies, and the younger branch occurring within game studies. Along the way, I will outline the various characters occurring within videogame settings with which players interact, as described by Katrine Kavli, and will follow in the footsteps of Bruno Latour's *actor-network theory* and Alexander Galloway's *gamic action* by introducing a new actor, the ofttimes hidden *ghost in the machine,* which will reinstate the avatar within the realm of parasocial interaction. Moreover, I will complement PSI theory with various different perspectives, including Kumar & Benbasat's research of parasocial presence, which I will adapt to the case of videogames. This will allow the study to conclude this chapter with the construction of a new PSI model, which will be better suited for analysing player experiences within videogames.

3.1. Parasocial interaction with computers

Although they never explicitly employ the term parasocial interaction, as Kavli points out, Nass & Moon's research on social behaviours with regards to computer comes strikingly close to applying the core principles of the concept. This is exemplified in their argument that individuals, albeit subconsciously, apply what they term *"social scripts",* common in human-human interaction, to computers.[55] For instance, when computers were instilled with an audible voice that was either male or female, users were shown to employ specific gender stereotypes during their interactions with the various machines. Moreover, from the outset of the study participants were explicitly told that the voices only represented the computers, and that no other (human) participant was present in the conversation. Regardless, participants appeared to ascribe human qualities to the machines with which they interacted. This is especially striking when considering Nass & Moon's point that *"all computer users know a fundamental truth: the computer is not a person and does not warrant human treatment or attribution"*.[56] What is it then, one may ask, that prompts us to interact with machines in a similar way? Consequently, this query brings us back to the original matter of parasocial interaction.

Aside from the aforementioned application of parasocial interaction to computer environments, Nass & Moon's research equally recalls some of the conclusions that were drawn from the previous chapter. Firstly, Nass & Moon argue that interactions between users and computers are highly dependent on *"a host of individual, situational, and technological"* variables.[57] This point recalls the arguments of other authors who stated that factors such as modes of address, production techniques, the user's age, and the type of media figure may influence user-character interactions.[58] Additionally, further connections may be drawn between the situational variables mentioned by Nass & Moon, and the possible influence Giles ascribes to the viewer's physical surroundings by referencing co-viewer presence.[59]

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[55] NASS (Clifford) & MOON (Youngme). Machines & Mindlessness: Social Responses to Computers, in *Journal of Social Issues,* 2000, vol. 56, nr. 1, p. 83
[56] IDEM, p. 82.
[57] IBIDEM.
[58] HORTON (Donald) & WOHL (Richard). *Op. Cit.*, 2006, p. 4-5.
GILES (David C.). *Op. Cit.,* 2002, p. 288, 289.
COHEN (Jonathan). *Op. Cit.*, 1999, p. 336.
[59] GILES (David C.). *Op. Cit.,* 2002, p. 292.

Secondly, Nass & Moon take care to make note of the *"mindless behaviour"* with which individuals engage in user-computer interactions. This mindless behaviour, again, shows similarities with the automatic mindreading and perspective-taking abilities which Hartmann & Goldhoorn note are automatically activated when an individual engages in social interaction. Indeed, in their research, Nass & Moon focus their attention on the way in which this mindlessness draws attention away from the obvious cues which would reveal to users the essentially inhuman and *"asocial"* (*sic*) nature of the computer they are interacting with by triggering *"various scripts"*.[60] One may, however, look to that same mindlessness as the inherent social response individuals exhibit when engaging in social situations. Similar to how Nass & Moon assume that the social interaction taking place between users and computers originates from this mindlessness, Hartmann & Goldhoorn describe PSI as the result of *"highly automatic mindreading processes"*.[61] When then referring to Malle's description of how mindreading plays out in daily interactions, the same notion of *scripts* triggering social interactions returns.[62] By highlighting this recurring theme, it is possible to make note of how Nass & Moon implicitly situate the parasocial interactions users have with machines within the spectrum of normal social behaviour. This is underlined by the fact that all participants were adamant to agree that *"the computer is not a person"*, which makes it highly unlikely that anthropomorphism occurred.[63]

Lastly, Nass & Moon's research adds several points that were not necessarily apparent in previous PSI research. For example, the authors put forward the notion that the likelihood of social behaviour is directly proportional to the amount of human-like characteristics the computer displays. A theory later repurposed and more directly related to PSI by Hartmann under the guise of *"authenticity"*.[64] Perhaps the most interesting issue raised in Nass & Moon's work can be found in the issue of conflict with regards to the behaviour displayed by the participants, and the adamant nature with which they insist not to ascribe human qualities or behaviour to machines. While this is a subject that will be discussed more prominently later on, it may suffice to note that the events described by Nass & Moon hint at the possibility for individuals to be highly adept at shifting between various frames of reference, at once regarding the computer as a distinctly asocial machine, while at the same time playfully engaging it in sincere social interaction.

3.2. Machines as social peers

Nass & Moon's research is clearly related to parasocial interaction, and poses interesting queries that warrant further investigation. For instance, previous cases of parasocial interaction which were researched within the domain of television and film consisted of a quite clear interaction model. Although, as Horton & Wohl note, some part of the interaction can be ascribed to the persona's managers and staff, the bulk of the process takes place between the on-screen persona and the

[60] NASS (Clifford) & MOON (Youngme). *Op. Cit.,* 2000, p. 83.
HARTMANN (Tilo) & GOLDHOORN (Charlotte). *Op. Cit.*, 2011, p. 1106.
[61] IBIDEM.
[62] MALLE (B. F.). *Op. Cit.*, 2005, p. 38-39.
[63] NASS (Clifford), MOON (Youngme), GREEN (Nancy). Are Machines Gender Neutral? Gender-Stereotypic Responses to Computers With Voices, in *Journal of Applied Social Psychology*, 1997, vol. 27, nr. 10, p. 866.
NASS (Clifford) & MOON (Youngme). *Op. Cit.,* 2000, p. 93.
[64] IDEM, p. 97.
HARTMANN (Tilo). Parasocial iteractions and paracommunication with new media characters. In KONIJN (E.A.) et al (Eds.). *Mediated Interpersonal Communication*. Mahwah, Lawrence Erlbaum, 2008, p. 188.

viewer.[65] When drawing comparisons to Kavli's analysis of parasocial interaction in games, however, one may note distinct differences in the way Kavli describes the interaction that takes place. Firstly, when considering videogames as locales for parasocial interaction, one has to take note of the different kinds of personae a player may encounter. In this regard, Kavli's typology of digital characters may prove useful, as it delineates three distinct kinds of digital entities including *bots* or *non-player characters* (*npc's*), *player characters*, and *avatars*.[66]

KAVLI'S TYPOLOGY OF DIGITAL ENTITIES		
Type	Example	Description
BOTS OR NPC'S	GLaDOS *(Portal)*	*Characters designed with the purpose of allowing the player to interact with them in conversations, providing incentive for gameplay, or supporting the narrative of the game.*
AVATARS	Dragonborn *(Skyrim)*, The Courier *(Fallout: New Vegas)*	*The player's representation within the game, used by her as an extension into the virtual world.*
PLAYER CHARACTERS	Lara Croft *(Tomb Raider)*, Mario *(Super Mario)*	*An entity controlled by the player, it differs significantly from the avatar in that it consists of a pre-defined character*

Figure 1: Kavli's typology of digital entities[67]

Secondly, while we described how the core of PSI in previous literature takes place between the persona, acted out by an on-screen performer, and the viewer; Kavli appears to relocate the core of the interaction, ascribing a much larger role to the developers of the game in question. Indeed, when describing the actions of a bot or npc, she notes that it can *"only follow the static dialogue tree defined by a programmer"*.[68] Rather than attributing a supporting role to the staff surrounding the performer, as is the case in Horton & Wohl's theory, Kavli denotes the developers or programmers of the game as the performers whose performance is *mediated* through the digital character. This is in contrast to the research by Nass & Moon discussed earlier, which argues that a computer appeared to be regarded by participants as a *"peer in social interaction"*, and thusly, a social actor and performer in its own right.[69] This same notion can be found in Kumar and Benbasat's research, who argue for the consideration of a website as a social actor, much like the computers in Nass & Moon's work.[70] Drawing on the aforementioned research by Kumar and Benbasat, it is possible to examine their model of parasocial presence in order to further review player-character relations in videogames.

Although Kumar and Benbasat's parasocial presence differs slightly from the PSI theories described above since it draws on (a few) different theoretical perspectives, I include it as similar on the

[65] HORTON (Donald) & WOHL (Richard). *Op. Cit.*, 2006, p. 3, 5.
[66] KAVLI (Katrine). *Op. Cit.*, 2012, p. 85-87.
[67] IBIDEM.
[68] IDEM, p. 85.
[69] NASS (Clifford) & MOON (Youngme). *Op. Cit.,* 2000, p. 93.
[70] KUMAR (Nanda) & BENBASAT (Izak). Para-Social Presence: A Re-conceptualization of 'Social Presence' to Capture the Relationship Between a Web Site and Her Visitors, in *Proceedings of the 35th Hawaii International Conference on System Sciences*, 2002, p. 1.

basis that it *"refers to the extent to which a medium facilitates a sense of understanding, connection, involvement and interaction among participating social entities"*.[71] Indeed, the crux of Kumar & Benbasat's argument includes the demonstration of similarities between user-website interactions and social interactions and the *"illusion of conversational give and take"* apparent in the quote above, which is ever present in PSI theory.[72] When discussing the factors influencing said parasocial presence, Kumar & Benbasat make note of three distinct elements: the *participating social entities*, *the medium*, and *the way the medium is configured*. Most importantly, these social entities are not restricted to human actors, but akin to actor network theory, seek to include all social actors, including websites.

3.3. Assessing a game's parasocial potential

Contrary to Kavli's model, aligning ourselves with Kumar & Benbasat's theory allows us to include the computer or machine as a valid social actor. The medium on the other hand poses possible problems when translating it to videogames. To be sure, one could broadly define videogames themselves as the medium in question, but a similar analysis would lack much of the distinct aspects that distinguish a game such as *FarmVille* from *Halo*. Indeed, a more fruitful approach might be to consider game-*genres* as different media. Applying the different characteristics identified by Kumar & Benbasat would thusly allow one to organize various videogame genres, and individual games, along a continuum of *parasocial probability*. In this regard, a high score on the various characteristics might indicate a higher chance of parasocial interaction to occur within said game. I immediately wish to highlight, however, that these characteristics are in no way exhaustive, as Kumar & Benbasat point out, nor static, as scores on the various characteristics might very well change during different stages of the game.[73]

These characteristics include *participation*, *contingency*, *identification*, *modality* and *synchronicity*. *Participation*, one might argue, would be a quite common characteristic among many videogames, as it entails the extent to which *"senders and receivers are engaged in the interaction"*.[74] However, simulation games such as *SimCity* might display a far lower degree of participation than a *shoot-'em-up* such as *Halo*. In turn, *contingency* is defined by Kumar & Benbasat as *"the extent to which one person's queries and responses are dependent on the prior responses of the participating entity"*. This however proves more laborious to translate to videogames, as this characteristic may be described in two different ways.

Firstly, one may consider contingency more closely related to the original definition by Kumar & Benbasat, as the necessity of a preceding action in order for a subsequent actor to take part. A good example may be found in a game of virtual chess, as the black player is impeded from making a move until the white player takes hers. *The Sims*, on the other hand, allows for stages of low contingency as the virtual characters do not require the player's commands in order to act, and often engage in mischief in the player's absence.

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[71] IDEM, p. 2, 4.
[72] IDEM, p. 2.
HORTON (Donald) & WOHL (Richard). *Op. Cit.*, 2006, p. 1.
[73] KUMAR (Nanda) & BENBASAT (Izak). *Op. Cit.*, 2002, p. 4.
[74] IBIDEM.

Secondly, contingency may be translated to worlds such as those found in MMO-games or various sandboxes. These games are persistent insofar as actions, items and decisions taken by the player will remain in play far beyond the first game-session in which they occur. In the case of most MMO-games, these will remain as long as the game's servers remain active, or until the player deletes her characters.

Identification, the third characteristic included in Kumar & Benbasat's work, involves the *"extent to which the participants are fully or partially identified"*.[75] Considering the similarities between the identification concept used in previously discussed theories, I will rephrase Kumar & Benbasat's use of the term as *self-disclosure*. Indeed, while single player games often grant a high degree of anonymity to the player, various levels of self-disclosure come into play when the player enters online worlds or multiplayer environments. This is exemplified by the stark contrast between games such as *Super Mario*, in which the player slips into the skin of the famed Nintendo character, *The Legend of Zelda*, which allows players to rename the hero of the game, and *DayZ*, which prompts players to use voice communication to interact with others in-game.

Fourthly, the *modality* or *"extent to which a media [sic] can support symbol variety [such as] text, audio and visuals"* may also greatly influence the interactions occurring within games. Similar to Kumar & Benbasat's contingency characteristic, modality may be translated into games as a twofold concept.[76] On the one hand, it may consider the extent to which games include the three varieties of symbols identified above, on the other hand, it can be employed to entail the amount of possible varieties that can be added to the game world by the player. Games such as *Minecraft*, for example, could then be regarded as having high modality, as players are free to create highly imaginative constructions by disassembling and reassembling the various cubes that make up the game world.

Lastly, *synchronicity* entails the immediacy of the interaction. Kumar & Benbasat consider that instant chat messaging, for instance, leads to a high amount of synchronicity. Similarly one may note the distinction between the *Real-Time Strategy* and *Turn-Based Strategy* on the level of synchronicity. Games falling under the former category play out in *real-time* while games falling under the latter category are experienced over several distinct turns. When we complement these influencing factors with the way in which the medium is configured, the third factor identified by Kumar & Benbasat, the model implicitly present in Kavli's work can be redefined in the following way.

[75] IBIDEM.
[76] IBIDEM.

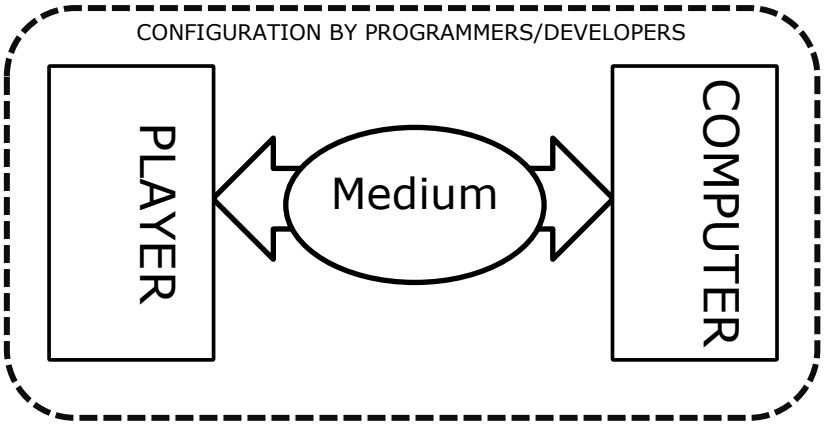

Figure 2: Application of Kumar & Benbasat's model to games

As indicated on the figure above, PSI in games could then be considered as an interaction between two social actors, the player and computer, mediated through the medium or game and its interface. This interaction is in turn framed by what Kumar and Benbasat termed the *configuration of the medium*, or in other words, the way the game is programmed. This will largely affect the way in which the player and computer will be positioned within the game, and will equally determine the rules which shape their interactions. Furthermore, the previous delineation of the various concepts garnered by Kumar & Benbasat influencing a medium's potential for parasocial presence may be translated in a way that allows one to similarly assess a game's parasocial potential while respecting its specificity. Perhaps the most striking difference with Kavli's description of PSI can be found in the displacement of the programmer's role during the interaction. Rather than interacting with players by proxy, programmers will influence the interaction by creating the broader framework within which the interaction takes place, and by assigning and delegating roles and actions to the participating actors.

3.4. Actor-network theory

As is apparent through Kumar & Benbasat's argument for the inclusion of the website as a social entity, the authors show remarkable similarities with actor-network theory, which equally seeks to establish non-human actors as important participants in our daily lives. Such an emancipatory act not only renders visible those non-humans we engage with systematically and on a daily basis, but proves fruitful for PSI theory within games insofar that it creates the possibility for PSI to occur with avatars created in the player's likeness, a possibility which is denied by Katrine Kavli.[77] In order to expand and enhance upon this argument, the following chapter will detail a new perspective on the avatar as a hybrid entity of both human and machine, by drawing on actor-network theory, Galloway's gamic action, and the prosaic metaphor of the *Ghost in the Machine*.

A salient example for how the relationship between developers, games and players may be reconfigured can be found in Latour's work on actor-network theory. Therein, Latour describes the laborious tasks performed by one of the most trivial non-humans that figures in our lives, the door. An interesting way to interpret the role a door plays, he notes, is to imagine the effort required by a human to perform these very same tasks. In the case of a door, this would require any action that would allow one to penetrate the wall within which it features. Luckily, Latour states, we may

[77] KAVLI (Katrine). *Op. Cit.*, 2012, p. 87.

rest assured in the knowledge that all the effort required in the systematic opening and closing of walls has been *"delegated"* to doors. The term *delegation*, which Latour employs, will prove to be of crucial importance. Indeed, looking at the example he provides of automatic door-closers, one may identify the recurring theme of many of the non-humans we surround ourselves with in our life.[78] Similarly, the aptly named *computer,* which is at the centre of the current study, was designed in order to allow humans to delegate the painstaking task of computing convoluted calculations to a much more reliable machine. This highlights the error in Kavli's definition of digital characters, as they are not so much personae enacted by a multitude of performers operating behind the screen (including writers, designers or programmers), but enacted by the computer as a delegated performer.[79]

The notion that computers may function as actors in their own right is further explored in Galloway's analysis of gamic action. Before venturing into this exploration of what makes a game, it is crucial to underline a key difference between videogames and other media identified by Galloway, which is in turn likely to shape much of our approach to games: *"games are both object and process"*.[80] Most television programs or movies are fully produced texts consumed by the viewer, therefore causing parasocial interaction to generate merely the illusion that one becomes part of an interaction that is inherently one-sided due to the mostly asynchronous nature of its recording and screening. The experience of gaming is one produced only when it is enacted by machine and player, without whom games would not exist. Thusly, the game and narrative as it will be experienced by the player is, contrary to films or television programs, inexistent until the moment in which it is created through action.[81] This puts Kavli's description of digital personae in a very different light.[82] Rather, the contributors she delineates have delegated the role of performer to our PC's. Borrowing Latour's example of doors, imagine the labour required of the actors Kavli identifies if the computer was left out of the equation. Surely, it would seem highly impossible for designers to generate gaming experiences for millions of players around the world if they were unable to delegate the task of enacting entire digital worlds and characters to computers through software.

3.5. The ghost in the machine

3.5.1. Redefining the avatar

Now that we have firmly established that computers are of equal importance as human actors in games, and can be identified as performers in order to consider the possibility of PSI, it is important to highlight a remaining query that flows from Galloway's definition of games as a text that is produced during its consumption.[83] If *"games are actions"* in which *"operator and machine play the video game together,"* it is only logical that the players can equally be regarded as performers. Indeed, contrary to viewers, readers or listeners, players produce the game at the

[78] LATOUR (Bruno). "Where Are the Missing Masses? The Sociology of a Few Mundane Artifacts", in BIJKER (Wiebe E.) & LAW (John) eds. *Shaping Technology/Building Society: Studies in Sociotechnical Change.* Cambridge, MIT Press, 1992, p. 153-156.
[79] KAVLI (Katrine). *Op. Cit.*, 2012, p. 86.
[80] GALLOWAY (Alexander). *Op. Cit.*, 2006, p. 3.
[81] IDEM, p. 2-3.
[82] KAVLI (Katrine). *Op. Cit.*, 2012, p. 87.
[83] GALLOWAY (Alexander). *Op. Cit.*, 2006, p. 2-3.

time of playing in tandem with the computer. We can therefore accept, as Kavli does, that players may experience parasocial interactions with NPC's or Player Characters such as Lara Croft whose identity is distant enough from the player's. But what of the avatar, which Kavli situates outside the realm of parasocial interaction?[84] By applying Galloway's model for machine and operator acts, it is possible to more sharply determine what makes up an avatar by rendering visible that hidden intruder in our virtual bodies; that *ghost in the machine*.

In his work on gamic action, Galloway identifies two distinct actions: *operator acts*, which are actions performed by players, and *machine acts*, which are actions performed by the game computer.[85] Galloway couples this with the two levels on which the actions of the game are played out: the *diegetic* or narrative level of the game, and the *non-diegetic* level, which includes all things *"external to the world of narrative action"*.[86] By drawing attention to both diegetic and non-diegetic operator and machine acts, Galloway renders visible the different levels on which players and computers interact with each other in ways that may both enhance and disrupt gameplay. Crashes, bugs or power outages are but a few of the possible forms of *disabling non-diegetic machine acts* which players may have come into contact with at one point in time. Thusly, through the occurrence of machine acts, it becomes evident that we don't simply own the digital body on screen, or inhabit its virtual world, as suddenly the existence of another presence dawns upon us.[87]

An example may be found in the various *let's plays* popularized on *YouTube*, in which players stream and record their gaming experiences online. In one such *let's play,* the streamer ItmeJP is in the process of playing through the recently released third-person action game *Bloodborne*, and encounters a boss monster. As it lunges towards his avatar with a massive attack, JP attempts to evade it, but fails. Instead of dodging, his avatar grabs a syringe and heals, leaving itself vulnerable to the attack. Exasperated, ItmeJP yells *"why did you do that?! I didn't tell you to heal!"*[88] This example expands upon the previous argument by not only noting how developers delegate actions to the computer, but how players equally delegate certain actions to the computer and its hardware in order to render gameplay possible. Indeed, although a seemingly trivial and redundant point to make, our ability to apply motion to a digital avatar is not enacted by the same muscles which lend mobility to our offline body. Instead, that power is delegated to various keys and buttons connected to the machine. It is through *habit and practice*, similar to Shaun Moores' discussion of Merleau-Ponty's work on *embodied knowledge*, that our body incorporates the buttons and controllers we use to move around in digital spaces, blurring the boundaries between our human body and the machine.[89]

One may note that, although we have discussed Galloway's machine and operator acts situated on a diegetic and non-diegetic level during gameplay, we have yet to find a way with which to resolve the query of the performer-audience dichotomy when it comes to the avatar. This requires us to return to Horton & Wohl's original study on parasocial interaction in which the authors noted that

[84] KAVLI (Katrine). *Op. Cit.*, 2012, p. 86-87.
[85] GALLOWAY (Alexander). *Op. Cit.*, 2006, p. 5.
[86] IDEM, p. 6-7.
[87] IDEM, p. 31.
[88] MCDANIEL (J.P.) [ItmeJP]. (2015, March 26). JP plays Bloodborne – Part 3 [Video file]. Retrieved from https://youtu.be/_HW6wr5UCj4?t=29m42s
[89] MOORES (Shaun). *Media, Place and Mobility.* UK, Palgrave Macmillan, 2012, p. 47-49.

personality programs such as talk-shows or news reports will actively refer to the viewer's own identity throughout the course of the program.[90] As is indicated through Alexander Galloway and Bob Rehak's research, games equally refer to the identity of the player throughout the gaming experience, albeit in a more complex fashion. Through the non-diegetic acts Galloway describes, games will systematically remind the player of her own identity by providing feedback regarding names, health and ammunition and most importantly, through the endless cycle of death and rebirth.[91] Indeed, Rehak considers the act of *respawning*, whereby the player is allowed to restart the game at certain checkpoints upon death or the dreaded *game over* screen, as a *"rupture of the (…) identificatory linkage between players and avatars"*.[92]

3.5.2. The rubber hand illusion

Certainly, as Galloway notes, one may consider instances of non-diegetic acts which appear to be in a struggle with the diegetic acts that make up the game, as is the case in his example of the taxi-cabs in *Grand Theft Auto: Vice City*. Here, when a player dies, she is transported back to a checkpoint by taxi, which attempts to mask the non-diegetic element of the player's rebirth.[93] However, as Rehak seems to point out, the avatar as a reflection of the player is hardly perfect and distinguishes itself from her due to its differing appearance and motion. Thusly, Rehak reinforces the previous argument, since the avatar *"merges spectatorship and participation"* by functioning as a delegate of our agency in a virtual world with potentially varying degrees of control depending on the game in question, comparing player-avatar relations to wearing a glove.[94] Although we may on occasion *feel* as though the glove becomes a second skin, the possibility for frictions (those non-diegetic acts Galloway describes in games) between the glove and our hand will remain, as both retain their separateness during the perceived merger. It is therefore highly unlikely that we would at any point consciously equate the glove with the hand inside it.[95] In this sense, our relation to avatars bears a likeness to the Rubber Hand Illusion (RHI), in which *"watching a rubber hand being stroked synchronously with one's own unseen hand causes the rubber hand to be attributed to one's own body, to 'feel like it's my hand'."*[96] The fact that we feel as if we control the avatar is likewise merely an illusion, provided by the appropriation of the game computer's controls, its buttons and keyboard, into our own body schema or bodily space.[97]

Indeed, RHI research by Graziano & Botvinick indicated that the body schema, our internal representation of the body, may intervene in order to alleviate inconsistencies between tactile and visual stimuli.[98] A similar intervention of the body schema may cause players to experience the illusion that the input they provide to the machine is equivalent to its visual representation on

[90] HORTON (Donald) & WOHL (Richard). *Op. Cit.*, 2006, p. 5.
[91] GALLOWAY (Alexander). *Op. Cit.*, 2006, p. 8, 32.
[92] REHAK (Bob). Playing at Being, in WOLF (Mark), PERRON (Bernard). *The Video Game Theory Reader.* New York, Routledge, 2003, p. 110.
[93] GALLOWAY (Alexander). *Op. Cit.*, 2006, p. 32.
[94] REHAK (Bob). *Op. Cit.*, 2003, p.103, 104.
[95] IDEM, p. 2.
[96] TSAKIRIS (Manos) & HAGGARD (Patrick). The Rubber Hand Illusion Revisited: Visuotactile Integration and Self-Attribution, in *Journal of Experimental Psychology: Human Perception and Performance*, 2005, vol. 31, nr. 1, p. 80.
[97] MOORES (Shaun). *Op. Cit.*, 2012, p. 47-49.
[98] GRAZIANO (Michael) & BOTVINICK (Matthew). How the brain represents the body: insights from neurophysiology and psychology. In PRINZ (W.) & HOMMEL (B.) (Eds.). *Common Mechanisms in Perception and Action: Attention and Performance XIX*. Oxford, Oxford University Press, 2002, p. 136, 149.

screen, prompting players to feel as though they wholly control the avatar and its movements. The performance, on the contrary, is in fact that of the machine, featuring as the player's delegate within the virtual world. One may note that this in no way implies the player's loss of self-reference. Rather, it would seem that this illusion provides the player with a *para-sensory experience* which causes her to assimilate a virtual body into her own body schema. In fact, during RHI, participants are fully aware of the premise that the rubber hand is in fact not their own and artificial. This is similar to Nass & Moon's statement that users always consciously know that *"the computer is not a person"*, and may be expanded upon to indicate how players are similarly always aware that they are playing a game.[99]

Returning to the query regarding the make-up of the avatar at the start of this chapter, we may note how despite the player's sense of control, it is in fact the computer who is the performer throughout gameplay, even if the avatar is created in the image of the player. Apart from Rehak's argument that an avatar can never fully mirror the player and will thusly always remain a distinct entity, RHI offers explanations for the way in which players come to feel as if they control the virtual body. However, this sense of control consists of an illusion, created by an intervention on the part of the body schema, which will alleviate the discrepancy between our synchronous control input and their resolutions on-screen. It is clear by adopting an actor-network theory perspective that by delegating the actual movements of the avatar through the input of commands, the actual performance rests on the computer. Thusly, contrary to Kavli's analysis of the avatar, the player is not the only actor. In fact, hidden behind the illusion of full control assumed by the player, the computer remains present as the *ghost-writer* to the player's agency. A *ghost in the machine* that becomes tangible only in those moments when our para-sensory experience is fractured due to an unexpected act on the part of the computer, shattering this awkward alliance.

Let us recall the previous example of the YouTuber ItmeJP, in which bond between player and machine is rendered visible. According to JP's reaction, it is evident that his expectations regarding the movements of the avatar did not coincide with the events that took place, as exemplified by his outcry: *"why did you do that?!"* Indeed, since JP effectively delegated the act of moving to the machine, mistakes are entirely within the realm of possibilities during gameplay, as this example shows. Whether JP mistakenly pressed the wrong button, or the machine interpreted the player's input in a different way (which would be considered a bug), the occurrence of this error would not be possible were the player the sole inhabitant of the virtual body. To be sure, the fact that JP yells out *"I didn't tell you to heal"*, highlights the player's relation to the avatar when it is devoid of RHI. Moreover, it is striking that this illusion does not provide for the loss of one's own identity, but rather, provides the sensation that one's body or self extends to other objects and targets, thusly further reinforcing Rehak's argument that one never equates the glove with the hand that's inside it.[100]

3.5.3. Reinstating the avatar into the realm of PSI

When applying these insights to the case of the avatar, it is clear that PSI is entirely possible, even when it concerns an avatar created in the player's likeness. Moreover, the experience of the avatar

[99] NASS (Clifford) & MOON (Youngme). *Op. Cit.,* 2000, 82.
[100] REHAK (Bob). *Op. Cit.*, 2003, p. 104.

and player character, although they are two distinct digital entities, is quite similar. Summarizing the previous points, the avatar will never be able to exactly mirror the player's appearance. To be sure, exceptions and variations may occur. For example, one may consider the possible influence of either motion capture hardware, or a realistic representation of the player on the para-sensory experience of *being the avatar*. Regardless, the avatar, as Rehak notes, will remain more powerful than and thus different from the player. This is exemplified in its ability to die and resurrect during the course of gameplay. Indeed, it is exactly this ability that makes the identification process which allows us to extend ourselves into the body of the avatar fleeting and intermittent, as it is continually shattered and reconstructed during the course of the game.[101] Secondly, PSI with avatars is possible due to the fact that players never actually take on the role of performers, as Kavli mistakenly ascribes to them.[102] It is in fact the machine, as the delegate of the player's agency, which will serve as performer. The player will therefore still retain the role of spectator, even though she is actively involved in the production of the text. Lastly, one may explain the apparent difficulty to ascribe the possibility for PSI to cases involving avatars by referring to RHI. Indeed, due to the apparent synchronicity between the visual representation of the avatar and the tactile sensation experienced by our offline body, our body schema may in time expand into the virtual world. Consider the difference between playing a racing simulation game with a steering wheel controller or the arrow keys on a regular keyboard. Should the process described in RHI hold true, and provided that the game offers a first person camera view from inside the car, the gaming experience provided by the steering wheel will provide a higher para-sensory experience than the arrow keys. This will prompt the player using the steering wheel to have a higher sense of being inside the car. However, it is exactly that, a sensation, an illusion, which provides us with the sensation of ownership over a body which we *know* is not ours. Thusly, a *doubling of place* occurs, in which we are both behind the screen and inside our avatar, both participant and spectator.[103]

3.6. Issues of ownership in virtual space

The aforementioned doubling of place opens up the case of parasocial interaction in games (and our relationships and interactions within virtual space in a broader sense) to various queries. Most notably, it highlights the diversity and variety of these interactions. As was noted earlier in this study, not only may PSI take place with NPC's (computer-controlled entities encountered in videogames), but also with player characters and avatars which are controlled by the players themselves. The latter is provided by the sensory experience of extending into the virtual body, similar to RHI, while the actual performance of the character is delegated to the computer. This allows players to split themselves in half, so that one half retains the role of spectator, seated behind the screen, while the other half experiences a sense of participation within the virtual world of the videogame. As I consider the latter half to be similar to Horton & Wohl's description of the spectator's *"enactment of a para-social role"*, I have referred to this event as a *para-sensory experience*.[104] However, Horton & Wohl's discussion of the roles inscribed in various programs indicated the possibility for viewers to reject the prescribed role, or in the case of videogames, allows for the occurrence of unintended, emergent gameplay. It is therefore useful to examine

[101] IDEM, p. 106-107.
[102] KAVLI (Katrine). *Op. Cit.*, 2012, p. 86.
[103] MOORES (Shaun). *Op. Cit.*, 2012, p. 28.
[104] HORTON (Donald) & WOHL (Richard). *Op. Cit.*, 2006, p. 8-9.

what may influence players to take control or ownership over the role or body provided to them in videogames, in order to further flesh out a theory and understanding of the way in which players relate to and interact with digital characters in games. Indeed, when drawing parallels to Shaun Moores discussion of place-making, in which Moores refers to place as *"space made thoroughly familiar",* one may discover similarities with RHI.[105] This comparison appears most salient when considering how Tuan, cited by Moores, remarks how *"place exists at different scales,"* and can even consist of *"a favourite armchair,"* much like it may consist of a virtual body in the case of videogames. Moreover, when recalling these objects as places, Tuan notes how *"they are almost a part of ourselves"*.[106]

Indeed, not only is Tuan's assessment strikingly similar to the conclusions we garnered from our discussion of RHI, an analysis of a similar place-making process allows one to identify several factors of place-making that might equally influence the occurrence of para-sensory experiences. As such, one may discern the importance of time and repetition both in RHI experiments and place-making theory, as RHI theorists discovered that the length of the experiment is proportional to the intensity of the illusion. Similarly, Moores notes that space becomes place through *"repetitive, habitual practices that are performed 'day after day' (…) over lengthy periods of immersion in environments"*. Clearly, habitual practices and time may figure as important influencing factors when considering the way players interact with digital characters. However, as noted by Pierce et al, control appears to equally influence a sense of ownership. Discussing their theory on psychological ownership, they note how *"possessions come to be part of the extended self because they express a person's ability to exert direct control over the social and physical environment"*.[107] Indeed, further exploring their theory on psychological ownership, one may find a same reference to enduring and habitual practices, as they state how it is through an *"interactive, cyclical, and reinforcing process"* that one comes to assimilate objects into the self. Most strikingly, in stating how psychological ownership *"most likely emerges through a lengthy and reiterative process"*, similar to theories on place-making, or even the *"recurrent social transactions"* that underlie PSI, Pierce et al exemplify how all these theories describing people's emotional attachments to various targets (be it PSI, identification, place-making, parasocial presence or psychological ownership), show distinct similarities and may in fact be combined in order to complement each other and garner a deeper understanding.[108]

3.7. Constructing a model for parasocial and –sensory experiences in games

Through this literature review, this study has assembled a new model aimed at describing PSI in games. As new theories and perspectives were included in the research, the focus on PSI somewhat shifted towards a broader analysis of player interaction in games, mostly prompted by the need to review the role of the avatar as other authors excluded this specific entity from PSI.

[105] MOORES (Shaun). *Op. Cit.*, 2012, p. 28.
[106] IDEM, p. 29.
[107] PIERCE (Jon) et al. The State of Psychological Ownership: Integrating and Extending a Century of Research, in *Review of General Psychology*, 2003, vol. 7, nr. 1, p. 89.
[108] IDEM, p. 96.
MOORES (Shaun). *Op. Cit.*, 2012, p. 27.
HORTON (Donald) & WOHL (Richard). *Op. Cit.*, 2006, p. 15.

Applying actor-network theory to games furthermore added issues of embodiment to the attention of this study, as the player's situation within the game may largely impact the way she interacts with other entities and her own avatar. Indeed, this literature review somewhat betrays the cyclical nature of the research process this study followed, inspired by grounded theory, as many of the theoretical perspectives featured in this study were added to the literature review due to queries that arose during the empirical phase of this study. As such, the following model can be seen as part of the results, as well as the basis on which the analysis is grounded.

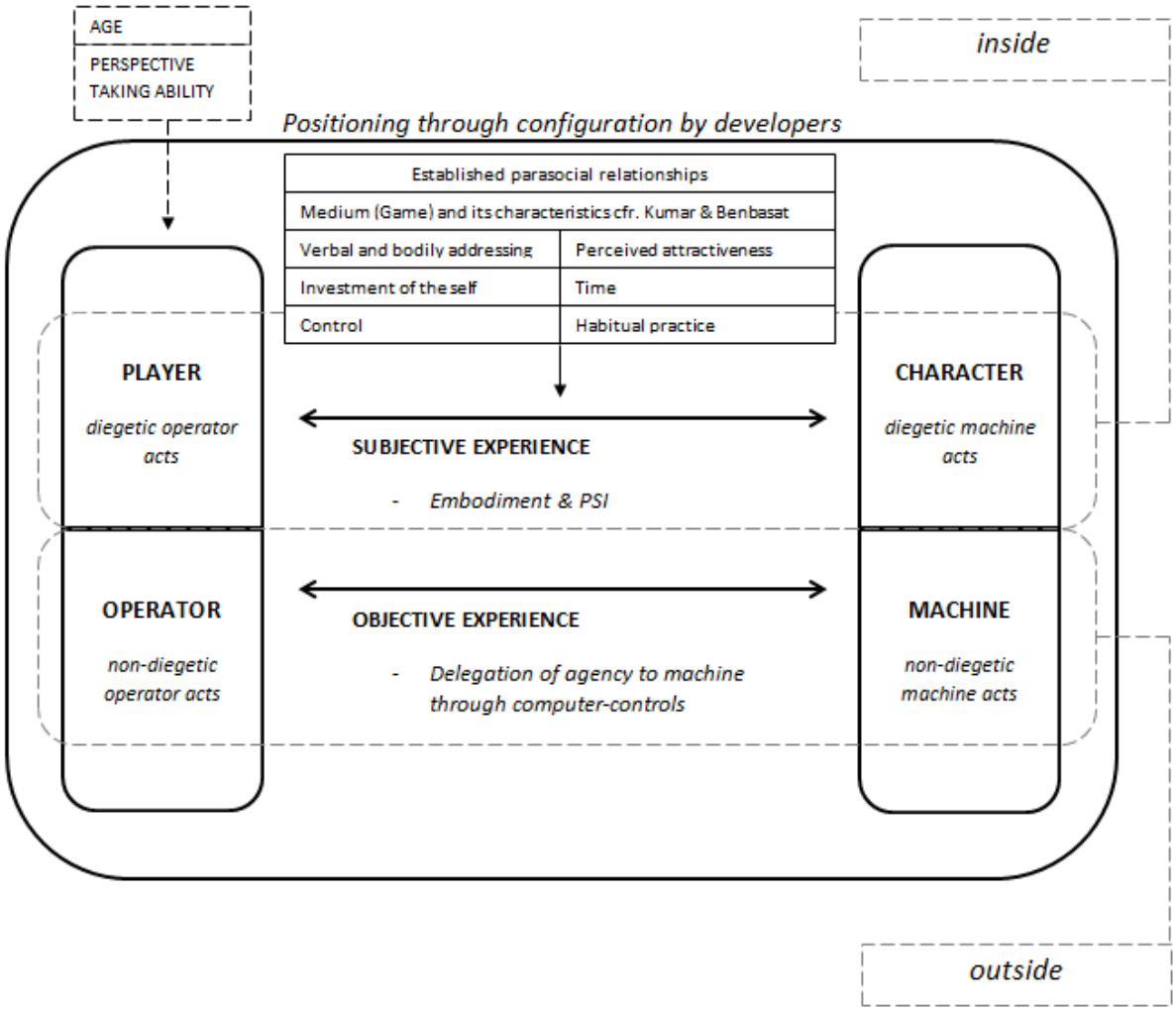

Figure 3: Model for the exploration of PSI & para-sensory experiences

As shown in the above model, at the centre of the player's interaction within games are two simultaneously present experiences, consistent with both the doubling of place theory and Hartmann & Schramm's argument that one *"cannot not parasocially interact"* with a target.[109] The first experience consists of the layer of objectivity, which is the most basic interaction (the *space* in Moores' work), which has not or will not be bestowed with emotional attachments.[110] Indeed, as Pierce et al point out in their work on psychological ownership, in some cases one may never come

[109] MOORES (Shaun). *Op. Cit.*, 2012, p. 28.
SCHRAMM (Holger) & HARTMANN (Tilo). *Op. Cit.*, 2008, p. 388.
[110] MOORES (Shaun). *Op. Cit.*, 2012, p. 28.

to develop emotional attachment to certain targets, or claim them as theirs.[111] In the case of this objective experience, it involves the player sitting behind the computer, delegating her agency within the game world to the machine by entering commands through the computer's hardware, its various keys and buttons. The second experience, on the contrary, involves the more emotionally charged experience players may encounter during gameplay. This entails both PSI (the sense that one is interacting with actual social entities), and embodiment (the para-sensory experience that one's own body extends into virtual space through an avatar or player character). Both of these experiences have been linked to the diegetic and non-diegetic levels described by Galloway, whereby diegetic acts and interactions play out within the narrative setting of the videogame, while non-diegetic acts and interactions are situated on the outside of the game world. Both of these experiences are, as was noted earlier, simultaneously present although, consistent with Hartmann & Schramm, the opacity of the subjective layer may differ.

Indeed, the opacity of the subjective layer may be influenced by many different factors. Consistent with Pierce et al's research on psychological ownership, any one of these may prompt the player to undergo a para-sensory or parasocial experience. However, the strength of the experience may be directly correlated to the occurrence of these various factors.[112] Thusly, one may hypothesize that if more of these factors are encountered, the opacity of the subjective experience will increase. These factors include *previously established parasocial relationships*, *verbal and bodily addressing*, *perceived attractiveness*, *time*, *habitual practice*, *control*, the *investment of the self* in characters as well as the *characteristics of the game*. The latter consists of the various characteristics described by Kumar & Benbasat which have been somewhat redesigned in order to allow for their application within videogames.[113] Verbal and bodily addressing, as well as perceived attractiveness on the other hand are derived from the work of Hartmann & Goldhoorn, and explore whether a player (or in their case a viewer) is addressed through language, while bodily addressing consists of bodily cues such as turning the head towards the viewer. The perceived attractiveness on the other hand hypothesizes that if a viewer *"considers a TV performer attractive, they may be more motivated to cherish the illusion of a social encounter"* and may even *"pay more attention to the performer"*.[114]

Other factors such as control and investment of the self were gathered from Pierce et al's research on psychological ownership. Moreover, control, mentioned by Pierce et al, can be expanded to include results shown through RHI. Indeed, as mentioned earlier, control may equally include the para-sensory experience players have when pushing the trigger or button on a controller seems to directly coincide with actions represented through the avatar on-screen. Thusly, as Pierce et al note, this sense of control may *"give rise to feelings of efficacy and pleasures, which stem from 'being the cause' and having altered the environment through one's control/actions"*.[115] The investment of the self, which allows *"an individual to see their reflection in the target and feel their own effort in its existence",* may equally prove to be an influence.[116] Indeed, it appears this same

[111] PIERCE (Jon) et al. *Op. Cit.*, 2003, p. 87.
[112] IDEM, p. 95.
[113] KUMAR (Nanda) & BENBASAT (Izak). *Op. Cit.*, 2002, p. 4.
[114] HARTMANN (Tilo) & GOLDHOORN (Charlotte). *Op. Cit.*, 2011, p. 1107-1108.
[115] PIERCE (Jon) et al. *Op. Cit.*, 2003, p. 89.
[116] IDEM, p. 93.

notion has been studied by Chung et al through their research on the influence of character creation on PSI, although their results proved inconclusive.[117]

Time and habitual practice, in turn, proved to be a recurring theme in many of the theoretical perspectives combined in this study. Indeed, many authors argue that the amount of time afforded to a persona or target, and its incorporation into daily practices and routines may greatly influence the emotional attachment afforded to a target. Moreover, judging by the wide variety of this argument, ranging from RHI studies to space and place theory, one may posit that the investment of time and habitual practice are at the centre of any form of emotional attachment and PSI. Lastly, the model proposed by this study includes the previously established parasocial relations as noted by Schramm & Hartmann, as these may influence future interactions one may have with the same or other personae and targets.[118]

All of these different factors are encoded within the game, thusly, framing the entirety of the experiences, both subjective and objective, is the configuration by programmers and developers, similar to the configuration of the medium mentioned by Kumar & Benbasat. Indeed, as noted by Horton & Wohl, performers and audiences are positioned within the interaction by the program's creators.[119] Thusly, both the position taken on by the player within the game, for instance the character they control, and on the outside of the game such as the hardware a player can use (keyboard, controller, steering wheel) to interact with the computer are inscribed into the game's software by the developers. However, similar to the argument raised by Horton & Wohl, these positions are in no way rigid and may fall subject to struggles. Indeed, one may reject the position of the program or, by rewriting the game's software, inscribe other positions into the game.[120] Finally, as noted by Giles and Hartmann & Goldhoorn, the player's age and perspective-taking abilities might influence the subjective experience as well.[121] These factors are however not part of the game itself, and have been added to the side of the player or operator.

Thusly, this study has strived towards the construction of a model more suited to tackle the specificities of videogames as media, and that might explain the occurrence of PSI within games. As such, attention has been given to influencing factors such as control, which are hypothesized to be more important in games than in the case in traditional media. Moreover, the model in question has tried to stay true to more recent perspectives on parasocial interaction by approaching the subject from a more flexible angle. Indeed, the media characteristics based on Kumar & Benbasat's work are provided in order to analyse each game's parasocial potential based on the specific aspects of the game and genre in question.[122] This research has also consciously avoided relations to extreme parasociability and has, as stated by Nass & Moon, underwritten the notion that players are, throughout their encounters, very well aware that they are playing a game and that their

[117] CHUNG (Donghun), DEBUYS (Brahm Daniel), NAM (Chang S.). Influence of Avatar Creation on Attitude, Empathy, Presence, and Para-Social Interaction, in JACKO (Julie) (ed.). *Human-Computer Interaction. Interaction Design and Usability.* S.l., s.e., 2007, p. 713-714.
[118] SCHRAMM (Holger) & HARTMANN (Tilo). *Op. Cit.*, 2008, p. 386.
[119] HORTON (Donald) & WOHL (Richard). *Op. Cit.*, 2006, p. 7.
[120] IBIDEM.
[121] GILES (David C.). *Op. Cit.,* 2002, p. 288.
HARTMANN (Tilo) & GOLDHOORN (Charlotte). *Op. Cit.*, 2011, p. 1109.
[122] KUMAR (Nanda) & BENBASAT (Izak). *Op. Cit.*, 2002, p. 4.

experience is, for lack of a better word, *not real*.[123] However, this does not indicate a denial of the possibility for extreme parasociability to occur. To be sure, as the opacity of the subjective experience thickens, it may in rare cases hide the objective layer almost entirely. In most cases however, similar to Horton & Wohl's arguments, it would seem that the subjective layer never fully conceals the objective experience and may even flicker throughout gameplay.[124]

4. Methodological research design

As was mentioned in the introduction, this study has been conducted with a combined Informed and Constructionist Grounded Theory approach at its core. Indeed, as the study took on the examination of "the applicability of parasocial interaction within games", it sought to examine possible blind spots in previous research and develop a theoretical model which would more adequately explain the various experiences players go through when exploring virtual worlds and interacting with digital characters. In doing so, it sought to incorporate other theoretical frameworks such as *actor-network theory* into the analysis of PSI in games, and incorporated theories which show similarities to PSI, such as psychological ownership, into the model introduced at the end of the previous literature review.

Due to its focus on the development of a new theoretical framework for PSI within games, the choice was made to opt for an *informed grounded theory* approach, a more recent implementation of *grounded theory* which will be expanded upon later in this section. Indeed, grounded theory, due to its focus on the generation of new theoretical insights by grounding theory within data, was deemed ideal, as this research sought to examine the limitations of PSI within games by checking it against the experiences and recollections of players themselves.[125] This is exemplified in the work of Heath and Cowley, who describe the objective of grounded theory as entailing an effort to *"explore basic social processes and," most importantly, "to understand the multiplicity of interactions that produces variation in that process"*.[126] This study therefore chose to focus on the life worlds of the players themselves, and the variations in experience they recount, which betrays the adherence of this study to the *social constructionist* approach to grounded theory described by Charmaz. Indeed, similar to how Charmaz describes the constructionist approach as aiming *"for an interpretive understanding of the studied phenomenon that accounts for context"*, this study criticized previous attempts at generalizing a typology of player-character relations and sought to construct a toolkit that might serve to explain PSI and para-sensory experiences while taking account of the specificities of both the game and player in question.[127] Thusly this study seeks to stay true to the first assumption pertaining to Charmaz's constructionist grounded theory, which

[123] NASS (Clifford) & MOON (Youngme). *Op. Cit.,* 2000, p. 82.
[124] HORTON (Donald) & WOHL (Richard). *Op. Cit.*, 2006, p. 5.
[125] THORNBERG (Robert). *Op. Cit.*, 2012, p. 243-244.
HEATH (Helen), Cowley (Sarah). Developing a grounded theory approach: a comparison of Glaser and Strauss, in *Interational Journal of Nursing* Studies, 2004, vol. 41, nr. 2, p. 142-143.
[126] IDEM, p. 142.
[127] CHARMAZ (Kathy). Constructionism and the Grounded Theory, in HOLSTEIN (J. A.) & GUBRIUM (J. F.) (eds.). *Handbook of Constructionist Research*. New York, The Guildford Press, 2008, p. 402.

states that *"reality is multiple, processual, and constructed – but constructed under particular conditions."*[128]

However, since it was first posited by Glaser and Strauss, grounded theory has been subjected to a wide array of criticisms. Most importantly the insistence on delaying a literature review of the subject or field that is being researched until the data analysis has been completed has been under a fair amount of scrutiny.[129] Recent instances of grounded theory, such as Thornberg's informed grounded theory and constructionist grounded theory therefore seek to alleviate and further nuance the hard doctrine of earlier versions by addressing the opportunities offered by using literature throughout the research process and explicating the researchers opinion and position within the field.[130] Thusly, contrary to the *tabula rasa* suggested by earlier versions of grounded theory, adherents to informed grounded theory use prior literature review and experience with the subject as a means to allow the researcher to more deeply interact with the subject and excavate sensitizing concepts from prior research.[131]

In order to capture the experiences of players within digital game worlds, this study opted for qualitative in-depth interviews. Following the theoretical sampling procedure suggested by the literature, conversational partners participating in the study were selected based on the requirement of having played videogames consistently over the past month.[132] Indeed, due to the problematic nature of the gamer identity, requirements for participation in the study were purposely set very low. As implied by Adrienne Shaw, playing games does not a gamer make. Recruiting participants by referring to the gamer identity was therefore deemed inappropriate, on the one hand due to the possibility of forcing participants to identify with the set identity, and secondly due to its insensitivity to the *"social context"* underlined by Shaw, and negative connotations that accompany the gamer identity.[133] Although, several games were identified beforehand as possible places of PSI, participants were requested to add games that they themselves wished to discuss. Thusly, the study sought to remain close to the life worlds of the players themselves and sought to alleviate the inequality between researcher and participant, as noted in constructionist grounded theory, by offering participants the opportunity to discuss the game environments they felt most comfortable with.[134] These participants were contacted using several social network platforms such as *Facebook*, the *Free University Brussels* website and the *9Lives.be* forum, one of Belgium's largest gaming websites. Steps were taken to also contact *cosplayers* through the Facebook community *Cosplay Cloud*, however, the overall response on all platforms was very low.

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[128] IBIDEM.
[129] IDEM, p. 400-401.
THORNBERG (Robert). *Op. Cit.,* 2012, p. 245.
[130] IDEM, p. 249.
MILLS (Jane) et al. *Op. Cit.,* 2006, p. 9.
CHARMAZ (Kathy). *Op. Cit.*, 2008, p. 402.
[131] THORNBERG (Robert). *Op. Cit.,* 2012, p. 245.
[132] GLASER (Barney G.) & STRAUSS (Anselm L.). *The discovery of grounded theory: strategies for qualitative research.* New Brunswick, Aldine Transaction, 2008, p. 45, 47.
THORNBERG (Robert), *Op. Cit.,* 2012, p. 246.
[133] SHAW (Adrienne). *Op. Cit.*, 2011, p. 31.
[134] MILLS (Jane) et al. *Op. Cit.,* 2006, p. 9.

In total, 10 players participated in the study during 9 different conversations, one of which was conducted with a couple. The age of the conversational partners ranged between 26 and 33 years old, and players excluding one, were all male. Conversational partners uniformly had a higher education and were all acquaintances of the researcher. All participants were presented with a form on which they could indicate the games they had played and wished to discuss, as well as their availability and location of preference for the subsequent conversations. These ranged from 1h30 to 3h in length and consisted of a standard conversation guided by broad questions aimed at soliciting players to express their views and experiences on games and player-character relations, as well as a more experimental phase in which players were asked to enter a game of their choice, and play as they normally would in order to capture possible parasocial interactions. However, consistent with how Giles ascribed an influence to the presence of others on PSI, this experimental phase did not have its intended effect due to the presence of the researcher during gameplay.[135] Thusly, as the research process continued, it was used as a means to somewhat change the format of the conversation by drawing the attention away from what may appear a more formal back and forth towards the screen, in order to elicit more spontaneous replies. Moreover, in 2 out of 9 conversations, this phase was either slightly altered to the use of screenshots due to technical limitations, or absent in the case of the couple's interview as the focus for that particular conversation had been shifted towards instances of co-playing.

Consistent with grounded theory's call for improvised methodological strategies, a small survey was sent out during the research process on the topic of one specific game, prompted by new inquiries that emerged during data analysis.[136] This survey consisted of 4 questions and was aimed at exploring the way in which players create buildings in *Minecraft*, similar to how players were asked to elucidate the way in which they select and create characters, as well as how players come to regard ownership in a digital world, in line with psychological ownership.[137] The recordings of the conversations were subsequently cast into transcripts and coded for analysis by categorizing them within a framework pertaining to the different digital entities described by Kavli.[138] To be sure, due to the focus of the study being on a re-evaluation of the limits of PSI within games, it declined demarcating specific subsections of games, genres and players. Thusly, it embraced the resistance of social constructionist grounded theory, as noted by Charmaz, to *"oversimplify, erase differences and overlook variation"*, and seeks no claim to generalizability.[139] Instead, it prompted players to reflect on their relations with characters and their situatedness within digital worlds. Using the different digital entities identified by Kavli as anchors in this story, the following chapters of this study will therefore turn to the conversations with players, in order to examine and check the explanatory capabilities of the PSI model suggested at the end of the literature review.[140]

[135] GILES (David C.). *Op. Cit.,* 2002, p. 292, 299.
[136] CHARMAZ (Kathy). *Op. Cit.*, 2008, p. 403.
[137] PIERCE (Jon) et al. *Op. Cit.*, 2003, p. 86.
[138] KAVLI (Katrine). *Op. Cit.*, 2012, p. 88.
[139] CHARMAZ (Kathy). *Op. Cit.*, 2008, p. 409.
[140] KAVLI (Katrine). *Op. Cit.*, 2012, p. 88.

5. Analysis

5.1. The creation of the avatar

In order to delve into the occurrence of parasocial interaction in games, and player's interaction and attachment with digital entities in general, it is useful to first explore the avatar, entailing those characters generated through character creators and controlled by players throughout the game. Indeed, the way in which players create their avatars, one might argue, reveals much of the way players relate to these characters, and the positions they take on within the game. In the following chapter, the entity that is the avatar will be explored by making use of two seeming dichotomies that put the different relations a player may have into sharp contrast. These consist of *self-other*, and *personal creation-collaboration*. To be sure, not always are these differences as sharply defined as I appear to propose, however, by drawing these distinctions as sharply as I do, the colourful variety of possible interactions with avatars, and the flexibility of these relations will become clear. Moreover, during the conclusion of this first chapter, I will argue how the avatar is always markedly different from the player by approaching the subject from a different angle, complementing more theoretical arguments such as the one by Rehak which was discussed earlier.

5.1.1. Me, myself and I: interacting with our fictional self-on-screen

As noted by Chung et al in their research on the influence of avatar creation on attitude, attachment and parasocial interaction in games, various researchers have identified avatar creation as a major influencing factor.[141] This is consistent with our assessment of self-investment, based on Pierce et al's identification of self-investment as a cause for the generation of psychological ownership, as an influencing factor for PSI.[142] Indeed, Chung et al et al similarly hypothesized that allowing players to customize their own characters would, among other factors, provide for a more intense parasocial interaction.[143] However, as was demonstrated during the literature review of this study, Kavli considers the very fact that it is entirely up to the player to define their relationship to the avatar they create that inhibits any possibility for PSI to occur.[144] Throughout conversations with other players, I have therefore sought to unveil the various ways in which they create and develop their avatars, in order to highlight the complex nature of player-character relations through the way in which players recount them.

In my conversation with Dave, an avid player of a wide variety of games, he noted how if a game offers him the opportunity to create himself, he took it.[145] Indeed, it is most likely such an avatar, created in the likeness of the player, which Kavli deems excluded from PSI. To be sure, as she notes, *"it is (…) difficult to see how the player can take on the role of a passive member of an audience to his own avatar, as he basically is the avatar."*[146] However, one may turn to Rehak's description of the avatar, who noted that it is inherently different from the player due to its

[141] CHUNG (Donghun) et al. *Op. Cit.*, 2007, p. 712-714.
[142] PIERCE (Jon) et al. *Op. Cit.*, 2003, p. 93.
[143] CHUNG (Donghun) et al. *Op. Cit.*, 2007, p. 713-714.
[144] KAVLI (Katrine). *Op. Cit.*, 2012, p. 87.
[145] ATTACHMENT A, p. 39.
[146] KAVLI (Katrine). *Op. Cit.*, 2012, p. 86.

supernatural abilities which allow it, for instance, to systematically cheat death.[147] The conversation with Dave further demonstrated how this notion of being the avatar requires nuancing as he noted:

> *"Yeah, I kinda like that, like making yourself and then watching yourself go about and, yeah. Mostly the connection actually of 'look, that's me'."*[148]

Strikingly, Dave notes how inscribing his own appearance into the representation of his avatar produces the bizarre pleasure of *'seeing yourself on-screen'*. Considering Rehak's argument might thusly explain how players can relate to avatars in such instances as those described by Dave, as the avatar retains its difference through either its abilities or imperfections in its appearance due to limitations in the game's engine. Reference to these limitations re-emerged in the conversation with Senne, who was describing the differences in character creators featured in the MMO *Guild Wars 2* and *The Sims*. He notes:

> *"The Sims is known for being a game in which you can personalize your character the most.(…) you can adjust each tiny part of your face and change it. But you can't do that in most games. And in Guild Wars for example, sure, there's humans but you can only choose from 20 silly haircuts. But to really get yourself out of it, that's practically impossible."*[149]

Moreover, Senne notes how the representation of himself in *The Sims* is mostly based on clichés or stereotypes that he associates with himself.[150] Thusly, it is apparent that players create avatars in their likeness, investing certain aspects of their self into the digital entity, while retaining a distinct difference from it. This is equally clear from the conversation I had with Bavo, in which he was asked to log into *The Sims* and demonstrate how he plays. After loading up the game, he showed how the avatars he created, together with his girlfriend, were made in their own likeness, although his retained some of the humorous aspects he also invested in self-made characters from other games.

> *"[My Sim's clothes], I chose them myself, I don't recall what my things were, something I'd wear myself: jeans, socks, maybe not really something like that, like that kind of shirt. (…) It seemed funny to, I mean, you can choose what your Sims wear every day, and it seemed a bit deranged to always have to wear something like that, so I thought, it'd be neat if he'd really wear that all the time."*[151]

Nevertheless, it was apparent that Bavo in various cases referred to his Sim in third person, either by using a personal pronoun such as *'he'*, or by referring to the Sim in third person as Bavo.[152] This may point to the relevance of the other influencing factors added to the model described earlier (see figure 3), as the lack of synchronicity in a game like the Sims (which operates by ordering commands to various avatars), may impact the sense of embodiment (or lack thereof) that Bavo displayed. Indeed, one may turn to the aforementioned positioning of operator and machine,

[147] REHAK (Bob). *Op. Cit.*, 2003, p. 4.
[148] ATTACHMENT A, p. 39.
[149] IDEM, p. 305.
[150] IBIDEM.
[151] IDEM, p. 32.
[152] IDEM, p. 31-32, 32-33.

generated by the developer's configuration of the medium, to highlight the position of overseer or puppet master that one takes in when playing *The Sims*.

> *"Bavo, what's he up to. Yeah, you can go to sleep actually. (…) Bavo's gonna wake up pretty soon. (…) Yeah, I'm already gonna let them eat something again. Bavo can wake up. And he can go cook something."*[153]

Similarly, during our conversation, Maartin noted how playing a *third-person horror* game made him feel like a *"god-like being looking down"* on his character.[154] Granted, while these games are very distinct from one another both in theme and controls, it serves to highlight the importance of the many different factors incorporated into this study's model of parasocial interaction, and how they each influence the relationship, interactions and attachments one develops with regards to digital entities. Indeed, similar to the position Maartin referenced, Mikula notes how in research by Olafson, a male gamer described his relation to Lara Croft not as one in which he controls or is Lara, which would fall under this study's discussion of embodiment, but also regards Lara as a person in the game which he ought to protect and look after.[155] Thusly, the positions players take on remain complex and variable. Although these positions are largely inscribed into the game through the developer's configuration, for instance through camera views, controllable characters, or storylines, one may equally experience intermittent bouts of embodiment and disembodiment (exemplified by the God-like being described by Maartin) within the same game.[156] As was demonstrated in the conversation with Dave, players may very well create avatars themselves, even those in their own likeness, and experience this encounter as an audience to the avatar's performance. Thusly, they may even parasocially interact with them.

5.1.2. The other as self

At the other end of the scale one may situate characters which are more distant from the player, both in appearance and behaviour. To be sure, quite often players will create characters which in no way resemble themselves. As noted by Jon as during our conversation:

> *"[In Skyrim] I was an orc! I heard orcs are good at fighting, but I actually just played it purely with bow and arrow, trained in those, and he was really good at it. But again he was like evil… looking that way, like a scar, like… scars everywhere and again sorta bad guy."*[157]

As these avatars are markedly more distant from the player's own identity, these occurrences are more likely to be situated within the realm of PSI.[158] However, as previously argued, it is not only the identity of the character or the self-investment of the player in the avatar that is an important factor in PSI, the sense of control one experiences, leading to forms of embodiment are equally important. Indeed, this highlights the complex nature of player-character relations and how it may vary throughout players and game worlds. As is apparent in the conversation with Jonas, he relates

[153] IDEM, p. 31.
[154] IDEM, p. 194.
[155] MIKULA (Maja). Gender and Videogames: the political valency of Lara Croft, in *Continuum: Journal of Media & Culturaal Studies,* 2003, vol. 17, nr. 1, p. 81.
[156] IBIDEM.
[157] ATTACHMENT A, p. 104.
[158] KAVLI (Katrine). *Op. Cit.*, 2012, p. 84.

the experiences he had in Skyrim as his own, as he mentioned *he* himself was an orc. However, somewhat later, he explained how he never *has* friendly characters.[159] To be sure, these stories of Jonas' gaming experiences are situated outside of actual gameplay, but the way we speak of and refer to the characters we play nonetheless demonstrates the way we relate to these various characters. Indeed, these stories cast doubt on the applicability of rigid models of player interaction due to the flexible nature of gameplay. As noted by Rehak and Newman, games are rarely consistent in the experiences they provide, and thusly, the interactions players have are equally shifting and flickering throughout gameplay.[160]

Rather, players move along a continuum similar to the dichotomies I described during the chapters introduction. For instance, Switch, who discussed his main character Captain Awesome in the superhero MMO *Champions Online*, explained how to him, Captain Awesome exists even outside of the MMO's game world.[161]

> *"I recall he likes to drink scotch and soda… which is mostly soda 'cause he lost his taste buds during the war. (laughs). Uh, and he's also quick to get drunk, he's also prone to be uh, full of bravado and to yell 'up up and away!' and fly off, even if he's indoors…"*[162]

However, although Switch's description of Captain Awesome paints him as a quite different character than himself, he too explained how he felt he *was* Captain Awesome. Again a doubling of place in the perspective players assume towards characters becomes apparent. Furthermore, the way in which players move along a continuum between, for instance, the extremes of an avatar as a self or other throughout gameplay becomes apparent in the conversation I had with Sven, who described his characters in the MMO's *World of Warcraft* and *The Old Republic*. Most importantly, he noted how although he created the character Fontane in both worlds, both iterations of the character show distinct differences.

> *"I don't know why Dr. Fontane is an elitist asshole in World of Warcraft, and why Dr. Fontane- I mean, Fontanius in The Old Republic isn't an elitist asshole but more of a wise old man who tries to do good from within the bad side."*[163]

Clearly, both characters originated from a single conceptualization he carries in his mind. However, as Sven goes on to note, it is through interactions within the game world or with the game's character creator that the story and personality of the character unfolds.[164] Similarly, Pieterjan noted how he skipped the character creator in Skyrim altogether, as he considers it to be a hassle to go through all the options when he just wants to start the game.[165] Instead he describes how it is *"mainly in the good vs. evil [moral decisions] that I get invested in my character"*.[166] This appropriation of meaning and character through cumulative experiences is similar to how Horton &

[159] ATTACHMENT A, p. 104.
[160] REHAK (Bob). *Op. Cit.*, 2003, p. 5.
NEWMAN (James). The Myth of the Ergodic Videogame. Some thoughts on player-character relationships in videogames, in *Game Studies. The international journal of computer game research*, 2002, vol. 2, nr. 1, p. 1.
[161] ATTACHMENT A, p. 132-133.
[162] IBIDEM.
[163] IDEM, p. 329-330.
[164] IBIDEM.
[165] IDEM, p. 259-260.
[166] IBIDEM.

Wohl describe parasocial relationships. Thusly, they note how viewers *"live with"* on-screen personae, and through *"their continued association with him acquire a history"*. Most strikingly, they posit that it is *"the accumulation of shared past experiences"* that give *"additional meaning to the present performance"*.[167] In other words, as viewers watch various episodes featuring the same character, they will appropriate meaning to its behaviour, mannerisms and personality. Similarly, players live with the characters they control and create and, as several players noted, it is by experiencing events together (at times even in a state of embodiment) with the character that they develop its personality. As is the case in parasocial interaction, the relationship players thusly build with their avatars is one-sided[168]

To be sure, as noted in other research, the idea that player-avatar relations would be similar to those between viewers and personae is hard to imagine due to how players describe their experiences in games, seemingly implicating themselves within the game world. An example of this can be found in Jonas' recollection of the game *Metal Gear Solid: Snake Eater*, in which he explained how *"you were in the forest and had to camouflage yourself while wearing this kind of suit (…)"*.[169] One could, similar to Bob Rehak, argue that this has to do with the player's imagining of themself as the agent within the game world, *"imagining ourselves as the addressee of the computer screen's discourse"*. To further explore this point, Rehak takes the example of a text-based adventure game, in which the player is presented with descriptions such as *"you are standing in…"* and can respond by typing commands such as *go north*, or *open door*. In these cases, it is more evident that the player is issuing commands to stand in, ordering an invisible avatar to *go north*, similar to our discussion of the delegation of actions to the machine through actor network theory. Indeed, it is due to the computer screen's discourse, as Rehak puts it, of today's games which is much less literal and more abstract that this collaboration between computer and player becomes hidden.[170] Moreover, Rehak's argument of how the computer's discourse provides for this illusion is eerily similar to Horton & Wohl's argument of how personae attempt to *"blur the line which divides him (…) from the audience"* through *"appropriate tone and patter"*.[171] It is therefore likely that the computer's discourse equally veils how the avatar is produced through collaboration between player and computer. This notion equally emerges in Sven's description of how the personality of his characters takes shape:

> *"It's a bit of an interaction between many things, but a lot definitely comes from what the game provides you with so to speak, and how you kind of try to find your way in those, within the world [of the game]."*[172]

5.1.3. Personal creation or collaboration?

Exploring a dichotomy between the avatar as the sole product of the player or a collaboration between player and machine may furthermore help to dissect the way in which players interact with avatars. As was discussed above, during character creation and gameplay players will

[167] HORTON (Donald) & WOHL (Richard). *Op. Cit.*, 2006, p. 3.
[168] IBIDEM.
[169] ATTACHMENT A, p. 96-97.
[170] REHAK (Bob). *Op. Cit.*, 2003, p. 10.
[171] HORTON (Donald) & WOHL (Richard). *Op. Cit.*, 2006, p. 4.
[172] ATTACHMENT A, p. 330.

collaborate with the computer to various extent as they make selections from the options the game provides them with. On the one hand, these may consist of formally inscribed options such as the different hairstyles discussed by Senne, the various backgrounds one may select at the start of *Mass Effect* which Dave brought up during our conversation, or the moral choices in *Skyrim* Pieterjan referenced in the citation above.[173] On the other hand, they may involve more random, non-scripted incidents such as an encounter Jonas had in the game *Skyrim*, in which a villager was being chased by a pack of wolves, which he used to enact the evil nature of his character.[174] A player may however move away from the collaborative end of the spectrum by utilising more free-form character creators, such as the one described by Dave for the game *3D Pixel Heroes* in which he remade himself pixel by pixel, or by uploading their own assets into the game through *modding* or functionalities such as *Tony Hawk's Underground* facial-scan, which allowed players to insert a picture of their own face into the game. Evidently, this dichotomy should again be considered as a continuum, as the player's freedom will be systematically checked by the game's grammar and geometry.

Another example of how players collaborate with the computer in order to create characters surfaced during the conversation with Sven, in which he explained how he ascribes the creation of *Alasil*, one of his alts on the MMO-game The Old Republic, more to the character creator than himself.

> *"There I… There's a hairstyle I made for her and a face I thought was beautiful, but which also made me think… I immediately saw someone, uh, a personality in there. And she also came about more due to the character creator than any idea I could have had beforehand."*[175]

Thusly, as players start to play, they adapt and change pre-existing ideas about characters as they are applied within the game world. These ideas are not limited to the character concepts Sven displayed, who mentioned that all iterations of his characters with the same name may be similar in such a way that they *"might be related to each other as a family"*, but can equally be applied to self-concepts such as those described by Dave, who selected backgrounds offered by the game based on what he deemed most appropriate for himself.[176] This notion also emerged in the conversation I had with Bavo, in which I asked him to take me through the steps he would usually follow to create a new character.

> *"I'd stay with my first choice, male, since they look somewhat frightening and I'd like to build on that. (…) Then I can see here that I'm getting various faces… That the faces the system proposes are quite fearsome. (…) I think I'm gonna go for the third option, 'cause I think that one's got rather fat lips and they're more pronounced in that one."*[177]

[173] ATTACHMENT A, p. 305.
IDEM, p. 40.
IDEM, p. 259-260.
[174] IDEM, p. 104.
[175] IDEM, p. 330.
[176] IDEM, p. 331.
IDEM, p. 40.
[177] IDEM, p. 9.

Bavo seemingly goes through the same process as Sven described earlier, as he is clearly interacting with the various options offered to him as he goes through the character creation process. Moreover, during the conversations I had with players, it became apparent that players not only apply self-concepts or pre-existing character ideas throughout avatar creation processes, but equally apply more general concepts during the character creation process, and even gameplay. For instance, players appeared to apply mythologies (as Maartin termed them during our conversation), which they applied as a pronounced set of rules that regulated the characters they created. Moreover, these mythologies not only originated from the diegesis of the various games themselves but in most cases referred to other media texts or the player's own habitus.

> *"[Maartin] I don't know, I'd say Lord of the Rings and things like that. Uh. Yeah, I think that's like the archetypical example of what generated my image of elves. (…) With Nords, um. What I think, about Nords (…) Well, to me they're Vikings, which is how you end up with that kind of type. (…) But they're not Vikings at all. They're Nords."*[178]

> *"[Jonas on Orcs] yeah they're just bad guys. Maybe that's also because of movies, like… They're always the bad guys, maybe that's got something to do with it."*[179]

> *"[Pieterjan] Tauren are like the… kind of like, well, in the beginning they tried to give them this feeling that they're like the guys or the race that's closest to nature or something to that effect. At least on the Horde side. And well… paladin and priest don't fit, it's too… religious."*[180]

> *"[Senne] My Thief's a human. 'Cause, well, thieves are kind of sneaky and uh, they can stealth and stuff like that. And… on the one hand it's weird if you make them some kind of huge enormous beast, 'cause that's not really stealthy. While in the game it doesn't matter. (…) But, yeah, it's somewhere in your head I guess…"*[181]

> *"[Jonas, when asked if he ever recreates himself in the Sims] No, never. Just random. But I do make them white, for example. I never like, no, well… for instance, I just make a family, husband and wife."*[182]

> *"[Sven] The only time when I notice that it [playing a female character] bothers me is when you start interacting with other characters. For instance in Fable I'd have a hard time playing a female 'cause if I'd think of marrying, I wouldn't want to marry a man. That's when it does matter, 'cause I can't identify with that."*[183]

As shown in these last citations, the avatar will in some way always remain connected to the player. Thusly, the creation of avatars is very similar to the positioning of the audience within a program, as described by Horton & Wohl. Indeed, they note how programs position performers and audiences by creating roles. It is then up to the audience, for instance, to take on the part required

[178] IDEM, p. 203.
[179] IDEM, p. 106.
[180] IDEM, p. 225.
[181] IDEM, p. 284.
[182] IDEM, p. 114.
[183] IDEM, p. 331.

of them in order to interact with the performer. However, the viewer is able to reject the role provided by the program should it conflict with her own self-concepts and ideas. Indeed, Latour equally notes that although non-humans are designed with prescribed users in mind, *"nothing in a given scene can prevent the inscribed user (…) from behaving differently from what was expected"*.[184] Similarly, it appears that players are required to take on certain parts within the game, and may in some cases reject the role the game provides for them. To be sure, when creating avatars players are somewhat less limited and able to add their own meanings to the role they are meant to play, but the process that takes place is not dissimilar to the process described by Latour and Horton & Wohl. Thusly, players may contribute elements of their own identity such as their sexuality while creating a character. However, as was argued throughout the past analysis of the avatar, the players are continually regulated in their freedom by the computer: *the ghost in the machine*.[185] This further highlights how the player does not hold a monopoly over the actions within the game, and how parasocial relationships with targets external to the game's diegesis may impact one's interactions.

5.2. Player characters

Distinguishing themselves from avatars, player characters can be considered to be digital entities that are pre-existent within the game world, contrary to the avatars which are the products of character creators as described above. Due to their well-defined character and personality, player characters have therefore been considered as possible targets of parasocial interaction within Kavli's research, provided that their identities are sufficiently distinct from the player's.[186] However, as will be made apparent in the following chapter, player's relationships towards player characters are not as clear cut. Indeed, similar to avatars, the identities of player characters are equally the products of interactions between players and machine, and vary a great deal. Again, the occurrence of parasocial interaction will not merely be the result of the player character's identity, but will be influenced by the various influencing factors indicated on this study's PSI model.

For instance, when conversing with Switch, ample time was spent on the consideration of differences and similarities between the two protagonists of Valve Software games Half Life and Portal. Both of these characters, as Switch pointed out, fall within the category of the *silent protagonist*, a player character without any audible or written dialogue throughout the game. However, both characters are quite dissimilar, as Switch noted how he experienced very different gaming experiences in both games with regards to other characters he encountered.

> *"In the Half Life series you're always encountering people who address you as Mr. Freeman or who call you Gordon and tell you who you are. (…) So yeah, you know which character you're playing, uh, and you're probably going to feel a bit more as if you are Gordon Freeman because of that, but… Like I told you, it's psychopaths who're completely sold on the idea."*[187]

[184] LATOUR (Bruno). *Op. Cit.*, 1992, p.161.
[185] IDEM, p. 160.
[186] KAVLI (Katrine). *Op. Cit.*, 2012, p. 87.
[187] ATTACHMENT A, p. 139.

Clearly, by systematically addressing the player as Gordon Freeman, the game's discourse will continually remind players of the role they are taking within the game, and the fact that they inhabit a body that is essentially not theirs. However, while Kavli considers player characters to have *"a persona that is separate from the player"*, and thus considers it likely to be subject to parasocial interaction, it is crucial to again highlight the fragile nature of this relationship. As Switch later points out, there are as many Gordon Freemans as there are players.

> *"Gordon Freeman was me. 'Cause Gordon Freeman behaved at times a bit like a joker and a brat. (…) So everyone makes their own personal Freeman in that sense…"*[188]

However, playing Chell in *Portal* left him with an entirely different experience. When questioned on the nature of that specific relationship, and asked to compare it to how he related to Gordon Freeman as an avatar in Half Life, Switch noted how *"Gordon Freeman was him"* while *"he, was Chell"*. Although this may appear contradictory to how Switch previously described himself to be Gordon Freeman, this is not necessarily the case. Indeed, regarding *Half Life*, he quickly followed by noting how one would never actually thinks himself to actually be Gordon Freeman, a character who is continually referenced throughout the game. However, in the case of Portal the character's name is never mentioned within the game world. This distinct difference in mode of address may be the cause of Switch's parasocial experience with the game's antagonist GLaDOS, as he noted how he felt personally addressed by GLaDOS's her mockery and contempt as the distinction between his own identity and Chell's is rendered less visible.

> *"At the end of Portal I had to laugh and teared up a little, I felt a bit, so to speak… I didn't feel comfortable, I didn't feel safe. (…) I was Chell while playing. And… So GLaDOS is mocking Chell but those remarks are coming right at me…"*[189]

Switch's experience shows that, consistent with PSI theories such as Hartmann & Goldhoorn's research on parasocial processes, the mode of address of a persona impacts the way an individual experiences the encounter. In the previous case, Switch's experience altered drastically by interacting with an antagonist that did not systematically refer to the identity of the player character he was playing, as was the case in *Half Life 2*. The mode of address may therefore, as was hypothesized in this study's PSI model, strengthen a sense of embodiment exemplified in Switch's experience of *'being Chell'*, or in the case of *Half Life 2*, allow for the possibility for parasocial interaction or relationships to occur with the player character by distinguishing its identity from the player's. Unsurprisingly, during the conversation with Maartin, Lara Croft emerged as an archetypical example of the latter sort of player character. When comparing Lara to the protagonist from the third-person survival horror game *The Evil Within*, Maartin noted how he retains the sense that he is controlling Lara Croft (who retains her own identity throughout), rather than using the player character from *The Evil Within* as a means to move around and act within the virtual world. To him, this was due to the fact that *The Evil Within* was a brand new game, and did not have an established mythology. This placed the latter game in stark contrast to *Tomb Raider*,

[188] IBIDEM.
[189] IDEM, p. 136.

which he has played and known since it was first released on *Playstation 1*.[190] Thusly, it appears that the importance of pre-existing parasocial relationships, as argued by Schramm & Hartmann, and added in this study's PSI model, does play a part in the way players interact with characters in games.[191]

One may hypothesize that this would hold true to other similar player characters that share Lara Croft's long history in videogames. For instance, Dave, who thoroughly enjoyed customizing avatars and adding a personal flavour to his gaming experiences, appeared to be remarkably reserved when it concerned naming Link, the protagonist of the various *Legend of Zelda* games. During our conversation, Dave discussed his appreciation of the character, which also showed itself in his collection of puzzles based on *The Legend of Zelda*. However, he noted how naming Link after himself would somehow feel strange to him, and how the hypothetical incorporation of a character creator into a future *Legend of Zelda* game might feel wrong.

> *"In every Zelda game you get the chance to choose your own name. You can just leave it as Link, but when I change the name I'll never for instance choose Dave, it just feels like… no. That's not me."*[192]

This same notion re-emerged during my conversation with Pieter-Jan and Annelies on the subject of *The Legend of Zelda*, as Annelies noted how she never renames Link as a character. Indeed, similar to Dave, she described how Link is *"such a recognized character"* that he doesn't warrant another name. Pieter-Jan, however, did rename Link, and indicated how this had grown out of a practical necessity of sharing the same console and game with his entire family. Thusly, players were required to rename their own save-file in order to avoid any confusion. It is possible that this personalized name plays a part in the strong identification Pieter-Jan displays towards Link, as he considered it to be the character he associates himself with the most. Moreover, he ascribes this strong sense of identification in part to the fact that Link *"doesn't speak"* or *"doesn't do anything"*, and that it's *"you, as a character, making the decisions"*.[193] One may note that Pieter-Jan evidently considers Link to be a silent protagonist, similar to Gordon Freeman in Switch's experiences. However, a striking difference between the two can be found in the game mode of address towards the player character. As discussed, the Half Life games will continually refer to the player as Gordon Freeman through audible dialogue. The Legend of Zelda, however, makes use of written dialogue and thusly allows other characters the player encounters throughout the game to address them by using their selected name. This may greatly impact the player's experience, as Annelies noted how she found it awkward to play through the game with a personalized name, unbeknown to her that this would impact the way NPC's interacted with her.

[190] IDEM, p. 180-182.
[191] SCHRAMM (Holger) & HARTMANN (Tilo). *Op. Cit.*, 2008, p. influence PSR.
[192] ATTACHMENT A, p. 60.
[193] IDEM, p. 279.

> *"The first time I played Zelda they also asked you to fill in a name for you save file, and I'd just used my regular name. But, yeah, then they started calling him by that name (…) and I thought like, this really doesn't make any sense."*[194]

Thusly, it is apparent that player characters may not only become embodied by players in a way similar to avatars, as exemplified by Switch's experience of Portal, but that modes of address and parasocial relationships a player may have built with a character over time may impact their gameplay experience and player-character relations.

As exemplified in the recollections of players above, the argument that parasocial relationships will influence subsequent parasocial interactions, posited by Schramm & Hartmann, does appear to hold true for several players. However, one may note how these are not limited to parasocial relationships with characters within the game's diegesis, but may include various other mythologies external to the game world. Indeed, when discussing the creation of avatars, it was shown how several players such as Maartin and Pieterjan applied assumptions and expectations that originated in other texts, exemplified in how Maartin related the Nords of *Skyrim* to Vikings. Recalling the argument raised earlier in this research, which stated how digital entities and virtual worlds may be regarded as places, one may note another striking similarity with the theories of place discussed in Shaun Moores' work. Discussing Doreen Massey's work, he notes how she describes places as boundless and penetrated by various relations to other places; coloured by the subjective experiences of the individuals inhabiting them.[195] When turning our attention back to the aforementioned examples, it appears players similarly develop networks of places during their gameplay experiences, akin to Moores' discussion of *wayfinding*, which operate subconsciously in order to allow players to *"transform 'unknown' locations into places"*.[196] Maartin thusly connected the Nords of *Skyrim* to Vikings, which subjected his interactions with Nords to meanings and assumptions he associates with Vikings, excluding the feasibility of slender characters in favour of those fitting the Viking archetype.[197] Similarly, it appeared that in Jonas' case, these relations impacted his choice to play certain factions in the strategy game *Atilla: Total War*.

> *"No, I'd rather have played the Vikings, for instance, but I don't have that expansion, since I watch that show. (…) Yeah, there I played Sparta. Again, because of the show. (laughs)"*[198]

Clearly then, players rely upon these associations, similar to its description by Tuan featured in Moores' work, to orient themselves within hitherto abstract space.[199] As Senne noted during our conversation, *"there's always this broad theme within which you can place all these fantasy worlds (…) that contains certain common features"*.[200] As such, the influence of parasocial relationships on PSI should not only be considered cumulative, in which case it accrues strength after several interactions with the same persona, but also works through association with various other

[194] IDEM, p. 275.
[195] MOORES (Shaun). *Op. Cit.*, 2012, p. 76-78.
[196] IDEM, p. 28, 43-44.
[197] IDEM, p. 203.
[198] IDEM, p. 81-82.
[199] MOORES (Shaun). *Op. Cit.*, 2012, p. 28.
[200] ATTACHMENT A, p. 304.

parasocial relationships the player has established. Staying with the influence of actor-network theory, which has been discussed earlier in this work, these various imageries of Vikings and Spartans are considered to be, themselves, non-human actors. Indeed, it would take a considerable effort on our part had we not been able to rely on these actors to give meaning to the various unknown spaces we explore since we would be, as Latour puts it, *"limited (…) to the interactions we can manage to do, right now, with our own social skills."*[201] However, these non-humans that afford us the experience of these various places (or mythologies) regulate us in return. Similar to Moores' description of place-making practices, they are *"exclusionary"* or *"discriminatory"*, to put it in Latour's harsher terms, as it is apparent from the conversations with players that these non-humans restrict their behaviour.[202] An example of how this may play out during gameplay sessions can be found in the conversation I had with Sven, during which I asked him about possible differences he experienced in his own behaviour with regards to two different yet similar third person action games.

> *"R: Well yeah. But do you play differently here [Batman: Arkham Origins] compared to there [Middle-Earth: Shadow of Mordor]?"*
>
> *"S: Yes. I'm… More inclined to play stealthier in this case [Batman: Arkham Origins]"*
>
> *"R: Why's that?"*
>
> *"S: 'Cause it's Batman. (laughs) And also because the environment is generally darker, uh… In terms of atmosphere… a lot different."*[203]

5.3. Influence of co-presence

However, the conversations with players equally demonstrated the importance of other players to one's gaming experience. Consistent with Newman's argument for the affordance of more importance to secondary players, one may include the presence of other players both within the same physical and virtual location as important factors influencing gameplay. For instance, Sven how losing a single player *Minecraft* world would feel as less of a loss than losing the *Minecraft* server he shares with other players would. Similarly, he noted how he prefers to play games in multiplayer, due to the fact that they, to him, offer a more personal experience.

> *"If you'd want to put it in a cynical way, I'd say I prefer that if I shoot someone that there's someone there who feels the pain of being shot, (…) and that if someone shot me there'd be someone there who experienced it."*[204]

This highlights Sven's experience of the difference between parasocial or –sensory experiences and actual social encounters. To be sure, in the case of *Minecraft* Sven noted how he experiences what may be considered as psychological ownership, however, these experiences and feelings appear to have greater meaning when they are shared and recognized by other human players. Moreover,

[201] LATOUR (Bruno). Pragmatogonies: A Mythical Account of How Humans and Nonhumans Swap Properties, in *American Behavioral Scientist*, 1994, vol. 37, nr. 6, p. 792.
[202] MOORES (Shaun). *Op. Cit.*, 2012, p. 81.
LATOUR (Bruno). *Op. Cit.*, 1992, p. 158-159.
[203] ATTACHMENT A, p. 350.
[204] IDEM, p. 334-335.

this awareness does not exclude the possibility for parasocial interactions to occur. Indeed, when recounting his experiences in the game *Civilization*, Sven noted how *"you play the part required of you"* and allow yourself to be carried away in the *"illusion of agency"* that the game's artificial intelligence tries to convey.[205]

> *"When an AI who's been friendly the whole time suddenly attacks you, you feel betrayed. And you don't just think like 'oh that's just some sort of calculation inside the computer that causes it to attack'… You feel some sort of agency behind it. (…) But it also feels like an empty agency. (…) It's not the same."*[206]

Not only does Sven's reference to the act of *"playing one's part"* echo Horton & Wohl's notion that viewers are required to play their part within the parasocial experience the program provides.[207] The way in which he seems to acknowledge how our subjective experience of the AI's betrayal momentarily eclipses our objective experience of *playing a game* highlights the way in which the subjective layer, incorporated in this study's model of PSI, flickers and fades throughout gameplay. Thusly, it further shows how parasocial interactions are to be expected during our excursions in virtual environments as they appear to constitute subconscious responses to triggers provided by the game's personae. However, players appeared to consistently give preference to social encounters that included other human actors. For instance, several players appeared to relativize the importance of their choices or characters in accordance to its exposure to other players.

> *"What you look like doesn't really matter since you're playing by yourself. If you're playing with others, I think you'd pay more attention to what kind of character you make and make sure it… like, looks cleaner and cooler."*[208]

Indeed, Senne equally noted how when playing Fallout he doesn't really pay attention to the appearance of his character, since neither you nor anyone else can see it, contrary to online multiplayer games in which he provides characters with a more distinct personality.[209] Although this emerged during several conversations, one should take note that this does not include all players. Indeed, Annelies appeared to take great care in generating her character when playing Fallout 3. To be sure, this contrast between these experiences further underlines the difficulties of applying a typology to player-character relations in games, as these may vary greatly between players.

However, it appeared that the presence of other players impacted one's gaming experience in other ways as well. During our conversation, Switch noted how playing with others who care little about the story of the game and prefer to skip dialogue and cinematics largely impacts his own experience as well.[210] Similarly, others may impact the para-sensory experiences players go through. For instance, Switch indicated how, when playing the game *Sonic: All Stars Racing* with a friend locally, he always chooses the same character when that particular friend is joining him. *"I*

[205] IDEM, p. 335.
[206] IDEM, p. 334-335.
[207] HORTON (Donald) & WOHL (Richard). *Op. Cit.*, 2006, p. 7.
[208] ATTACHMENT A, p. 229.
[209] IDEM, p. 306, 312.
[210] IDEM, p. 134.

don't care about the stats on his car," he notes, *"but it just works that way. We are Amy and Knuckles."* [211] It appears that especially when playing with others, players display a larger investment of the self when playing or choosing characters. Similar to Pierce et al's argument that investment of the self may lead to psychological ownership, it may equally lead to a higher para-sensory experience in which players claim the on-screen body as theirs, which may consolidate their commitment to the role required of them within the program.[212] This in turn, might very well lead to parasocial interactions as the density of the subjective layer increases. As Switch himself noted, he considered himself to apply this process to various other games such as *World of Warcraft*, in which he appeared to identify most with and exclusively play the *Paladin* class of character.[213] This same process emerged during the conversation with Sven.

> *"I can't deviate from what… what I'd like to associate myself with in terms of identity. That's also a difficult point in WoW to… When I start over, (…), I always go back to - although I tell myself it'd be cool to try something different- Mage, Undead, Fontane. I have to go back, I can't efface my main identity, it has to be that one."*[214]

Similarly, when considering the case of *Civilization V*, he noted how at the start of the game, if he deems it likely that it might go on for a considerable time, he prefers to play England, a country which he has a great deal of affinity for. Moreover, on the subject of the game *Left 4 Dead 2*, Sven noted how playing the game with others while on voice-chat heightened his immersion as it lessened the idea of interacting with *"people sitting behind their pc"* and heightened the sense that their voices are attached to the virtual bodies he encounters.[215] However, aside from local multiplayer featured in Switch's example, which Newman sought to put under the attention of other game researchers, another form of co-playing emerged during conversations. When turning to the possible influence of voice-chat on his gaming experience, Jonas indicated how he at times joined friends on Team Speak in order to synchronously play the same games together, effectively turning single player games into multiplayer experiences. While it is unclear which effect this might have had on player-character relations within the game, he indicated how this made the game scarier by hearing the reactions other players had.[216] It may however be possible that this is similar to Jonas's recollection of the game Amnesia, in which he stated how the behaviour of the player character might heighten the excitement and fear he experiences when playing the game.

> *"The fact that your characters, like, what's already creepy is that they start panting by themselves, and start yelling, the character I mean. And that you like really startle like in Amnesia, that they really start getting frightened and that you yourself also start experiencing it as well."*[217]

Recalling how Horton & Wohl note how audiences are *"coached"* in the appropriate responses to the persona, one may highlight the similarity in how other players and the behaviour of the controlled

[211] IDEM, p. 150.
[212] PIERCE (Jon) et al. *Op. Cit.*, 2003, p. 93.
HORTON (Donald) & WOHL (Richard). *Op. Cit.*, 2006, p. 7.
[213] ATTACHMENT A, p. 145.
[214] IDEM, p. 334.
[215] IDEM, p. 337.
[216] IDEM, p. 92.
[217] IDEM, p. 87.

character may guide players in their behaviour within and responses to the game world and its characters.[218] It may therefore come to no surprise that Jonas indicates how this would intensify his reactions to the game by solidifying his commitment to the role he is meant to take on within the game.[219] In the case of Amnesia, in which he operates an invisible body through the use of a first person perspective, it may heighten the para-sensory experience of being within the virtual world and experiencing the horrors it conjures up. Thusly, similar to how Giles argues how the presence of co-viewers may impact one's parasocial experiences, it appears that co-players, be it local or online, equally influence our gaming experiences.[220]

5.4. Considering the role of control and attraction

Lastly, this study will turn its attention to NPC's or Bots, the third and final category of digital entities identified by Katrine Kavli.[221] Indeed, the question remains whether there is any more conclusive evidence that players interact parasocially with digital characters. This chapter will therefore turn to the games which appeared to solicit the highest parasocial or –sensory experience an attempt to render visible those distinguishing factors that allow for it to do so. Featured prominently in various conversations as a game that offered a strikingly personal experience was *The Walking Dead*, a 3D adventure game by *Telltale Games*. For instance, Maartin noted how he had never felt a similar connection to a game ever before, and how the game's characters and story profoundly moved him.[222] After playing the game himself, he proceeded to suggest it to other friends.

> *"I think I first told K. like 'you should really play this' and she was devastated, and also really fond of it. We talked about those characters as if they were actual people."*[223]

To be sure, the very notion that Maartin felt and talked about the characters featured in The Walking Dead as if they were *"actual people"* unmistakably indicates the experience of parasocial interaction. This argument is further supported by the intense emotional experiences that players appear to undergo during the game. As Maartin noted how, everyone he knew *"that played the game was crying at the end… Because everyone felt so connected to it".*[224] However, *The Walking Dead* does not use *first-person* or *third-person* camera positions, and instead relies on fixed camera positions that give an overview of the scenery through which the player guides a character by, as Switch puts it, *"slowly walking around, looking for objects to collect and use"*. Indeed, Switch likens the recent *Telltale Games* to the genre of *point & click adventure games*, which mostly involve pointing the cursor at set parts of the screen and clicking them in order to let the character interact with the environment.[225] As such, these games score lower on Kumar & Benbasat's *synchronicity* characteristic, and differ greatly from action games in which the player's position is more closely linked to the character's movements. According to this study's PSI model,

[218] HORTON (Donald) & WOHL (Richard). *Op. Cit.*, 2006, p. 6-7.
[219] IDEM, p. 5.
[220] GILES (David C.). *Op. Cit.,* 2002, p. 292.
[221] KAVLI (Katrine). *Op. Cit.*, 2012, p. 86.
[222] ATTACHMENT A, p. 191.
[223] IDEM, p. 190.
[224] IDEM, p. 188.
[225] IDEM, p. 130.

there should thusly be other factors influencing the strong para-sensory experience as exemplified in Dave's recount.

> *"Well sure, you're not yourself, but it feels… Well, in part a lot less interactive, but you really get the sense that… Okay, you're not playing yourself and don't look like yourself, but you feel that kind of connection because the choices you make are the choices –you-actually made."*[226]

Indeed, not only does Dave demonstrate the apparent contradiction of '*being yourself while not actually being yourself*', which has been at the core of this study's analysis of player-character relations, it also exemplifies the sense of ownership players have over the decisions they make within *The Walking Dead*. It is likely that it is precisely this sense of control, which Dave appears to make note of, which causes the strong para-sensory experience several players go through. Similarly, Maartin described how he claimed ownership over the character through the choices and decisions he made throughout the game, and proceeded to state how *"you can really see a reflection of [someone's] personality when you see someone play the game"*.[227] However, although this strong sense of control may give rise to parasocial interactions for some, it is again apparent that the way players experience a game may vary greatly. Indeed, Pieter-Jan and Annelies stated how it is the distinct nature of the player character's identity that caused them to behave differently than they would in other games. For instance, Annelies referenced the game *Day-Z*, which exemplifies the *self-disclosure of identity* characteristic in Kumar & Benbasat's model by using voice-chat during gameplay.

> *"If I'd be forced to be more of a character myself, to play as myself, I'd find it a lot harder to make such decisions. (…) [Day Z] is this kind of game in which you uh, (…), really play yourself. Your sound is also on, people really talk to each other and you're not just a fictional character, you're really the one playing…"*[228]

Lastly, consistent with Hartmann & Goldhoorn's argument that the perceived attractiveness of a persona might elicit parasocial interaction, it was apparent from the conversation with Pieterjan that it might play a role as well during a player's interaction within games.[229] Indeed, when discussing the game *Mass Effect 2*, he noted how he often selected one specific character to join the party while adventuring due to her voice and appearance. Moreover, related to the influence of parasocial relationships on a player's parasocial interactions, which was discussed earlier in this study, it is notable that the actress who lent her voice to the character Pieterjan described also featured in a TV-show he watched at the time.[230] The current chapter thusly highlighted how not only control may feature as an important factor in providing parasocial and –sensory experiences to players, but that the perceived attractiveness as put forward by Hartmann & Goldhoorn may equally influence a player's interactions within the game world. Due to the similarities of NPC's to the personae featured in traditional media setting such as television, these characters have been

[226] IDEM, p. 61.
[227] IDEM, p. 186.
[228] IDEM, p. 262.
[229] HARTMANN (Tilo) & GOLDHOORN (Charlotte). *Op. Cit.*, 2011, p. 1108, 1114, 1116.
[230] ATTACHMENT A, p. 231.

less prominent throughout the analysis. Consequently, they are the presumed target of parasocial interaction discussed in most PSI research.[231] Thusly, those entities that warrant further investigation, including the avatar and player character, have been at the forefront in this study.

6. Conclusion

This exploratory study set out to examine the possible application and limitations of the concept of parasocial interaction within games. In doing so, and by applying a constructionist informed grounded theory methodology, it sought to combine various related theoretical perspectives into a model suited for the analysis of PSI within games. Thusly, it addressed the occurrence of a wider variety of digital entities, as noted in Katrine Kavli's work, as well as their different relations to the player, which sets videogames apart from traditional media such as film and television.[232] Indeed, the very fact that players assume control over virtual bodies on-screen, in the form of player characters or avatars, makes videogames a compelling arena for the exploration of parasocial interactions. Through the integration of actor network theory within its theoretical framework, this study has consequently sought to address the monopoly of the player, who is ascribed the part of sole performer in videogames.[233] Indeed, as argued in this study, the machine or computer may be regarded as an equal agent, engaging the player in interaction within the virtual world.[234] Thusly, this study has mostly preoccupied itself with resolving the quandary of avatar and player characters regarding parasocial interaction. NPC's, which bear the most similarities to the personae described in the work of television-based PSI theories, have consequently somewhat faded into the background.

Consistent with recent studies on PSI, this research has drafted a model that is more akin to flexible theories on PSI such as Giles' continuum of social interaction or Pierce et al's theory on psychological ownership, rather than a rigid typology.[235] As such, the model proposed by the current research is best considered as a toolkit for future research, outlining salient factors which might lead players to parasocial or para-sensory experiences. Consistent with research by Pierce et al, the more of these factors are present during gameplay, the higher the intensity of the player's experience might become.[236] Similarly, low scores or the absence of these factors indicates an unlikelihood for parasocial and –sensory experiences to occur. It is above all its flexibility that lends strength to this model, as it allows the researcher to explore the occurrence of PSI while staying close to the specificities of both game and player.

By relying on conversations with players, this study was able to assess the constructed model by checking the various influencing factors against the gaming experiences of the players themselves. Indeed, as exemplified through the analysis of the empirical data, all of these factors appeared to occur. However, the experiment deployed during the conversations with players, aimed at

[231] KAVLI (Katrine). *Op. Cit.*, 2012, p. 85-86.
[232] KAVLI (Katrine). *Op. Cit.*, 2012, p. 85.
[233] IDEM, p. 86.
[234] GALLOWAY (Alexander). *Op. Cit.*, 2006, p. interaction player and machine
LATOUR (Bruno). *Op. Cit.*, 1992, p. 152-153.
[235] GILES (David C.). *Op. Cit.,* 2002, p. 293-296.
PIERCE (Jon) et al. *Op. Cit.*, 2003, p. 95.
[236] IBIDEM.

capturing possible instances of parasocial interactions during gameplay, was deemed inadequate. Firstly, it is likely that the abrupt transition between the conversation and the experimental phase left players confused in how they should undertake the experiment, causing the conversation to ofttimes proceed throughout the experimental phase. Secondly, the presence of the researcher inherently changed the way in which participants played, often causing players to narrate their experiences as they underwent them. Both of these caused the experimental phase to differ greatly from instances in which players would usually play. Thusly, experiments aimed at capturing parasocial interactions in games might benefit from several alterations to the process employed in the current study. Firstly, experiences in which the presence of the researcher is mitigated through participation, such as co-playing, might be preferred. These may include instance of online co-playing, in which players are recorded through voice-chat software, or off-line split-screen. Another possible alteration entails the absence of the researcher, by use of instruments akin to diary methods, in which the player records herself during gameplay. However, it is clear from these suggestions that all experiments have distinct disadvantages; although, by selecting an experiment in tandem with the study of a specific influencing factor, such as the use of multiplayer methods when assessing the influence of co-presence on PSI, on may alleviate the aforementioned problems.

While this study's model included *age* and *perspective-taking ability* as influencing factors, it was unable to assess the effect these may have on the occurrence of parasocial interaction or para-sensory experiences, as a result of the employed method and low amount of participants. Moreover, due to the low response noted in the methodological research design, all participants in the study were acquaintances of the researcher. While this may have proven beneficial in generating an initial sense of trust on the part of the participants, this might equally have had a negative impact on the information participants wished to divulge, and might have caused a bias in the study's results.[237] Moreover, the results provided by this study are in no way generalizable to a wider population of players. On the contrary, as explicated above, it has sought to demonstrate the difficulty in claiming a generalizable model of player experiences as these are highly variable and influenced by a wide variety of factors. Thusly, it seeks to supply a contribution to future research by providing tools with which to identify the factors influencing a specific player's experience within a game, rather than a typology of player experiences.

Indeed, future research might focus on specific factors described in the current study's model of parasocial and para-sensory experiences, and their application within games. For instance, while the relation between the para-sensory experience of embodying a virtual character and the rubber hand illusion was deemed fruitful, this study was unable to fully explore the way in which para-sensory experiences might be realized, as well as their influence on subsequent interactions in games. Furthermore, while morality featured frequently in the conversations with players, this study was unable to fully explore the relation between parasocial and para-sensory experiences and moral behaviour in games. Indeed, as Pierce et al considered responsibility to be a possible result of a sense of psychological ownership (which may include the para-sensory experience of

[237] RUBIN (Herbert J.) & RUBIN (Irene S.). *Op. Cit.*, 1995, p. 101-103.

embodiment), these experiences might have implications for the behaviour of players in game.[238] Thusly, it is clear that through the application of new theoretical frameworks as exemplified in this study, which sought to answer the query regarding the application and limits of PSI within gaming, many avenues regarding parasocial interaction, as well as para-sensory experiences in games are yet to be explored. The PSI model drafted by this study can thusly be seen as the groundwork for future examinations on the subject of PSI within games. Moreover, the use of a flexible model as proposed by this study was further highlighted through the descriptions of gaming experiences provided by the conducted conversations with players. Indeed, as the players themselves frequently stipulated, the player's experience is wholly dependent on the player in question and the specific aspects of the game she is exploring.[239]

7. Attachments

See accompanying DVD.

8. Bibliography

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