

I remember Erebus: memory, story and immersion in first person shooters

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ABSTRACT

In this paper, we describe a study carried out to investigate how players recall their experiences of play. In particular, we explored the relationship between the use of story – defined as a functional network of homodiegetic devices that was broadly divided into the sets World, Character, Plot and Avatar - and the depth and formatting of the subject's reported experience of one of two first person shooter games. It was noted that non-ludically significant devices nevertheless exert an active influence upon experience, in particular the management of expectation and epistemological activity within the ludic frame. The ludodiegetic analysis approach to in-game content is presented as a means of further understanding this process and its implications for design.

Categories and Subject Descriptors

K.8.0 [Programming Languages]: Games

General Terms

Design, Human Factors, Theory

Keywords

Gameplay, player, affect, memory, immersion, story, narrative, first person, diegesis

1. INTRODUCTION

Story is increasingly important to the modern first person shooter. On one hand, the popularity of film spin-offs, text- and graphic novels such as Doom (1995, 2003) and Halo (2003, 2005, 2007) attest to the importance of game containing flexible IP to enable this kind of cross-media expansion. On the other hand, recent titles drawn from existing IP have sought to expand or otherwise non-trivially manipulate the source material to create self-enclosed new affective experiences. Games within this latter category include Chronicles of Riddick (2004) and S.T.A.L.K.E.R. (2007). Finally, with games based upon wholly original IP, it is easy to trace an increased sense of importance of in-game story – Prey (2006), F.E.A.R. (2005), Bioshock (2007) and the Half Life (1998-2007) series all feature complex storylines. Even more traditional titles – we might designate them 'dumb shooters' such as Quake 4 (2004) and Doom 3 (2003) actually contain not just a significant amount of narrative content, but a surprisingly sophisticated approach to in-game content.

We will begin by offering some evidence for this argument: demonstrating that, despite the popular characterization of first person gaming as little more than brainless, repetitive violence, in fact the genre is maturing rapidly in terms of its approach to story (if not the actual content, in many cases). This will be followed by the introduction of an analysis method we have developed which argues for a ludological, functional understanding of story within games as an active network of epistemological, affective and behaviour managing devices. This approach, ludodiegesis, will be offered as a means of showing why, as the genre develops technologically, its development in terms of narrative, semantics and other content is decidedly non-epiphenomenal.

Any good theory seeks for empirical validation wherever possible, and the second half of this paper is a small step towards that. A simple experiential study is described where subjects played either Bethesda's Call of Cthulhu (2003) or id's Doom 3: Resurrection of Evil for 40 minutes and undertook a semi-structured interview afterwards to help illustrate not just what they recalled, but how they recalled it and what they considered significant to report. A number of clear patterns emerged from this process and they are reported, together with a discussion of their significance and how they support the ludodiegetic model.

2. STORY AND THE SHOOTER

John Carmack has famously said "You can dress it up in many ways, but the game still comes down to: go here, touch this, go there, fight..." [10]. Whilst the fundamental ludic structure of the first person shooter has remained more or less unchanged since the inception of the genre with 1973s Maze War, it is nevertheless an inaccurate caricature of the genre, and fails to note the substantial investment made by most contemporary developers in non-ludically significant devices. By breaking story down into a number of sets of constituent devices, it becomes relatively easy to see why its importance has increased alongside the sophistication of the shooter. Firstly, let us re-consider the experience itself.

Games are systems for manipulating affect. This in no way runs counter to their definition as rule-based or configurative system [5, 9] it simply shifts the perspective from internal and structural to experiential and applied. We should perhaps include a caveat at this point and state categorically we are dealing with sophisticated computer and video games at this point. Although an affective journey is almost certain to take place during a game of Chess, Checkers or Tetris, the management of this journey is not explicit

within the design structure. On the other hand, when the persistent (and persistently useful) Medic Anderson is killed in Quake 4, a definite and explicit affective manipulation is being carried out by the system. The fact that the player is helpless – it takes place behind an armored glass screen – and has, only minutes earlier been saved by Anderson, adds weight to this manipulation.

Stories are also systems for manipulating affect. This basic commonality may lie at the root of the endlessly circulating narrative / ludology debate that despite protestations of its inherent invalidity [6], continues to find outlet [1, 11] Empathy lies at the heart of successful story – for us to be involved in Oedipus’ tragedy, or entertained by the antics of Chaplin’s tramp, we must identify with them. We must recognize the presented diegesis and we must empathise with the protagonist. This is over and above the central principle of narrative: a represented, causal sequence [2, 7, 13].

So, without falling into the trap of expanding a commonality into an inferred co-definition, it is plainly obvious what a good story can do contribute to a game. Not only is it a cheap – in terms of system resources – way of bulking up the affective punch of the system, it may draw upon an inherent pre-disposition to form and understand narratives, thus aiding the epistemological aspect of gameplay. The notion that narrative is a core psychological feature of human beings has been explored by scholars ranging from Schank in artificial intelligence [19]; Bruner [3] and Sarbin [17] in psychology and Carr [4] and Ricoeur in philosophy. Juul [9] and Jenkins [8] both endorse the idea of games containing, respectively “fictional worlds” and “micronarratives”, lending support to the idea of a game’s affective journey being comprised of a network of active units that, whilst not necessarily fulfilling a direct narrative function, nevertheless have the capacity to be co-opted to the individualized construction of a narratively orientated or conceptualized recalled experience.

We can understand easily by considering the plot arc of a game such as Halo and how it layers an affective experience onto a simple structure. Halo operates around a kernel of highly repetitive action sequences, dominated by the engagement with squads of Covenant and Flood forces. The former, particularly, are comprised of standardized squads of Grunts and Elites. These units of action are anchored to large, relatively un-interactive spaces that are highly repetitive in function, architecture and feel. There is a natural symmetry in approach evident in Doom 3 where, although the action unit, environment and agents are quite distinct – lone or small scale encounters in small, dark spaces. However, whereas Doom 3’s story quickly recedes to the background, with the initially high count of in-game NPCs, PDA audio logs and emails tailing off to almost nothing, Halo maintains regular input from persistent NPCs and overlays the action with a highly structured and detailed narrative. It does not require an extensive reading of the popular literature to see Halo canonized as a killer app in the genre and Doom 3 as a disappointing failure to capitalize on the advances of the available engines. Halo, famously, runs an entire level backwards, simply layering a new goal sequence and narrative sting across it.

Having said that, the addition of the PDA to Doom 3 is a clear demonstration that even I see the value of non-ludic content. It is possible to trace micronarrative arcs within the emails – alongside material pertaining to the main game narrative, one can track disciplinary actions and petty squabbles between unseen

characters. In essence, this kind of non-ludic narrative owes a great deal to the System Shock series, and, as we have argued elsewhere, has the virtue of virtually expanding the presented diegesis beyond that available through the ludic activity of the game. We will return to the value and function of this in due course. That other classic dumb-shooter, Quake, finds in its most recent incarnation an even more explicit illustration of the resurgence of story in FPS gaming Quake 4 is packed full of persistent NPCs who play an active role in progressing the action, including direct superiors who fight alongside the player, updating goal structures through orders in real-time and enabling the relatively new ludic device of ‘protect the NPC’ to play a large part in the game (hence also enabling the affective sting of Anderson’s death, as already noted). Further, Quake 4 has the player captured and transformed part way through, changing the NPC reactions from friendly and supportive to suspicious. This shift in protagonist to background personnel relationship demonstrates a sophisticated approach to story. Prey bolts conspiracy and pan-dimensional struggle onto a simple revenge motif in an attempt to divert attention from the essential lack of diversification in action and environment; Condemned and F.E.A.R. use the simple to implement, narratively complex question of reality and hallucination to undermine trust in what is presented. In the former, there is a moment when a hostile agent is flash imposed over the form of Rosa, the persistent NPC, a brilliant manipulation of the hairline trigger reflex the game pushes for – in that split second, the player can believe it is hallucination, and risk being helpless, or believe it is reality, and risk killing a friend. These are a far cry from Far Cry, in terms of narrative sophistication.

3. LUDODIEGESIS

This approach seeks to demonstrate how a particular approach to analyzing the homodiegetic (that is, ‘within reality’) units of a game, or the content devices presented within games can achieve a number of new things. Firstly, and most significantly, it provides a ludological basis for content analysis – that is, a system that, whilst utilizing methodologies and approaches from narratology, anthropology and psychology, is fundamentally based within, to re-appropriate Pearce’s term “a game theory of games” [14]. In other words, ludodiegesis analyses the functional, ludic properties of game content as relative to the specific and distinct experiential, affective characteristics of play.

Secondly, this approach collapses the traditional split between rule and content, using a perspective based upon the experience and formation of subjective reality, particularly within artificial reality systems, to go further than Juul’s attempt at a conceptual bridge to demonstrate that game content is a key device in the manipulation and maintenance of rule and affect.

Ludodiegetics is thus a functional analysis tool. As such, it allows us to break a game down into its affordances and its inferences, re-siting considerations of plot, characters, drama, narrative and so on, firmly within a ludological framework. It centralizes the experience of the player within the analytical model and illustrates the clear channels through which non-ludically significant devices nevertheless have a profound and critical role to play in the epistemological development of the player-game relationship.

We have gone into some detail about the ludodiegetic approach elsewhere [15, 16], so will offer here a brief illustration of its application to a single, well known game, Bungie's Halo.

As has been noted, Halo's action is highly repetitive, with a very limited degree of environmental diversity and interactivity; a small set of hostile agents to engage with and, although punctuated with some vehicle and/or squad based action, no real progression in terms of avatar power-ups or transformations. However, the game supplements this tiny affordance set with a substantial virtual environment, delivered through the story. For example, Halo makes much of the interstellar context of the action: not only does the game open in the centre of a war, with Keyes, one of the game's persistent NPCs announcing he intends to sacrifice his ship with all hands to protect Earth, but it opens at the location of a mysterious artificial alien world potentially built by the Forerunner, a little known and god-like alien race. Further, we are introduced to our avatar, the superhuman, one of a kind, cyborg Master Chief with the episode title "Unseal the Hushed Casket", loaded with mythic resonances. This is deepened by the fact that the Chief is in some kind of storage, which separates him from the normality of ship life, brings the extent of his humanity into the foreground, and opens the game with some intriguing, unanswered questions about our avatar: is he just thawed out for emergencies? Is he, as is intimated, just an artificial god of war to be broken out in case of emergency? Additionally, in the opening cutscene, Cortana, the game's lead persistent NPC, an insubstantial, more or less omnipresent, onboard artificial intelligence. Finally, we understand that the mythically named "Pillar of Autumn" has fled the site of a massacre, on a blind jump into nowhere that is likely to result in the deaths of all aboard, in a desperate attempt to draw away the Covenant, the aggressor race, who are engaged in a genocidal holy war against humanity. This is a substantial amount of highly intense information to begin the game with and it is worth noting a few of its aspects in order to demonstrate the functional, ludic impact of story upon play, expectation and behaviour.

The information delivered in Halo's opening is in no way passive. For starters, it is loaded to bursting with mythic, quasi-religious terminology and motifs. This is not simply dumb-shooting, the fate of humanity is at stake; the Covenant are not simply dumb aliens, they have a very recognizable and very contemporary motive. Master Chief not only has a personality, his is an almost Christ-like figure, held in awe by his colleagues and, it is suggested, the player should share this reverence. Rather than a world in transition, with an opening normality swiftly disturbed, as we find in a large number of FPS games – Prey, Doom 3, Far Cry, Half Life – we enter into a scenario of impending death. From the outset it is communicated explicitly to the player: there is literally no time. No time to explore, no time to linger and observe – no time to notice the overwhelming lack of affordances and interactivity on offer. This is replaced upon landing on Halo with the reinforced message of an alien, timeless world packed with superhuman, inaccessible technologies (operating on Arthur C. Clarke's insistence that "any suitably advanced technology is indistinguishable from magic"). The scale of Halo's environments reinforces the mythical aspect of the Forerunner – they are, according to the sheer scale of their architectures, giants and titans, more than human. By both dwarfing the Covenant and the human forces, which has the knock-on effect of belittling their conflict in the context of a vaster, grander plan, and increasing the

virtual space and time of the action, Halo works constantly to expand the diegesis. The action may be repetitive and localized, but the inferred context and impact is enormous. By drawing extensively upon mythic schema and, if there is any truth in Lakoff & Johnson's primary metaphor theory (1999), some fundamental cognitive structures, Halo expands way beyond its immediate, ludic activity. And this is not just about the subjective, affective outcome, although this is clearly the overwhelming target of this symbolic design. There is a direct influence upon player behaviour: exploration is discouraged or, rather, attention is directed away from the environment's tiny affordance set. The lack of actual avatar transformation is cloaked in a virtual transformation, as Master Chief moves from leader to revenger to stooge to savior. In the course of the plot we move from the desperate doomed battle between factions in a Holy War for existence to the release of a biblical plague – a Flood – that consumes the righteous and unrighteous alike. In terms of providing a motive for the shoot first, ask questions later kind of behaviour that dumb shooters rely upon, it doesn't come much grander than Halo. Finally, in terms of the affective experience, we should note the closing sequence of Halo is resolutely downbeat and double-edged: Master Chief may have saved the known universe, but the entire crew of the Pillar of Autumn are sacrificed. The local perish to save the virtual masses.

In this, we have yet to deal with the characters of Keyes and Cortana, two immediately recognizably mythic archetypes who also bring a direct influence to bear upon play. In symbolic terms, Keyes is the outgoing patriarch, doomed from outset and filling in the position as savior until the player has quite literally gained the experience for Master Chief to take his place. Importantly, it is Keyes who releases the Flood, and is infected in turn, requiring him to be slain by Master Chief to complete the transition. This is allied to a ludic goal – neurocircuits must be retrieved from inside Keyes' brain. At various points in the game Keyes moves from superior (The Silent Cartographer) to victim requiring saving (The Truth and Reconciliation). He remains a powerful virtual figure even when not present (The Flood), serving as a constant link to the expanded virtual world and thus keeping the player's action within a wider context. Cortana, on the other hand, exerts a more direct influence. Carried by the player on a microchip, she is ever present in the game, fulfilling a double symbolic function as damsel in distress (the Master Chief's first orders are to protect her) and oracle. (she is the player's primary source of information and goals). This last function has a highly immediate effect upon play: Cortana will always orientate the player and tell them what to do next, she will do all the thinking beyond battle strategies. Like Tech Strauss in Quake 4, she is higher status than Master Chief, her disembodied status and gender, however, making her no threat to his dominance over the ludic space. This is made explicit when she is uploaded to Halo's core systems and achieves a god like power – and scale, she literally increases to a giant size, perhaps the size of the Forerunners suggested by the environment design. Her instructions to the player can therefore expand to meet the increased weight of the action; as the story reinvents the same action by increasing its portent from a race to save your colleagues to a race to save the universe, so the persistent NPC acting as orientating device and behavioural modifier requires scaling up too. Halo is indeed a game of gods and monsters.

4. THE STUDY

This is all very well in theory, but what evidence can we assemble that ludodiegesis actually operates in practice – beyond the assumptions we can identify in game design. We can consider immersion here: studies have noted both that games with strong storylines seems to invoke a greater subjective post-test reported sense of presence [19] and that immersion is something actively sought out by players [12]. One of the ways we can define immersion, and presence particularly, is operation within the diegesis; that is, a player who feels a high degree of immersion is less likely to refer heterodiegetically to the experience, they will gain all they need for the affective experience within the presented world. We can see evidence of design attempting to encourage this kind of relationship with the game, *Half Life* (1998) being the first great homodiegetic shooter, with its minimal HUD and lack of loadscreens. Cortana, Strauss, Far Cry's Doyle, S.H.O.D.A.N. and the host of persistent high-status NPCs who populate shooters are another clear example of this type of homodiegetic device – they pull orientation and hints into the presented world and reduce the need for the player to consider its limitations, constraints or boundaries.

We have already argued that in-game content exerts an active influence upon play, but for the remainder of this paper, we will turn specifically to the affective experience, focusing upon whether highly narrative games can be seen to create different forms or expectations in terms of recall of experience. To examine this, a study was carried out which essentially focused upon two key questions: firstly, to what extent do players seek out, or use narrative structuring in recall – which here is taken to mean not simply what is remembered, but how it is remembered (and, crucially, what is determined significant to report, rather than attempting to make a highly problematic assessment of what is stored). Secondly, whether this relates to how players talk about their affective experience, with particular focus upon their degree of immersion. Rather than utilize standard presence questionnaires, which are problematic for reasons we do not have time to detail here – and are well documented in any case, questions were posed during the interviews which allowed us to make judgments based upon factors such as reported relationship with the avatar, remembered features and details, engagement with plot, etc.

Two games were selected for study: *Call of Cthulhu* and *Resurrection of Evil*. It is pertinent to quickly summarise both the core gameplay and the relative narrativity of both in order to place the analysis in context. The former is loosely based upon an H. P. Lovecraft short story, *The Shadow over Innsmouth* (1936) and is a first person adventure that is slow, investigation oriented and extremely narratively dense. An opening cutscene shows the avatar attempting suicide in an asylum. The action then moves backwards six years to their

investigation of a cult house and discovery of some form of alien portal (complete with giant aliens) in the basement. This comprises the gameplay orientation level. Another cutscene tells us that the protagonist suffered schizophrenia and amnesia for six years before suddenly and inexplicably recovering his sanity. The main game opens with him accepting a job (he is a private investigator) to try and discover what has happened to the young manager of a shop in port village called Innsmouth. According to the townsfolk he robbed his own shop and has run, although there is clearly much more going on. *Call of Cthulhu* is cutscene heavy and features a large cast of characters of varying importance: most of the narrative information is delivered by cutscene and through texts discovered and accessed through a journal screen. In the opening section, the player is not armed and can interact only by talking to agents or examining objects.

Resurrection of Evil is the expansion pack for *Doom 3*. Although it requires the *Doom 3* engine to run, it is nevertheless narratively self-enclosed. Gameplay is radically different to *Call of Cthulhu* – this is an action orientated run and gun shooter with fast pace and limited interactivity in the environment. Rather than any intellectual puzzles or narrative information, there are a number of rudimentary problem-solving exercises (remove a battery from one machine and place it in another; time a run through slamming doors, etc). The narrative is equally simple, but shares with *Call of Cthulhu* a deep ambiguity about the action: following an industrial accident (as the action of *Doom 3* has been described by the corporation owning the facility), a team has returned to a base on Mars to try and identify the source of a signal. Upon arrival, they find, within an archaeological dig site, ruins of an ancient alien civilization. Within a sealed room, a team of marines find a strange artifact. When one of them grabs it (the avatar), the rest of the team are killed and a portal to another dimension opens, releasing a flood of demons into the world. During this, we are introduced (or re-introduced) to a demon general announcing that the portal is once again open and inviting his armies to sweep back into the world. Whilst those who have played *Doom 3* will recognize the nemesis figure and understand that the corporation is lying about its lack of knowledge of what originally took place on Mars, none of this information is necessary to make *Resurrection of Evil*'s simple narrative make sense.

Twenty-six participants took part in the study and were randomly assigned to one of the two games (both were selected not just for their narrative and gameplay dissimilarity, but their relative lack of exposure and, thus, reduced chance of subjects having played them). Subjects played their assigned game for forty minutes, and were instructed to do so in as natural a way as possible – taking time to configure controls and settings, using quick save and reload functions. The only two stipulations were that subjects were asked not skip cutscenes, and to play at a low difficulty setting, to increase their penetration into the game in the allotted time. Following play, a semi-structured interview was carried out. This interview comprised of four basic questions, each reinforced by two supplementary questions to serve as prompts. Each question set corresponded to one of four cardinal aspects of narrative: character, environment,

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plot and avatar. Response to each set will be analysed in sequence below, followed by a discussion of general trends identified, and then a relation to the ludodiegetic model. In what follows, CTH is used to designate Cthulhu subjects; RES is used for Resurrection of Evil.

4.1 Character

CTH subjects demonstrated a generally good grasp of the large cast in the opening levels of the game. When asked “Can you tell me about some of the characters you met in the game?” most subjects responded by talking about classes of characters – the cultists (6/13) or police (5/13) from the opening level, or the Innsmouth townfolk (9/13). Individuals were mentioned less and again, interestingly, the most frequently mentioned individuals were not actually met in the game but integrated within goal structure: Anderson, the man who gives the Jack Walters (the protagonist) his job is only introduced as a voice on the phone during a cutscene (2/13), and Brian Burnham, a missing man that Walters is contracted to find (4/13). Jack encounters three normal characters in the Innsmouth level, all of whom are given cutscene dialogue, but were not singled out by subjects: Rebecca (3/13), Zadok the drunk (1/13) and Lucas (1/13). However, it was intriguing to note that 5 subjects included the avatar in their choice of reported characters.

By contrast, there are only two named NPCs in RES, one of whom (R.George) is found hiding in a locker halfway through the first level and the other taking the Cortana role of unseen superior and guide, Dr Elizabeth McNeil – who is visually introduced in the opening cutscene. Alongside these, there is an unnamed marine who bequeaths his grabber and immediately dies and various unnamed and doomed voices that occasionally come through over the radio. The opening cutscene shows the player’s squad being killed prior to play starting. What is interesting is that given the paucity of NPCs in the game, and McNeil’s sporadic radio contact with the player, she and the only other NPC encountered would feature in recall. However, only 5 of the 13 players remembered McNeil, none remembered her name correctly (two guessed at McCullen and Elizabeth), the others referring to her as the ‘leader of the expedition’, ‘the doctor’, a ‘personal assistant’ and ‘the head bird’. Less than half (5/13) reported George and only one guessed at his name. Half the subjects spoke of the other marines and team mates, suggesting they “could speak to you” or “they were helping you”. Of these, only one noted that the entire squad were wiped out prior to play starting, though it is possible they attributed the unnamed grabber gun marine to this squad.

The CTH subjects were altogether more successful at recalling names. 5/13 could not recall a single name from the game, and two of these later remembered. Granted, there were more characters to choose from, but it could be argued that the fact that NPCs are so unusual in RES would have made them more memorable.

All subjects from both groups had no problem when asked to provide a motive for one of the characters they had identified. In the CTH group, these were usually fairly accurate, and in many cases picked up on subtle non-ludically significant information. 6/13 were asked about the

police outside the cult house (the first scene of the game) – all reported correctly that they were investigating gunshots and three of these noted that the house was already under observation. Two subjects noted that Burham’s disappearance was blamed upon his robbery of the store he was managing but that this was dubious as he had the keys. Only one, when asked about the police, had no idea what was going on.

RES offers a fairly clear priming story about what the player’s squad are doing on Mars: the UAC loses communications with a base in an industrial accident; some time later is discovers an unknown signal and sends a team to investigate. The game opens as during this investigation, the player touches an artifact and inadvertently opens a dimensional portal. Player’s asked about the motive for the marines being on Mars were far less sure and in some cases highly creative in their responses. 9/13 players were asked and results varied from the semi-accurate “there was an incident”, “they used to go there and lost the colony” to the false “they’ve discovered this archaeological site”, “conducting some research” and fanciful “human curiosity?” Only one subject noted the cover story given in the opening sequence.

4.2 Environment

Subjects were asked to talk about the environments they visited, and then prompted with two further questions: any particularly memorable features or details, and what sounds were present. CTH splits into two levels: the opening sequence in a dilapidated cult mansion and its underground tunnels and Innsmouth itself. RES is all set in an archaeological dig site, with alien architecture slowly transforming into the more recognizable human base sited above it. These were variously described as caverns, mines, high-tech industrial and Aztec. The presence of technology was noted, often (4/13) in relation to the number of boxes and crates lying around. What was most striking about RES subjects descriptions of the environment was how directly indexed to gameplay mechanisms many of them were. 6 of the 13 subjects talked explicitly in heterodiegetic terms. The darkness of the levels was the consistent feature noted, with all subjects referencing it. Beyond that, features were evenly distributed between pits, doors and interactive objects (a power cell transplant sequence was noted by 4 subjects). It was quickly recognized by 5 subjects that each hostile agent was preceded by a signature sound; aside from this, ambient noise was noted. However, no subject reported the radio transmissions which sporadically interrupt the action, nor the direct instructions from McNeil.

The CTH group, perhaps unsurprisingly, found it easier to talk about the environments, perhaps due to the diversity of spaces they encountered. 12/13 subjects differentiated between the two playable levels. Two subjects confused the cult house with the asylum in the opening cutscene, which may be attributable to the morgue and experiment rooms in the basement. A further 7/13 used distinct narrative structuring when describing the environments: “you go through the house, which is a cult house, then you go into the cellar, which has like a morgue in it”. Only 2 of the 13

subjects referred to a gameplay mechanism (the save point and the fact that the designers increased tension by reducing the size of the spaces at critical moments). 5/13 subjects reported the lab equipment – including the ‘shocking’ portrayal of a still-living, eviscerated, cultist as a memorable feature. However, two further subjects noted gameplay mechanisms: the reduction of the visual field with movie bars to indicate a cutscene, and the lack of weapons increasing a sense of vulnerability. Finally, 4/13 subjects reported the town’s name unprompted (two were correct) which may be interpreted as evidence that it was engaged with on a homodiegetic level, rather than just as a game map. It is also worth noting that two subjects questioned the reality of the Innsmouth level altogether, both suggesting that the entire episode was actually a hallucination and that the player had never recovered from the six-year psychotic break that separates the levels. Again, this may be taken as evidence that they were engaging with the environment at a significantly narrativised level.

4.2 Avatar

One thing both study groups shared was a very distinct conceptual distance between player and avatar. Only two subjects in the entire study referred to the action in the first person. Further, the majority used the second when discussing plot, character and environment: “you go into the basement”, “you are this marine”. On one hand this would seem to run contrary to Nunez & Blake’s findings that players maximize presence or Schneider’s that games with strong stories induce presence. After all, presence is normally linked to a psychological shift into the virtual world, a “perceptual illusion of non-mediation” as Lombard & Ditton have it [10].

However, an aspect of first person play which ludodiegesis is very much concerned with is the management of expectation and imported schema. We have already noted in our discussion of Halo how timed sequences (even virtual ones) and dramatic emphasis can train players away from exploration and potential exhaustion of a limited set of environmental affordances. Equally, we noted that the mythic dimension of the action not only justifies but prompts a very specific form of activity that neatly maps onto the Master Chief’s limited set of affordances. Indeed, the avatar functions very much as a filter – a reduction device that enables the player to operate seamlessly within the diegesis without over-stepping the small set of affordances inherent in the system. Over identification, the actual reduction of the avatar’s visibility beyond a critical point thus becomes a problem. The fact that most of the subjects in the study felt that they were controlling Jack or the marine, or in some cases ‘aiding’ them, acting as team, shows the avatars are functioning effectively. Just enough empathy and ability to mould personality to the player’s actions, but not so much that the system loses control of the expectations of the avatar.

Subjects were first asked about their relationship to the avatar, then whether they thought he had a definable character. If the answer was yes, they were prompted to try and encapsulate this personality in a few words. Finally, they

were asked about their motive and whether they considered this to be the same as their avatars.

Not surprisingly, all but one of the CTH subjects easily identified with Jack, citing the amount of background material as the major reason they were able to do so (4/13 also stated that the gameplay device of hearing his heartbeat increase in times of stress helped draw them in). Although they clearly distinguished themselves from him, 6/13 said they felt they were looking through his eyes, or otherwise operating in tandem with the character. One suggested he felt as if he was playing part of Jack’s mind, with the monologues and responsive barks delivering his subconscious. All the subjects said they could identify a clear character, and their suggestions of personality fitted those suggested by the game. Five subjects described him according to job – “he’s a private detective”, “it’s a film noir game and he’s a typical PI”. 4/13 noted that his personality was tied to his psychological breakdown, with one (the subject who failed to empathise) stating that the amnesia, whilst giving him a motive to continue playing, was a block to this. Four also inferred personality from his responses to the game’s action: “he asks a lot of questions”, “he’s very curious”, “he’s not afraid of finding things out”, seamlessly integrating essential gameplay devices with the presented diegesis. Most felt that their motive and Jack’s coincided – a drive to find things out, to solve the mystery of not just Innsmouth, but the missing six years of his life.

RES subjects found empathy easy too, but struggled more with the notion of character. Although 8/13 felt the marine had a character, when asked to summarise his personality, there were noticeable pauses, then 5/13 constructed a personality based around their play style – either “cool, level headed, not freaked out by what is happening” or “a kick-ass marine”. The remaining four described the avatar as bland, or a shell, though two of these suggested that as the story progressed, they may understand more about him. One tied his motive to trying to find his squad, which is completely missing from the actual game, another candidly pointed out that the initiation of the action comes from the avatar picking up the artifact and that he was playing the “idiot who caused it all”. Noticeably, the RES players were more likely (5/13) to differentiate their motive from the avatars: whilst he was variously “trying to get to the surface”, “escaping”, “staying alive”, “returning the artifact for study”, they remained heterodiegetically involved, wanting to explore the game, or just responding to wave after wave of hostile avatar. Several (3/13) wanted additional characterization to flesh out the marine’s character.

4.3 Plot

Narrative theorist often discuss closure: the drive by the reader to pull together the strands of a story into a neat conclusion. Kermode complains “Why does it require a more strenuous effort to believe that a narrative lacks coherence than to believe that somehow, if one could only find it, it doesn’t?” (10:53). This need for closure was highly evident in both subject groups, most of whom assumed a closed narrative was unfolding, even if they did not fully, or even partially grasp it. CTH subjects generally coped well with a

highly complex narrative, including an unconventional temporal sequence: the opening cutscene shows Jack in the asylum attempt suicide; this is followed by a playable flashback to the cult house; then another cutscene explains that following this, there is the six year amnesiac period, then five months later, he resumes work and travels to Innsmouth. One subject failed to identify Jack in the opening sequence; another suggested that the suicide was successful and the Innsmouth level was not real. All of the CTH subjects described the plot fully or near fully and did so in a classic narrative fashion: there was clear cause and effect and understanding of temporal sequencing. More to the point, every subject thought a story was operating behind the action – two even suggested it was more important than the action (one describing the experience as more like watching a film than playing a game), and were happy to ascribe the gaps in the information they were given to a plot arc they had yet to uncover – although most assumed they would uncover it. Asked if they believed that other characters within the game knew more than they did, all but one answered yes. Of these, 6/12 talked about the fact that the cult members knew Jack and had clearly been studying him, though they had no idea why; the others focused upon the fact that none of the Innsmouth townsfolk would speak to them or give them information. Certainly, Cthulhu is a mystery game and is quite deliberately aimed at creating this impression. None of the subjects found the action arbitrary – they all assumed that it was only their ignorance of the final plot resolution that hindered their understanding. Conspiracy, and its counterpart, amnesia, is a powerful theme in FPS games, occurring in nearly every title, and it is evident why this should be. Not only does it allow narrative development to be offered as a reward scheme – the golden thread developers often talk about; but, in ludodiegetic terms it achieves two distinct functions. Firstly, it lowers the player/avatar's status, training them to be reliant upon the system for information, which is why it is so often attached to a high-status NPC, like Doyle, Cortana or S.H.O.D.A.N. Secondly, it allows the system to gain control over information shortfalls: it is simply not necessary to offer a complete package of information if the closure is operating successfully – the player will contribute at least the assumption that all will become clear and, as such, shortfalls and contradictions can be masked.

Tellingly, even though RES subjects struggled to create a full narrative of their experience, quickly degenerating into brief summaries “monsters come and you shoot them”, “you just keep going until to find the boss”, and several 3/13 admitted complete ignore as to what was going on, most (7/13) believed there to be a story happening. Only two drew attention to the PDAs lying around the environment which provided background narrative. One was convinced that McNeil, rather than supporting play, would be revealed to be the nemesis figure (another essential FPS device). Two subjects noted that the ‘leaders’ (presumably McNeil), rather than being in possession of extra information, had no idea what was happening or what to do about it, three others correctly recalled her statement that “I’ve seen this before”. Narrative plays a very small part in Resurrection of Evil's action, and there is little in the way of a coherent ecology: demons teleport in according to shock value and challenge,

and it is not altogether surprising that 4/13 subjects found the action arbitrary rather than meaningful.

5. CONCLUSION

Clearly, when dealing with both the sample size and method of inquiry, one must be wary of generalizing from these results. Having said that, there appears to be indication that non-ludic or narrative elements do exert an influence upon factors such as memory and immersion, even behavior, and this supports the ludodiegetic approach to understanding in game content.

A high narrative game such as Cthulhu seems to enable players to recall a substantial quantity of the information it presents, even when this is presented in a non-standard and incomplete fashion. Although players often fail to remember names, they are adept at either recalling or inferring motive. Even though Cthulhu contains a much higher number of characters than Resurrection of Evil, subjects were able to remember much more about them, suggesting that players of the latter were simply not paying any attention to them. This may sound banal, but it is evidence that the system is training the player to attach significance. Further, the fact that players of Resurrection found it difficult to recall their actions in detail suggests that a strong plot may not only act as a reward scheme, but aid in orientation and post-experience affect.

It was noted that hardly any players felt themselves to be in the game world as the avatar and most settled on an empathic relationship: this was clear across both titles, but with more success in Cthulhu. Players in both titles inferred personality from cutscenes and homodiegetic information; where this was lacking, they frequently constructed it themselves from the activities of the avatar. The environments and objects of Resurrection, without a strong plot structure were recalled often according to gameplay devices, whereas Cthulhu's were placed in a homodiegetic context. Finally, closure was clearly operating across both games, even with a rudimentary narrative, Resurrection players inferred a body of unknown information that many were convinced would be revealed to them, even when they misread the plot – and often remembered little of the primer from the opening cutscene.

What can be drawn from this study? The games selected occupy fairly extreme positions at either end of a scale of narrative impact. However, in both we can clearly identify content that is not necessarily critical or even supplementary to the action units that comprise a game exert a direct influence upon both the affective experience and its recall. Homodiegetic content has the capacity to operate epistemologically: to train the player how to read the environment, how to empathise, how to engage and how to immerse. Even at its most simple, narratives (or proto-narratives) like Resurrections trigger closure, establish motive and make sense of the action. At a more complex level, as in Cthulhu they co-opt the player in occupying a passive stance in relation to delivered information and accepting a reduced affordance set. As we argued in our ludodiegetic analysis of the opening of Halo, even in the most simple ludic structures, players are literally bombarded

with symbolic, schematic and significant information attempting to influence their affective journey. It may once have been acceptable to write off story as epiphenomenal or even superfluous, but as the sophistication of in-game environments, artificial intelligence and graphics increases, the requirement for solid, natural filtration, reduction and psychological manipulation systems becomes ever greater. In conclusion, who would have thought that a game as stripped back to genre basics as Resurrection of Evil would be able to induce so complex an affective outcome as embarrassment: “Oh great. I get to play the idiot”.

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