

# Ludic Reality: a construct for analysing meaning-mapping and epistemology in play

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**Abstract:** First Person Games induce presence, thus fulfilling Steuer's definition as virtual realities. As such, it is worth considering the qualities of the realities they form and how these may help us understand the relationship between the player, the contents of the game and the game system itself. Ludic reality is proposed as a construct to elucidate this relationship: an artificial temporal space in which the constrained rules of the system, the semantic contents and sequencing constructs it contains, and the behaviour and subjective experience of the player are combined into a more-or-less stable and effective state of being-in-the-world. Ludic reality directly addresses the question of the impact of internal, semantic factors in the experience, such as world, narrative and agency, together with the adoption, by the player, of a schematic, structured means of effectively interacting with the system to draw out its specific systems of affordances and reward.

## 1. Concepts

Ludic reality is presented here as a construct developed to assist in the analysis of homodiegetic structures within immersive games, particularly first-person perspective games. It focuses on a player-centric, psychological approach to game analysis that examines the relationships between ludic affordances, embedded semantic devices and the mapping of one onto another. As such, it may be a useful model for questioning the epistemological process of early gameplay, with specific regard to the use of integrated, homodiegetic devices. The core of the construct revolves around the argument that it is both appropriate and efficient to consider the subjective experience of FPS play as the

temporary construction of a form of artificial reality. In order to make the case for this, however, we first need to re-consider what is meant by reality, and in particular, attack the folk psychological conception of a stable, whole experience of the world. Instead, we shall argue that our subjective reality is best conceived as an illusion of holism formed by projection and bootstrapping from fragmented and reduced stimuli set. As such, we can draw direct links to presence and virtual reality theory, cognitive science and anthropology, drawing a series of concentric circles around the act of play and using this as the basis for our construct.

To begin with, let us consider our experience of the world. It is generally accepted that an objective reality is likely to exist, given that the co-incidental possibilities of such a large number of affordances and invariants being shared by such a large number of organisms at such a complex level is even more unlikely (Searle 1995). Our experience of this reality is formed through a number of sensory channels operating in tandem with that which is already known (Schank & Abelson 1975, Lakoff & Johnson 1999, Damasio 2000). As such, it has been argued that our entire construct of reality is always already mediated (Loomis 1992, Botella et al 2003). Further to this, our experience is formed by a necessarily reduced, or filtered set, of the available information existing in the environment. This may be a combination of both the physiological capabilities of our sensory equipment, and pre-existing psychological structures designed to assist both conscious and unconscious epistemological mapping of meaning onto incoming stimuli. The latter are often termed 'schema' (Bartlett 1932) or, with cosmetic adjustment, scripts (Schank & Abelson 1975) or frames (Minsky 1975), and can be seen to exert an active control over what is subjectively experienced – the literal incarnation of the adage that 'we see what we want to see'. In addition to this, the illusory holism of subjective reality is created via the process of distal attribution, that is, the attribution of affordances, invariants and other characteristics to objects outside our direct experience and thus distinguishes us from our environment. This process may also be argued to be managed and mediated by both physiological and schematic structures.

It has been argued previously that conscious, subjective reality – and, indeed, the unconscious, subjective reality that it is immersed in – is, naturally, a reduced system, a sub-set of the total information available to us as organisms (Dennett 1991, Pinchbeck 2006). Further, the conscious set is a reduced, filtered set of the unconscious one: given identified mental constraints, such as inattentive blindness (Noe & O'Regan 2000) and Miller's magic number seven (1956, cited in Harnish 2002), filtration and reduction in stimuli can be seen as essential to the effective function of consciousness as an organisational device. Schema and subjective reality both exist as means to assist the assignment of degrees of significance to the world-as-inferred; we have an entirely natural predisposition, mentally speaking, towards reduction as a means of creating stability and order.

This argument can be taken a step-further; that this process of reduction and formalisation essentially enables not just meaning to be mapped onto experience, but a forward temporal inference to take place. This finds natural resonances with Carr's exposition of pre-narrative units, which attach inherent temporal relationships to objects existing in schema, rather than seeing temporality as a secondary attribution to objects identified within the distal world (Carr 1986). In layman's terms, what we expect is formed from a combination of our innate, more or less hardwired understanding of how reality appears to function, and our subjective, remembered experience of the past. In relation to the former aspect, consider Lakoff & Johnson's thesis, that most of our mental structures are based upon an embodied understanding of the properties of our experience. Thus, metaphors derived from both static and kinetic interrelationships between objects and functions pervade even complex cultural thought patterns and expressions, such as love, grief and jealousy (1999). There is a wide spread of evidence within neuroscience, suggesting that sequences and patterns of neural activation formalise with repeat exposure to stimuli and this is used by Damasio (1994, 2000) and Edelman & Tononi (2000), amongst others, to propose a model of higher consciousness and self constructed from both reaction to, and expectation of, homeostatic, emotional and, behind these, neural states in response to interactions with the world.

Indeed, Dennett (1996) has constructed an evolutionary model of consciousness that vividly illustrates the development of the construct as a forwards-projection device, literally, a mental structure for testing the future more effectively. He charts the development of four types of organism: the Darwinian, with no internal capacity, that can only encounter a situation once and fails or succeeds, essentially the underpinning function of natural selection. Above this, the Skinnerian, Popperian and Gregorian creatures demonstrate the evolutionary advantages of developing an internal system of future prediction and virtual trial. The Skinnerian creature, although lacking an internal reality construct, will re-apply those strategies that are successful, i.e. not fatal. The Popperian creature utilises the evolutionary breakthrough of a subjective reality system to test options before utilisation, and the Gregorian forms an active relationship between internal and external tools and systems to create a system of prediction, test and evaluation which once again, vastly increases the chances of success.



Fig 1. Dennett's four models of creatures. Adapted from Dennett (1996) 110-133

Thus, it is simple to trace a direct line from schema to this Gregorian, evolutionary model. Schema are a mechanism for the application of prior experience to a situation; more than this, they are mechanisms for the construction of interior test-beds for interaction with an environment, as well as a set of established procedures for allowing a flow of tools, conceived here as formalised units of information, backwards and forwards between the constructed world as experienced in the mind, and the distally inferred one existing outside it. Put another way, schema are rules for being-in-the-world. As Juul states in specific relation to videogames, "Rules specify limitations and affordances" (2006: 58). So it stands, in a very real sense, for our experience of reality.

We carry rule systems about the physical, the mental and the cultural: a folk physics and a folk psychology, none of which, as has been noted may be particularly correct (Churchland 1984). These rule systems exist to map meaning and significance onto the stimuli from the inferred world; that is, they fit signal to pattern to enable 'safe' prediction to occur.

Ritual is frequently conceptualised as a formalised system of culture, often with the aim of either reinforcing the status quo, or managing (or virtualising) change within the system. Turner (1974, 1982), in particular, has been identified by game theorists as an important source of cross-disciplinary models for ritual and games. His concept of rituals as liminal spaces, that is, transformative spaces that suspend normal social rules, constraints and affordances, has been co-opted by games theorists to describe the extra-daily structure of play (Dovey & Kennedy 2006, Flynt 2006, Pinchbeck 2006). Dovey & Kennedy draw attention to Turner's crucial distinction between the liminal and the liminoid, that "the *liminoid*... is a commodity, which one selects and pays for [rather] than the *liminal*, which elicits loyalty and is bound up with one's membership or desired membership in some highly corporate group. One *works* at the liminal, one *plays* with the liminoid." (Turner 1982: 55). The liminoid thus tends towards the post-industrial; the individual as opposed to the collective; non-centrality or additive to core social or cultural practice; symbolically idiosyncratic as opposed to being formed of widely collective representations and, importantly, set into a critical, as opposed to, supporting position in relation to the society or culture they originate from (1982:54-55). Both however, are characterised by a shift in the rules by which the object – or event – is engaged with, and these may even involve a shift in some core assumed rules themselves, in form of folk physics or psychology. There appears to be no problem with adjusting the distal rules, so that the scientifically impossible can be accepted without problem, dead ancestors, and transubstantiation included. That is not to say that the actual physical reality, i.e. the shared source of environmental information distally accessed by co-located organisms undergoes any shift of features or function – though, of course, this is entirely possible in artificial realities - but that a new set of filtration and significance attaching rules are layered into the conscious set at a suitable

level. In other words, transubstantiation does not even require that each individual actually believes in a change in substance from normal to divine, merely that there is no contradiction or challenge to this shift apparent within the group. Likewise, in terms of presence, immersion and virtual reality, Slater & Steed have argued whilst it is perhaps prohibitively difficult to ascertain whether subjects fully believe in the synthetic environment, what can be measured is their ability to operate, to all intents and purposes, as if they did (2000). Slater & Steed thus developed Breaks-in-Presence as their suggested unit of measurement, along similar lines, Zahorik & Jenison argue for a model of presence based upon Gibson's ecological perception theory, describing it as successful being-in-the-world (Zahorik & Jenison 1998).

Thus, when we talk of reality, particularly in relation to media objects, it is important to avoid the folk psychological construct of a holistic, believed in, immersive world, and perhaps consider this instead as a network of rules which allow for an appropriate and effective mapping of meaning and significance onto the experienced, particularly in allowing the functional process of prediction testing and evaluation. The essential property of assembling the illusory coherence of subjective reality is seen to be reduction – a process of filtering according to rules sets derived by physiology and embedded within mind, media and surrounding culture. Extra-daily phenomena, whether liminoid or liminal, are created by the adoption of new rules for this process. We can therefore begin to understand homodiegetic devices within games as forms of filtration rules, structures which can be adopted by the player to create a new system of reduction, focusing attention and significance upon the stimuli provided by the game world, rather than the wider set comprising of the system and its rules, the physical environment and even one's more permanent sense of self. In other words, presence, or at the least, a deep level of immersion and engagement. Games that trigger presence, which, as Nunez & Blake (2005) have found, is often deliberately sought out and maximised by players, can be seen not as adding a characteristic type of affect to play, but honing the filtration and meaning-mapping process in a particular manner. An increased pressure is thus placed upon homodiegetic devices in the game, as the epistemological process must be routed to within this reduced set in order for

immersion to take place. This set of rules must be consistent, stable and logical for the duration of play, and if implemented effectively result in a new subset of focus being instigated. It is this subset that we label ludic reality, and it is now prescient to consider both how it is formed and utilised, and why such a conceptualisation of immersive play may assist in the understanding of homodiegetic devices.

## **2. Homodiegetic Devices**

Four distinct device types are presented here as a non-exhaustive list that clearly demonstrate the particularities of the use of homodiegesis in assisting the formation and continuation of ludic reality: drama, world, agency and avatar. In each case I offer examples of the particular means and advantages of such devices in both enabling an epistemological process – that is, the learning of ludic system's rules – to take place in way that integrates the semantic, internal meaning of the game world; and to support the reduced field of affordances available to the player.

### **2.1 Drama**

Given the sheer volume of theory that has been written about the relationship between games and narrative, and the attention that has been paid to Turner's concepts of liminality and ritual, it is surprising how thin on the ground references to drama are. As we shall see, immersive games and ludic reality can be defined by their push towards presence, the projection of the player into the symbolic environment, and performance, inherently about mediated embodiment may be a more suitable model than those media forms which are rooted in mediated representation (Hart 2006). Often integrated into work applying narrative models to ludic experiences, drama is more a characteristic a narrative may possess (the extent to which it is dramatic). It is important to remember, however, that Aristotle positioned drama as an opposing form to narrative: the showing, rather than the telling, and this suggests that perhaps it is an even more appropriate source of comparative media theory than either film or literature, the disciplines more normally underpinning such work. LeBlanc (1999) explicitly connects drama to cybernetics, conceptualising it as a feedback system, and, as such, an epistemological

device. One can see this at work in a stealth-based FPS like *Thief* (1999). Engaging in combat results in positive feedback, that is, the environment becoming more complex, usually to the player's detriment (more guards appear and seek the player out). The player is rewarded for a more investigative, strategic and slower approach to the game, encouraged to maintain the state whilst exploring, rather than actively change it. This push towards a non-disruptive (or strategically disruptive) style of play is enhanced by a wider range of non-interventionist, or non-combative, ludic and narrative rewards: an entirely separate reward system based upon the accumulation of objects in the environment, for example. Finding and stealing treasures in the world is rewarded by enabling the player to purchase power-ups in interplay episodes, and intraplay power-ups are reduced in distribution and diversity.

The need to consider drama as a behavioural and affective manipulation system does not downplay its more immediate impact upon play, the feedback of highly 'dramatic' episodes as opposed to less 'dramatic' ones. Rather than making the assumption that homodiegetic content, especially narrative, is functionally concerned mainly with breadcrumbing or funnelling to draw players through an environment (Bateman 2004), we can instead look to the kind of cybernetic effect LeBlanc suggests as the primary function of levels of drama. Drama is a device to control temporal flow and reduced the field of significance, focusing attention upon distinct, pre-defined aspects of the presented reality. In the terms we have already developed, it changes the rules, interlaying additional filtration to the *mise-en-scène*.

For example, in *Halo* (2002), the player is presented with a sequence of highly repetitive levels broken into short units of action. Within these, the level "Two Betrayals" is a more or less exact reversal of "Assault on the Control Room", a superbly considered piece of economical game design! Both levels contain sequences of single agent groups or inter-agent combat – in the first version, humans versus Covenant, in the second, Covenant versus Flood. These sequences of inter-agent drama not only place pressure upon the player determining their own ludic pace, but they draw attention, diverting the player from a more exploratory mode of play. An essentially



structural event, without any individually significant content, becomes a dramatic device, affecting both subjective experience and play-style at a higher level. Critically, this kind of use of drama can be used to directly re-focus away from lack of affordance. Towards the end of Half Life 2 (2004), the player literally takes a ride through the alien Citadel, encased in a transport pod that restricts all action to simply looking around. As LeBlanc suggests, the sudden drop in affordances – the helplessness of the player – increases dramatic tension. Thus, not only does it enable the developer to move large distances in terms of narrative arc, geography and temporal positioning within the game world, it increases tension and drama by limiting the ability of the player to operate. It is a similar device to the use of embedded mini-game sequences, where normal affordances are temporarily suspended, or replaced, such as the vehicle sequences in Halo or, more subtly, Quake 4 (2004), and it explicitly illustrates the direct relationship between affordances and drama in ludic experiences. Drama is a filtration device, it enables a reduction to take place in terms of both affordance and expectation: allowing a developer to take control of the game without breaking from diegesis in the form of a cutscene or level break, and it achieves this function by focusing attention and steering the mapping of significance onto experience. Thus, it can also be considered not just as a device to draw *to*, but to draw *from*: reducing attention or significance. One of the most powerful applications of drama, therefore, is to actually reduce the player's need for choice. In contrast to Aarseth's cybertext, which ensures the reader is "constantly reminded of inaccessible strategies and paths not taken, voices not heard" (1997: 3), drama draws us away from such considerations. Oedipus has no choice but to follow his destiny; Gordon Freeman has no option to put down his crowbar - or, rather, drama is one of tools deployed to ensure the lack of option is never considered.

## **2.2 World**

It has been noted that the sensory fidelity of a virtual environment is only one factor in generating a sense of presence in the user (Darken et al 1999, Dinh et al 1999, Zimmons & Panter 2003), and studies have repeatedly demonstrated that presence is induced in many games, particularly first-person shooters (Lessiter et al 2001, Schneider et al 2004). Indeed, the direct mapping of player to avatar perspective is an

important factor in justifying the description of FPS games as mass-market virtual realities (Pinchbeck et al 2006). As has been noted, by re-considering the notion of a ludic reality as a set of rules for managing meaning-mapping, significance, affordances and expectation, rather than a fully formed, all-encompassing objective environment, we can begin to understand how presence would be generated. A more substantial problem is the vast reduction in affordances from normal reality to the one presented by the game. Supporting behaviour and action is crucial to the success of a synthetic reality system, and once again, we can understand homodiegetic devices as being directly responsible for negotiating this balance between expectation and system constraints. Whilst on the one hand, we can make the argument that reduction and filtration is a psychological pre-disposition, the affordances gap between game environments and reality is very large indeed. The formation and support of an alternate rule set, or ludic reality, is one of the primary means of plugging this gap. As Pietro (2002) has pointed out, what is important is less reality than realism, an analogous distinction between naturalism and symbolism in the theatre. Halo's altered gravity may not be realistic, but it is consistent and, more importantly, there is an effective fit between the reduced affordances set and the semantic content of the environment.

Game designers have long used a mix of structural and semantic devices to signal the limits of play, and the homodiegetic toolkit deployed by FPS designers goes a long way to explaining the relatively unchanged and limited content found within the genre. This goes beyond demographics and the narrative power of the 'hero's journey' and is in fact a demonstration of the kind of meaning-mapping that enables any form of immersive play to take place. Just as the lone wolf or avenger motifs that pervade most early, and a substantial number of contemporary, games bypass the expectation for agency and thus avoid highlighting the system's artificial intelligence constraints, so projecting the action into a liminoid phase, often in the form of an alien or supernatural context, allows a reduced set of affordances to be co-opted by the player with comparative ease. The vast empty Forerunner ruins that dominate Halo are occupied by an almost total lack of identifiable controls or interactive objects; the Strogg facilities of Quake 4 are not accessible to human operation – even when the player finds themselves

Stroggified, the operation is interrupted before access to many of the (non-interactive) technologies required to make the industrial feel of the environment valid can be bestowed. Casting the player as a grunt means they have limited skills beyond the obvious anyway, and thus complex interactions can be farmed out to elsewhere in the ludic experience, as we shall see. Liminality is not simply a state of play, it is a requirement for any effective filtration, enabling a ludic reality to exist: it is the means by which a performative interaction can occur.

As with the dramatic intensity of an experience, a well-crafted world serves a double purpose. Not only is it a means of essentially hiding the structural constraints of the system, it also expands the presented environment beyond the boundaries of the directly experienced. If our reality is a result of distal attribution, then the realities of FPS games are inferred and insinuated to an exponentially larger degree. Indeed, one can measure the confidence of developers in their worlds by the disposability or ambiguity of the stimuli. It is not simply a case of establishing a content set that will remain relatively unexhausted by all but the most explorative of repeating players, but of siting the actual action of the game within a wider context, thus reducing the need for play to cover all the aspects of this wider world. Those parts of the world that are deliberately rendered inaccessible but visible should not be deemed as simply decoration or even illusion. They are part of the mediated inference that legitimises the ludic reality by suggesting its persistence and scale.

It is also worth noting that the inferred physical environment of a game world may play an important role in the formation of subjective play time. Drawing from Lakoff & Johnson, who argue that most of our cognitive and, therefore, understanding of our experience, is rooted in our ecological and biological embodiment, Hart suggests that “To a major extent, all narrative, whether literary or theatrical, depends on the embodiment of space to conceptualise time.” (2006:44). A similar function of space can be found in games. Not only does the actual – in terms of immediate ludic activity – environment have a profound and very deliberate affect on the implied pace and play-style but the intimated total scale also has a role to play in the construction of a stable

and rich inferred subjective world. The first effect can be seen easily in the cramped and immediate-scale tunnels and corridors of most linear shooters – *Doom 3* (2003) being the most obvious example, whereas larger, more open spaces which allow a greater diversity of distance to be utilised quite literally buy the player time to think, and more importantly, time to look. This feeds naturally into the second aspect of the world's impact upon time. The scale of *Halo's* Forerunner ruins suggests age: partially perhaps due to our cultural association with megalithic architecture, but also as a result of both the relative scale of the environment to the player's avatar, thus establishing a status relationship, and the kind of kinetic-relationship embodied primary metaphor that Lakoff & Johnson discuss: it takes time to traverse a distance, therefore we can conceptualise time according to the perceived distance it takes to take in a space, kinetically and perceptually. Thus, according to this idea, it is not just about the impressive visual scale of the Forerunner environment, there is a direct and deep level cognitive link that forms substantial projection both spatial and temporal dimensions simultaneously.

### **2.3 Agency**

The population of a given environment also serves this double purpose – expanding the inferred scope of the world whilst reducing the affordance set needed for it to function in a manner that hides the system and its constraints. The increase in use of allied NPCs, from *Half Life 2: Episode One's* (2006) near ubiquitous companionship of Alyx, to the persistent, if less formed, characters comprising *Quake 4's* Rhino Squad enable developers to map more complex semantic goals onto action without increasing the affordance set. Any actions required to deliver a more convincing reality that fall outside this set are simply mapped onto the accompanying NPCs. In both cases, this essentially means performing any non-combat action: Alyx opens Combine doors and hacks computer terminals; in *Quake 4*, Kane operates as an escort and bodyguard to Tech. Strauss for a significant portion of the game. Although much has been made of the potential of persistent NPCs to deepen the emotional impact of game (Freeman), the structural function of such NPCs, as homodiegetic devices to control the interface between inferred world and player is paramount. It is only with the introduction of such devices that complexity and diversity of the goal can begin to be internally convincing

alongside a more sophisticated arc of narrative and play. Doom 3, with no persistent in-game NPCs, is forced to progress the story through a sequence of rather creaky cutscenes, and suffers from a lack of diverse – and unconvincing when operating outside the straightforward ‘blow something up, find the exit’ – goals. Although the presented action is certainly liminal in terms of its suspension of the norm, the lack of distance between the liminal world and the initially presented one leaves obvious solutions to problems outside the affordance set, thus immediately highlighting system constraints. In Doom’s Mars Base, not only is the player not allowed to do things that seem perfectly normal to try, but there is a lack of consistency about doing some of these normal tasks in specific sequences. Quake 4 bypasses this problem by allowing Strauss to effectively do all the thinking. His characterisation as a kind of genius figure places the player in a low status position, where they are relieved of the need to do any problem solving themselves and can be directed along the linear path of the game entirely naturally – after all, soldiers normally obey orders from superior officers. Additionally, the fact that the majority of Rhino Squad are ultimately doomed, but essential to ludic progression as individuals prior to their deaths, means that the game can operate a much more sophisticated and interesting affordance arc, creating an illusion of an expanding and contracting set by virtual contracting out action to these additional characters.

Agents also expand the temporal dimension of the experience, thus lending weight to inference of persistency that is so crucial to maintaining a sense of reality. A simple but powerful device is referring to outside the temporal scope of the game: Halo’s NPC artificial intelligence Cortana, who in another example of the wonderful economy of the game is represented by a disembodied voice, transported around inside Master Chief on a chip, states “If I still had fingers, they’d be crossed”. Not only does the intriguing ambiguity of such a statement, running as it does contrary to populist conceptualisations of artificial intelligences immediately deepen the player’s sense of a wider world, but it attaches a prior existence to the game to the character. Halo furthers this by intimating at several occasions that Cortana and Master Chief’s relationship is not initiated by the outset of the game’s action, that the two share a past. Quake 4 also utilises this, with

characters repeatedly commenting on past, shared victories and conflicts.

Nor is agency limited to devices occupying the same temporal position as the player. *System Shock 2* (1999) utilises isolation as a powerful motif in the world – with only one persistent real-time NPC. S.H.O.D.A.N., the insane AI who forms the game's main antagonist is represented through audio files and emails, meaning she requires no costly visualisation. The emotional punch of the story - the human face - is delivered through found crew audio logs, a tactic employed rather less successfully in *Doom 3*. The love affair and failed attempt at reconciliation and escape by two now-dead crew members not only attempts to trigger an unusual affective state in the player (*hope* that two unseen, never met characters manage to escape, and even *loss* at the discovery that both have died in separate parts of the ship, each leaving messages for the other to abandon them and save themselves), but it creates a parallel narrative operating only a short time before the action of play. As well as creating a temporal depth, this device decentres the player's position to a small degree, mapping an element of the drama to both an alternate temporal line and two unknown characters.

Email, personal logs and, more frequently, radio communications enable a large amount of epistemological, structural information about effective play approaches to be delivered homodiegetically. This can range from the explicitly goal-based, as the player's aims are managed in real-time, thus avoiding the need to refer out to cutscene or loadscreen instruction, to the more immediate and explicit notification of threat, reward, or advice. In the former case, real-time adjustment of goal can be used not only to deepen the sense of reality and temporal persistence of the world, but to better manage the general temporal flow of the game, once again manipulating the state of the player. The anthropomorphising of the system by utilising agents, thus tapping into existing schema, enables a more fluid shift in affordance, environment and goal to take place. In other words, agents carry the illusion of human qualities and humans, according to our folk psychology, are inherently time-based entities, thus they are effective tools for managing control and development within a synthetic environment. The instructions of *Far Cry's* (2004) ally-cum-nemesis, Doyle, not only orientate the

player to their goals, but they establish a powerful precedent; just as Strauss' superiority and status reduces the player's expectations of having to find solutions to situations themselves, so the relationship with Doyle legitimises the fact that although there is little sense of long-term persistence and development in Far Cry at any given point, the player is repeatedly informed that there is a logic, a stable arc, but they simply not aware of it. Doyle is the structural device to reassure the player that there is a plan, that they don't need to worry about the *why* – that someone knows what is going on. Indeed, there are many examples of the near-deification of persistent agents in many FPS games, the most obvious being the transformation of JC Denton as *avatar* in Deus Ex (2000), to living god and puppeteer *agent* in Deus Ex: Invisible War (2004). Cortana serves a similar purpose in Halo; Strauss is a more human version in Quake 4; S.H.O.D.A.N. is not simply a deluded would-be-God in System Shock and its sequel – for most intents and purposes during the play experience, she effectively fulfils the role. In all cases, the result is similar: the player controls the short-term, with its relatively small affordance set; the system, through it's Metatron NPC controls the long, where an *illusory* much larger and more complex system is operating.

## **2.4 Avatar**

Finally, the player's avatar itself is packed with homodiegetic information assisting the player in integrating expectation, affordance, content and rules into a holistic experience. Even the earliest, and most simple, FPS titles use priming material to establish some psychological structures to be mapped onto the highly limited affordances available through the avatar. Of Doom's (1993) unnamed marine, for example, we are told that he is apparently serving time on Mars for assaulting a superior officer and for refusing to obey orders to fire on civilians (the context of this not being recorded). This, alongside the detail that the avatar's life now generally consists of "suckin' dust and watchin' restricted flicks in the rec room", also gives a character-based justification for a type of approach to Doom's action. Further, the priming material states that "You'll never navigate off the planet on your own" and "Whatever killed your buddies deserves a couple of pellets in the forehead", thus suggesting, with id's customary subtlety, that there are two major aims to play. In other words, the gameplay being limited to shooting

anything that moves fits the protagonist's profile described by the introduction perfectly.

We should also consider the concept of the cyborg, as opposed to the cybernetic. Cyborgs, the human integration of the biological and the technological, are stalwarts of contemporary media fiction and theory, and extend from the crudely mechanical to the highly subtle and essentially psychological (Clynes & Kline 1960, Harraway 1989). It should come as no real surprise to find the cyborg pervasive in FPS games: the player avatars of *Marathon* (1994, 1995, 1996), *Quake 4*, *Deus Ex*, *Halo*, *System Shock* (1994), *Chronicles of Riddick* (2004) and *Bioshock* (2007) are all technological cyborgs. We also find cyborgs in the bioengineering of *Far Cry*; *Half Life's* HGV suit; or the enhanced reflexes of *F.E.A.R.'s* (2005) bullet-time. Cyborg avatars enable a diversity of ludic upgrades to be seamlessly integrated into the play reality: the system is not limited to bigger guns as a means of increasing the avatar's capacity, but can introduce all manner of both cardinal and catalytic ludic devices. The player's capture and Stroggification in *Quake 4* not only allows the player to undertake a new set of actions, thus re-inventing what is essentially little more than a rail shooter, it also gives the narrative a renewed purpose – Stroggification occurs simultaneously with the discovery that the Makron, assumed dead (the closure of *Quake II*) actually still lives, and the new cyborg existence of the player suddenly opens the narrative up to a whole new set of possibilities, such as this re-invented long-term goal. Likewise, *Deus Ex* is predicated upon the transformation of the avatar through nanotechnological implants, as part of a narrative that questions the outcome of widespread bio- and nanotechnological developments and, further, the anthropomorphic and cyborg qualities of multinational corporations. The cyborg also operates on an extradiegetic level as a metaphor of the extension of the player into an artificial world and, in a similar way to the use of ritualistic behavioural adaptation, eases the translation of player-to-avatar actions. In other words, the avatar is a media extension of the player into the ludic space, rather than a distinct means to action, as with non-immersive games.

There are a number of other common homodiegetic devices we find in FPS avatars that



fulfil the double function of meaning-mapping and focusing away from system constraints. Avatars exist outside the norm, or are swiftly thrust away from it at the start of play, thus enabling a liminoid existence where affordances and expectations are necessarily unnatural and re-invented. System Shock 2's avatar awakens from stasis with no memory, but stuffed full of illegal cybernetic implants: the player's interface with the system is thus rendered both ambiguous and in the system's control: no pre-existing information is allowed in. Having said that, S.H.O.D.A.N.'s existence is introduced in the opening cutscene of the game, and there is a definite and deliberate reward to the player in the form of the dawning realisation that she is behind the whole situation. This kind of ambiguity, which immediately reinforces the player's low status relationship with, and reliance upon, the system is there in Gordon Freeman's classified sponsor in Half Life; in the intimations that there is something more sinister to the bioengineered super-reflexes that separates F.E.A.R's protagonist than initially meets the eye; the early discovery that Call of Cthulhu's Jack Walters is somehow at the centre of the game's narrative although his amnesia prevents him from understanding this; JC Denton's awakening to his place within a global conspiracy, and so on. Conspiracy is another frequent narrative device to render the relationship of the player, *through the avatar*, to the system, *through the ludic reality*, ambiguous: it appears in nearly all FPS titles, from the highly literate, such as Deus Ex or Thief, to the relatively brainless, like Doom or Quake. Denton's transformation into a living god is echoed in the inferred mythical status of Master Chief – whose introduction to Halo is prefaced with the almost biblical episode title of “Unseal the Hushed Casket”; in Freeman's elevation to folk hero and saviour in Half Life 2; Jack Carver's re-incarnation as demonic, or at least animalistic destroyer of worlds in Far Cry: Predator (2006); or the explicitly angelic incarnation of Painkiller's David Garner – we are told by the priming information that “Heaven's Got a Hitman” (2004).

Amnesia, conspiracy and all other devices to increase ambiguity in the player/system relationship do not exist simply to provide a knot to be untangled, a reward system or golden thread. They function directly to enable a ludic reality to be formed and maintained: the avatar is reliant upon the system for information; not in control and

therefore limited to what affordances are presented; unable to recourse to normal solutions or schema and focus upon the ambiguity itself, rather than the wider issues of system constraints.

### **3. The use of Ludic Reality as a construct**

Ludic reality offers an alternative approach to the analysis of in-game content, from a player-centric, cognitive, embodied, and integrated perspective. It deepens the relationship suggested by Juul between fictional worlds and real rules, by arguing that there is a relative degree of fiction – or, at the least, mediation and reduction – in all reality. Indeed, forming an understanding of reality as a dynamic process of relating distal attribution and schema leads us to the view that, without a lapse into either solipsism or “naive realism” (Loomis 1992), it is a mistake to see reality as an objective ‘out-there’ that we, as conscious organisms, engage with. Further, distal attribution and schema, alongside other findings from cognitive science and models of mind, lead us naturally to the conclusion that our experience of reality is fundamentally based upon a process of reduction and filtration, thus enabling significance to be effectively attached to stimuli, and for patterns in this embodied perception of being-in-the-world to fit pre-existent, if dynamic, schema. Juul and Carr’s relationship between content and structure finds natural parallels in Turner’s conceptualisation of ritual, and these models add depth to the ludic reality model. In short, this model argues that immersive games, like liminoid phases, are systems by which reduced sets of expectation and affordance can be effectively managed to yield new rule-sets by which a subjective experiences can be formed according to pre-determined affective outcomes. In order for this to occur, a measure of which we can take to be presence, as either the “illusion of non-mediation” (Lombard & Ditton 1999) or the projection of the subjective sense of self-location to within the presented environment, there must be a means of reducing the significance or visibility of the system – in other words, a relocation of the necessary epistemological devices for the effective tuition and support of system affordances to within the semantic world. Homodiegetic devices – devices that operate from within the content – thus become of paramount importance.

Therefore, ludic reality offers a model in which no distinction is made between rule and content. Both are aspects of a singular construct with a singular aim – to allow the player, consciously and unconsciously, to construct an effective ludic reality where the system can be relegated in significance and a subjective location of consciousness within the game world can be supported. Whilst it is important to recognise that this applies to a distinct type of game, of which first-person shooters are the primary example, and that, in others, content structures such as a character and narrative can be more or less written off as non-cardinal, ludic reality demonstrates that the impact of semantic content is not limited to the superficial – essentially contributing to the type of affect manipulation Freeman describes as “emotioneering” (2004). Rather, as we have seen, content is a powerful means of transmitting epistemological information to a player, manipulating the rules by which they engage. Drama is a device for managing attention, pace and expectation; it directs adjusts significance. The game world is not just a backdrop or stage for the action. It can be seen to affect a sense of time, persistence, establish a status relationship between player and system and create a sense of liminoid existence, occupying a space between the known and the unknown where the rule sets of affordance and expectation can be convincingly re-written. Agents offer virtual expansion of this affordance set, thus enabling a more detailed world to be inferred, with a greater scope for sophistication of action and goal. They also provide a means to offer persistency and an existence outside the immediate scope of play. Explicitly, they are used to exert direct control over goal; implicitly, they are frequently used to offer the player a chance of occupy a subservient position to the system, whereby the degree to which they literally *think* about what is happening is partially placed under the system’s control – interestingly, this relationship lies at the centre of Turner’s work on liminality. The avatar is more than a means to action, it presents a reduced psychological mould into which the user can project: where normal affordances are suspended and the avatar’s set, including expectation and likely action, is either pre-defined or, at the least, heavily inferred. Semantic devices, such as casting the avatar as cyborg, naturally extend the player’s relationship with the system into the inferred world, and provide a means for affordance expansion within the reality offered. In all

cases, such homodiegetic devices enable activity to occur within the system, rather than at the system level, thus increasing the potential for presence to occur.

As a tool for analysis, therefore, ludic reality leads us to a new perspective on game content, bridges the gap between content and structure, or rule and world, and argues that what we study is a multifaceted system for affect and affordance integration. A recognition of the current understanding of our embodied realities leads us to the consideration of a dynamic relationship between inferred object and schematic rule, and we can approach immersive games in a similar way.

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