THE AMNIOTIC SAC: INTERSUBJECTIVITY AND AFFECT IN COMPUTER GAMES.

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ABSTRACT OF THESIS:

The Amniotic Sac: Intersubjectivity and Affect in Computer Games.

Presently, academic criticism of games approaches them either as vehicles for the expression of narrative, or as 'ludic' experiences where any aspects of traditional narratives are purely incidental to playing the game itself. Drawing on current critical work on videogames, theories of immersion, varying perspectives on narrative in games and on what games *are*, I argue that narrative theory is insufficient to deal with gaming. The interest of this thesis lies in the way that games enable narratives which are different in kind from narratives in other media, and in what gaming may have to teach us about more traditional forms of narrative. I use elements of actor-network theory and cybernetic studies in two case studies, *Planescape: Torment* and *System Shock 2,* to explain how narratives function in games through the 'mechanical constitution' of the subject or agent of the game. I argue that computer games achieve a different affect than other media by establishing a different relationship with their users through the mechanical constitution of a hybrid identity. Because of this different affect, games enable narratives which cannot be duplicated in other media without severe alteration to suit those media. The recombinant logic found in the hybrid causes the loss of the subjective element as a hybrid is created, hence narrative-theory cannot be usefully applied to games. I offer an alternative approach to narrative-theory, called the amniotic sac, which consolidates previous critical theories of the experience of gaming. In linking the immersive amniotic sac to previous studies of affect, such as those found in Reader-Response theory, I suggest that games are entering a post-narrativist space where affect replaces narrative in relevance.

To my family, for being there while I found the path I wanted to walk.

To my friends, for walking it with me.

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CONTENTS.

LIST OF FIGURES.

CHAPTER 1:
THE PLACE OF NARRATIVE IN GAMES.

This thesis consolidates previous critical explorations of games and the relevance of narrative to their analysis. Narrative is less relevant to games in part because of a loss of subjectivity as one enters into the game. Games are intersubjective, representing a recombinant logic of negotiation between the player of the game and the technological substrate comprised of hardware and code. The hardware is the assortment of components working in tandem and the code is the software running on the computer. Thus the point of negotiation is a person seated before a monitor which is attached the computer itself, and the interface, a keyboard and mouse or joystick, providing a physical bridge between the intents of the user and the computer. The human playing the game is no longer thinking as the same person they are outside of the game space. The intersubjective element introduced by games is produced by the mechanical constitution of the subject. The amniotic sac, my term for the mechanical constitution of the subject, achieves a different affect than is possible in other media. Games and game culture are providing narratives which cannot be duplicated in other media because of the unique affect, an affect which means the narrative is received as more *personal* due to the altered relationship between the game and the human playing. Studying how the unique affect functions may help us learn more about the place of narrative and why it works differently in games.

ABANDONING NARRATIVE.

Games introduce an element of play which is not part of traditional understandings of narrative, a ludic element underlying the production of unique affect in games and why narrative theory is inadequate when applied to gaming. Narrative theory breaks up narrative into two sections labelled discourse and story, or fabula and sjuzhet within Russian Formalism. (Falluga, 2005) Story/sjuzhet refers to the actual chronology of events in a narrative; discourse/fabula refers to the manipulation of that story in the presentation of the narrative. Discourse also refers to

elements of the medium in which the story is told. These terms refer to the basic structure of all narrative form. Story generally refers only to what has to be reconstructed from a narrative: the chronological sequence of events as they *actually* occurred in the time-space (or diegetic) universe of the narrative. In a game, there is no story, there is no chronological sequence of events. Instead there is just code waiting to be activated. However, narrativism or narratology suggests games are a storytelling media designed to express a narrative. Narrativists therefore approach games as texts which can and *should* be read in the same way as a novel, poem, or film, since they assert that narrative is universal to all of these categories. But games are *not* engines for expressing a narrative, and so purely investigating them as narrative texts is a very reductive and narrow approach. Ludology is a critical perspective which opposes this narratological approach, suggesting video games are first and foremost games, so they should be understood in terms of their rules, interfaces, and the concept of play. Ludologists argue that although games certainly have plots, characters, and aspects of traditional narratives, these aspects are incidental to game play. My interest lies in why games express narratives *differently* than other forms of expression. With that said, the fact that games *are a ludic experience* underlies the necessity for a new definition and approach to narrative. The ludic element is at the heart of the critical consolidation represented by this thesis.

Ludic aspects of computer games share a recombinant logic found in the relationships which have been identified between new media objects and their ostensible users. Both the subject and object of a negotiation are altered by and for the duration of the exchange. The point of negotiation between the user who comes to the media object and the object itself is thus fluid, as the subject and object redefine each other by their interaction. Ron Burnett references a discussion by Bruno Latour on the way human interaction with guns redefines subject and object. As soon as a human holds a gun, he or she no longer possesses the same agency or even identity as a human without a gun. Their agency/identity is added to while simultaneously limited and redefined by the interaction. Neither of the components is separable from the whole, meaning that 'human' and 'gun' become irrelevant and disappear during the exchange, replaced by a 'humangun.' Burnett concludes that neither object changes, but the relationship developed transforms all the partners in the exchange: "The result is a *mediated* space occupied by two partners where both partners are dependant upon each other," (Burnett, 172). Because both partners in the exchange

are mediated by the other, the mediated space exists under continuous negotiation and redefinition. Consider how the existence of a humangun alters if it is perceived by humans outside the exchange that the gun being mediated by the human partner is not loaded. In describing the mediated space, Burnett comments:

> Their interdependence creates a *hybrid* that has a number of the properties of the technology and the user. The hybridisation is evidence for the ways in which the user and the technology have found a common ground that often exceeds the design and engineering objectives built into the hardware and software. (Burnett, 172)

If the 'humangun' concept is a hybrid, then the human playing a game exists as a 'humangame' motivated by what Burnett describes as a 'common ground' between the user and the technology. The common ground for a humangame is the ludic action found in the hybrid. The humangame hybrid is interdependence between a human, sensory representation techniques suggesting spatial exploration of a digital world, and an interface which allows vicarious activity in the digital space being represented. In other words, a human seated before a personal computer, both united in one purpose: to entertain by constructing and exploring alternate worlds.

The game itself is distinct from the hardware component of the technological substrate. Comprised of layers of programmed coding, the data that the game (or any software) is built from needs hardware in order to become active. Without hardware, software is dormant or latent code. If encoded onto CD/DVD media, it exists in an unchanging but also static state. The simplest analogy is printed books: the contents of a given book are latent until the book is opened. If the book is never opened over an indefinite period, the content remains latent although the form it is stored in may degrade with time. The technological substrate is itself also a hybrid, since the software cannot become active without hardware, and without software the hardware has no instructions to tell it how to behave. Arguably it is thus more accurate to say the hybrid space of gaming is formed between a triumvirate of the human player, the code through which the game exists, and the hardware bridging the gap between the human and the code which allows the code to become active.

The software code builds the representational techniques which suggest spatial exploration in games, as well as the content of the game itself. The code is also a database. A database, when defined in a general rather than a specifically technical sense, is any collection of information stored within digital memory. A database is a

text which must be approached through choices on behalf of the reader, and could in theory be as large as the internet or a computer hard-drive. As a database is explored through these choices, the reader constructs an individualised text from all of the segments chosen through this process of navigation, each segment 'activated' as the user travels the database. Lev Manovich views databases as a cultural form in itself, one in opposition to narrative:

> As a cultural form, the database represents the world as a list of items, and it refuses to order this list. In contrast, a narrative creates a cause-and-effect trajectory of seemingly unordered items (events). Therefore, databases and narratives are natural enemies. Competing for the same territory of human culture, each claims an exclusive right to make meaning out of the world. (Manovich, 225-226)

Games thus begin as an unordered list of items awaiting activation, yet are perceived *during play* to contain a logical chronological sequence. The key to how games can at once be a database and be perceived as a sequences of events lies in a distinction in temporality. As Jesper Juul remarks, a narrative has several different temporal categories in a classical narratological framework. 'Story time' refers to the time of events told, in chronological order, while 'discourse time' denotes the time of the telling of events, in the order in which they are told. Juul also discusses 'reading time,' which is the time when the text is encountered (Juul, 2004). In comparison to the classical narratological framework, Juul notes that games collapse the distinctions between story-time, discourse-time and reading/viewing-time:

> It is clear that the events represented cannot be *past* or *prior*, since we as players can influence them…. In this way, the game constructs the story time as *synchronous* with narrative time and reading/viewing time: the story time is *now*. Now, not just in the sense that the viewer witnesses events now, but in the sense that the events are *happening* now, and that what comes next is not yet determined. In an "interactive story" game where the user watches video clips and occasionally makes choices, story time, narrative time, and reading/viewing time will move apart, but when the user can act, they must necessarily implode: it is impossible to influence something that has already happened. This means that *you cannot have interactivity and narration at the same time*. (Juul, 2004)

Narrative theory is incompatible with gaming because of this collapse of temporal distinctions. Narrative comprises two elements, the story and the discourse. Story is a succession of events: I climbed into the car, I drove around the corner, I had an

accident. Discourse is the arrangement of those events in a story form. In a game however, there is no story. There is just code, a set of preset latent possibilities instead of a number of events happening in a certain sequence, which can then be arranged in some fictional form. This latent code has a temporal dimension to it, meaning that movement through time and space within the game is important: movement through the database activates latent code from storage, presenting a temporal order to events as they activate. A game is a database, a latent code which becomes a narrative *in retrospect* as the game is played. Games are thus not concrete structures. They lack a definite causal structure and are based in a set of possibilities and a recombinant logic which is profoundly open. The division between story and discourse which is particular to narrative theory does not apply to games.

Since the tools provided by narrative theory are not sufficient to deal with gaming, this thesis offers an alternative with which to approach the field, in the form of the amniotic sac.

EVOLVING DEFINITIONS.

The amniotic sac is based in the hybrid space formed from the interactions between the triumvirate which is the player and the hardware/code substrate of the game. These interactions are physical as much as they are conceptual, since the player must make use of a physical hardware interface in order to have any influence on the code, and the code needs physical hardware in order to be given a representative existence. In turn, the form and effectiveness of this physical interaction shapes the resulting hybrid space. In order to discuss this process and establish the key terminology of the amniotic sac, it is necessary to analyse and unpack several closely related terms.

Interactivity is a concept that is rarely defined in a specific way. Espen J. Aarseth notes that the term operates textually rather than analytically, by connoting vague associations of "user freedom, and personalised media while denoting nothing," (Aarseth, 48). Aarseth then provides a semiotic definition coined by Peter Bogh Andersen:

> An interactive work is a work where the reader can physically change the discourse in a way that is interpretable and produces meaning within the discourse itself. (Aarseth, 49)

This refers to the incorporation of user input into the exchange in such a way as to alter the outcome of the work. For example, reading randomly selected pages of a printed novel is to create an interactive work. The discourse, the arrangement of content in story form, is potentially modified by the process as the reader associates the content of the pages together. Aarseth eventually dismisses interactivity as nearly synonymous with 'computerised,' (Aarseth, 103). For Martin Lister et al in *New Media: A Critical Introduction*, by comparison:

> Interactive signifies the users' (the individual members of the new media 'audience') ability to directly intervene in and change the images and texts that they access. (…) There is a sense in which it is necessary for the user actively to intervene as well as viewing or reading in order to produce meaning. (Lister et al, 21-21)

In both of these pragmatic definitions the user of an interactive text is understood to possess the capacity to alter the text in consequential ways. Lister et al expand on this definition through breaking down different categories of interactivity. Hypertextual navigation is where:

> The user must use the computer apparatus and software to make reading choices in a database…. The user constructs an individualised text made up from all the segments of text which they call up through the navigation process. (Lister et al, 21)

This quote suggests games are a form of hypertextual navigation by virtue of the construction of an individualised text from a pool of possibilities in a database. Breaking down hypertextual navigation into two categories provides *immersive* and *extractive* paradigms of interaction. Both methods of interaction require the user to enter into or make use of a large database. The two paradigms are distinguished in that extractive interaction is aimed at finding and connecting bits of information, while immersive interaction is based in the "sensory pleasures of spatial exploration," (Lister et al, 21). Internet surfing is an extractive paradigm, particularly when researching particular information, whereas games are an immersive paradigm due to the element of spatial exploration. Critical questions are raised by the fact that the content of an interactive text is fluid or unstable because of the different possibilities they represent through recombination:

> What if the experience we had was different from that of the next user? What is the validity of any claim or observation we might make about the text in these circumstances? We also find ourselves having to question the status of the text itself. How will it be able to achieve any kind of canonic status or consensus as to its quality when readers will no longer share a common experience? (Lister et al, 23)

Traditional problems of interpretation expand dramatically when there are multiple versions of a given text under interpretation. This is one of the most important critical consequences of interactivity: new media texts are databases in which there is no fixed meaning until one is provided or activated by navigation.

Immersion is already associated with interactivity through the paradigm of immersive interaction. Andrew Darley suggests a causal relationship between interactivity and immersion: "Simulation rides lack the dimension of control and response ('interaction') that is so important to the sense of 'immersion' in computer games," (Darley, 161). Lister et al are more specific, moving from a vague association with interactivity to define immersion as: the experience of being inside the world of a constructed image. The viewer cannot measure their distance to the 'surface' of the image, so the image appears to surround the viewer. The subject then loses any sense of themselves as separate from the medium or its simulated world (Lister et al, 387). This describes immersion itself, but not the process of negotiation which creates it. Ron Burnett expands on the relationship between immersion and spatial exploration:

> Immersion is a trope for the exploration of virtual space. Those experiences are framed by interfaces, which means that highly mediated and organised *metaphors* for seeing facilitate and encourage users to feel as if they are inside images. Ultimately, these virtual environments can only be visualised through representations, and the experiences can only be validated if participants have the will to do so. In other words, virtual spaces have no ontological foundation, and claims that participants are capable of entering into virtual spaces are more than likely claims about the strength of the interfaces than they are about human experience. (Burnett, 192)

Here, Burnett moves immersion away from being a syndrome which users are made susceptible to. He emphasises the investment of immersion in the individual imagination of users, which is what lends all virtual experiences their credibility. Burnett expands on this idea when he says immersion is only possible if the immersant agrees to participate. He describes immersion as another level of empathy,

"another way of discovering more entry points into the meaning of visually driven, sensuous experiences," (Burnett, 77). Some previous critics of immersion held that users were passive participants in immersion, and had thus focused their attentions on how the constructions in the digital world could be so compelling. Defining immersion as an active state, Laurie N. Taylor breaks the concept down into components:

> I will define it here as *diegetic immersion*, where the player is immersed in the act of playing the video game, and as *intra-diegetic* or *situated immersion*, where the player is immersed in playing the game and in the experience of the game space as a spatial and narrated space. Immersion is often taken to be a singular event where the player becomes engrossed in a video game just as a reader would become engrossed in a novel, or a viewer in a film. This immersion is diegetic immersion - the reader, watcher, player becomes lost in the text and becomes unaware of the creation and relation of the elements within the text. Video games also allow intradiegetic immersion, which allows the player to become deeply involved in the game as an experiential space. (Taylor, 20)

Intra-diegetic immersion, where the player focuses on the experience of the game space, is more relevant to this thesis than diegetic immersion. Intra-diegetic immersion deals with the construction of and investment in virtual spaces, such as found within games. The distinction between intra-diegetic and diegetic immersion is important, since some critics view them as the same process. Taylor succinctly describes the full impact of intra-diegetic immersion as where:

> The character's involvement with the space becomes the player's involvement with the space…. When the player is immersed intra-diegetically in the space of the game, the player is not acting *upon* the game, but *within* the game space. (Taylor, 21)

However, there are more elements involved in constructing immersion than purely visual stimuli. The physical elements can now be analysed since the core terms of interactivity and immersion have been discussed. *Vicarious kinaesthesia* is the impression of active entry into a mediated environment, suggesting the seeming contradiction of embodiment at a distance. Andrew Darley comments on embodiment at a distance in *Visual Digital Culture: Surface Play and Spectacle in New Media Genres*, using several different terms to approach the concept: 'kinaesthetic performance,' (Darley, 151), 'vicarious performance,' (Darley, 151), and finally

'vicarious kinaesthesia,' (Darley, 155). Darley makes no attempt to distinguish between these three terms, and offers the same overall comment for all the approaches: narrative and storytelling as they are traditionally understood are less important or relevant to the game experience than the sensation of embodiment at a distance, which becomes an end in itself. Darley also equates perceptions of embodiment with perceptions of *presence.* Vicarious kinaesthesia, which Darley argues is the most distinct and novel aspect of games, is heavily based in interactivity:

> With their radical demotion of narrative, it is precisely the heightening of sensation, evinced through the necessity for skill with controls and the resulting impression of kinaesthesia induced by illusory participation in acts of spectacular risk and speed that lies in the heart of such games. (Darley, 157)

The skill with controls which Darley mentions is similar to Steven Poole's concept of *muscle-memory* as an aspect of play, when he writes:

> It is as if the fingers themselves know what to do…. The same thing happens when you drive a car or touch-type. But this is not a mysterious process….: cognitive scientists have shown that practicing complex sequences of finger movements actually rewires neuronal connections in the brain until they become automatic. (Poole, 170)

Muscle-memory thus advances the idea, along with immersion being an active state, that gamers are re-educating themselves through practice in order to better play games. Poole suggests muscle-memory also reinforces immersion, beginning with the example of practised pianists. A reduction in self-consciousness is caused by the awareness that the "critical 'self' is no longer controlling my mechanical finger movements," leading to a sensation of absorption into the music (Poole 170). In a subtle distinction between the two critics, Darley places the locus of responsibility for immersion on the game, when he says that the game 'grants' control to the human playing the game (Darley, 157). In comparison, Poole's perspective on muscle-memory does not even mention the position a game might hold in the dynamic, except to say that a complicated interface would interfere with the process (Poole, 171). Poole equates this loss of critical 'self' with a state of *flow*. Zack Whalen describes a state of flow as an ideal state of immersion where self-consciousness disappears and perceptions of time become distorted as the player becomes absorbed. Whalen says flow states are based in a dialogue between unconscious states of immersion and

conscious moments of engagement (Whalen, 2004). What is the balance between these unconscious states of immersion and conscious moments of engagement? How is flow achieved? Poole equates flow with achieving a practised mastery of a musical piece, whereas Dr. Aphra Kerr et al argues:

> Flow is the experience of hitting the 'sweet spot' between the annoyance of a task that is perceived as trivial and the frustration of a task that is perceived as too difficult. This is also described as a balance between challenge and competence, or between complexity or boredom…. An exercise of control systems that occurs in combination with a high level of immersion thus results in a state of flow. As immersion and control are always a part of play, flow can be seen as both an element of play, and a state that can be achieved through play. (Kerr et al, 2005)

The relationship whereby flow simultaneously achieves and reinforces immersion is typical for relationships within new media. The negotiation between player and technological substrate which leads to immersion is never static and remains ongoing. Because of this, flow remains a distinct state from immersion and can become part of a cyclic feedback loop, reinforcing immersion even when achieved through it.

Ron Burnett's term *reverie* introduces another ongoing process without neat causal links:

> Reverie is often referred to as "suspension of disbelief" with respect to viewing films and television shows, reading novels, listening to music and so on. But the process is more complex than that. Reverie is one of the foundations for all of these activities, one of the fundamental ways in which humans are able to activate the relationships among their own thoughts and daydreams and the requirements of listening and viewing experiences. Reverie permits and encourages empathy, which is a strong emotion and has often been confused with identification. Reverie is also about unpredictability, which is one of the core reasons why an intersubjective relationship can be developed between images and viewers. (Burnett, 53)

Burnett's description makes reverie akin to a flow state, but without the 'exercise of control systems' described by Kerr. Reverie also shares traits with diegetic immersion, where the reader/watcher/player becomes lost in the text and lacks awareness of the creation and relation of the elements within the text. There is no skill requirement or active engagement in reverie, yet Burnett comments:

> Reverie is about 'giving in' to the viewing experience, being entertained, as well as being able to recognise the extent to which one has to be in the 'mood' to confer so much power to images and sounds. Being in the mood, feeling ready, settling down in one's seat or one's sofa, are ways in which viewers create and maintain the ground upon which the viewing process develops. (Burnett, 48)

So in comparison to a flow state, where immersion is actively sought after and the flow springs from a balance between challenge and competence, implying concentration, reverie suggests a deliberate surrender and lack of concentration. The surrender incorporates diegetic immersion, where the user becomes lost in the text and lacks awareness of the shifting elements within the text, replacing the elements of flow in reaction to challenge with a deliberate lack of focus.

Agency is a term regularly associated with notions of interactivity or embodiment. Agency in itself is associated with the capacity to act. Someone with 'free agency' may act freely, while 'limiting someone's agency,' reduces their capacity to act freely. In *Tele-Agency: Telematics, Telerobotics, and the Art of Meaning*, Edward A. Shanken says that "Agency resides solely with the active component of the system; the passive component has no agency," (Shanken, 2005). Network theory and the 'mangun' concept extrapolated from Latour can be used to illustrate some consequences of this idea. In network theory, any negotiation between a user and a new media object redefines the agency of both parties, opening some doors and closing others. Instead of using a man and a gun, I favour the use of cars to illustrate the point. Humans are not allowed on to the motorway on foot. Cars are not allowed to be parked on the motorway. A human in a car (humancar) *is* allowed on to the motorway. The human's agency is redefined by this association, in that the human is capable of actions which would not be otherwise possible, such as speed. On the other hand, the human's agency is at the same time constrained as the humancar, since the humancar cannot do things which humans can. For example, the humancar cannot explore sights of interest on a whim and must proceed at a set pace without slowing down to savour the view. During the exchange, the human and the car have effectively disappeared and will not return until the agency of the humancar is abandoned. Network theory potentially raises questions about what distinctions there may be between agency and *identity*. Identity comprises the individual characteristics by which a thing or person is recognized or known. Although a redefinition of agency alters the capacity of an individual entity to act, opening some

doors and closing others, the redefinition does not automatically alter identity. The caveat lies in how the identity of an entity is defined: if the 'individual characteristics by which a thing or person is recognised or known' is based in the capacity of that individual to act in certain ways, then arguably identity *is* redefined during the exchange. Network theory implies a recombinant logic for the principles of the exchange, where the traits of both parts of the entity engage in an ongoing negotiation rather than reaching a stable conclusion. Databases represent a set of recombinant possibilities that may potentially be infinite, and thus have no *fixed meaning*. Recombinant texts, such as databases or the negotiations found in network theory, also have no fixed meaning. However, recombinant texts do hold a logic of autopoesis, that is, of spontaneous self-organisation or self-creation, for these negotiations. Databases are composed of potentially infinite recombinant possibilities, but their navigation yields a sequence of activated content. The user is likely to ascribe meaning to the content, to some extent based on the order in which the elements are encountered. Autopoesis means that recombinant texts are open-ended but structured.

Another necessary distinction is that *narrative* exists as a separate component from the text that expresses a narrative. When the audience of a play watches the play, they are not receiving the narrative; they are receiving the play which contains the narrative. Narrative is always a *mediated* experience. Encountering a narrative through one form of expression will not be identical to encountering the same narrative through a different form of expression. The underlying narrative may remain unchanged during both encounters.

Discussing these terms clears the way for analysing their relationships in order to learn more about the place of narrative and why it functions differently in games.

CRITICAL CONSOLIDATIONS AND THE AMNIOTIC SAC.

The recombination of the player and the technological substrate leads to a *hybrid space.* Immersive paradigms of interaction emphasise the sensory pleasures of spatial exploration, and this is carried into vicarious kinaesthesia. The space which games occupy is inherently important, as spatial navigation through the graphical representation of the game over time is what distinguishes games from databases of latent code. The temporal nature of games is unique in that they exist in the

permanent now of an eternal present. Navigating the database creates the perception of a chronologically ordered sequence of events by activating latent code. This means it is the sequential choices made by the hybrid in any given game which construct the perception of a narrative. In *Planescape: Torment*[1] the game is composed entirely of interactions occurring 'now.' The hybrid is capable of looking back over several months worth of game-play which occurred constant 'now' and constructing the perception of a past. The endless present time of the hybrid-space is important to the idea of *ludic labour*, the time and effort required to form a relationship with the code. The relationship formed between a hybrid and the hybrid-space it occupies is not trivial, in that the hybrid has access to memories of a past and a chronological structure of events only through active construction. There is no underlying structure to uncover. Movement within the hybrid-space is equally important to ludic labour because in games, time and space are difficult to differentiate. Movement through the database activates latent code, and it is impossible to activate latent code without providing a chronological sequence of activation. The options provided within a hybrid-space are to construct a perception of time and space simultaneously, or to refuse to navigate the database, at which point it remains static as recombinant potential with no structure. Vicarious kinaesthesia also serves to construct intra-diegetic immersion. If the hybrid feels embodied at a distance then there has to be a space for the hybrid to be embodied *in.* Both processes reinforce each other, perhaps to a point where critically they are parts of the same process. On one side there is the perception of embodiment at a distance, while on the other there is the focus on that embodiment and its apparent agency, in order to become active *within* the spatial world of the game.

In games, the perception of agency held by the player is an illusion. The player as a distinct entity has no way of interacting with the mediated digital world of the game without interacting with the technological substrate, the code and the hardware through which the code is manifest. The instant the player interacts with the technological substrate, he or she becomes a *hybrid* entity during the exchange. It is the hybrid who possesses agency within the mediated digital space of the game, and the hybrid is in part mechanically constituted. The player possesses no agency inside the mediated digital world of the game, but the hybrid *does* and so this alteration in

[1] See Chapter 3.

agency must be caused by the recombinant logic that the player is subject to. It is thus the mechanical constitution of the subject which provides agency within the world of the game.

Muscle-memory interacts with the perceptions of agency in such a way to reinforce the sensation of vicarious kinaesthesia produced by the hybrid. Muscle-memory is outside the subjective, conscious control of the hybrid, creating the perception that the hybrid embodied within the game-space *acts without direct agency*. The sensation of embodiment at a distance is coupled with an agency not requiring conscious decision-making, which reinforces vicarious kinaesthesia. The hybrid is thus perceived to be more of a legitimately distinct entity, in turn reinforcing intra-diegetic immersion. The same process reduces awareness of subjectivity in favour of intersubjectivity, by emphasising the embodiment of the hybrid-space.

Individual subjectivity as it is typically understood is no longer relevant to games, since the player disappears into the hybrid during the exchange. Instead we enter a realm of *intersubjectivity*, where the code which constitutes some of the hybrid provides a bridge of shared affect between *different hybrids*. If two individual players play the same game, the resulting hybrids will be different due to the recombinant logic of the exchange, but their agency is provided *by the same code.* Intersubjectivity is thus more appropriate than subjectivity, since there is a fundamental point of continuity of experience between two hybrid subjects. This lack of interiority, a lack of an unqualified individuality of experience, provides a different affect than is possible through other media.

The amniotic sac is a more productive conceptualisation to approach the place of narrative in games because it encapsulates the issues of intersubjectivity, interactivity and immersion raised by this Chapter, combined with recombinant logic and the cybernetic/mechanical constitutions of intersubjective subjects and affects. The amniotic sac is the hybrid triumvirate formed between the human player, the code through which the game exists, and the hardware bridging the gap between the human and the code, which allows the code to become active. Although the amniotic sac is a purely biological metaphor, the different affect achieved in games is based in the mechanical constitution of the subject. Such constitution causes the subjective element to be rewired in relation to the technological substrate, thus establishing a different relationship with game players.

A cybernetic womb, the amniotic sac describes the separation from external stimuli characterised by diegetic immersion while including the idea of a new space opening up around the immersant, through which he or she becomes vicariously embodied. No one part of the interdependent hybrid is responsible for creating the amniotic sac, nor can one part be separated from the process of negotiation which gives rise to the amniotic sac without destroying the cohesion of the whole. The time taken to form a relationship with the code reinforces the legitimacy of the ludic activity within the amniotic sac, making the events and interactions within the spatial/social environment of the game world more *personal*. Thus the affect on the hybrid is notably different than is possible in other media, as are the narratives which the unique affect is associated with. The amniotic sac uses the permanent 'now' created by navigating the database to become an arguably timeless space in which the hybrid is free to explore. In linking the immersive amniotic sac to previous studies of affect, such as those found in Reader-Response theory, I suggest games are entering a post-narrativist space where affect replaces narrative in relevance.

CHAPTER 2:
DEVELOPING GAME CRITICISM.

Two aspects of historical development in games are relevant to this thesis: firstly, the technological advances in representational techniques and interfacing which games have made since the 1980s, and secondly the critical response to these advances which are antecedents to this thesis. The amniotic sac is a triumvirate composed of the human player, the code through which the game exists, and the hardware bridging the gap between the human and the code, which allows the code to become active. How the code has evolved in the form of representational techniques and more complex programs is important for how this growth now shapes modern game development. At the same time as the code has evolved, more complicated hardware has been created as the technology developed over time. The negotiation between these two points of development will provide insight into how the affect yielded by games has changed over time.

In the same way, this thesis stands on the shoulders of critics working in reaction to these developments in code, in hardware and in the point of negotiation where games are played. Another thesis, working from the same critical ancestors as the amniotic sac, puts forward the idea that 'interactive cinema' is a more useful conceptualisation than viewing videogame texts as ludic activity. Comparing the amniotic sac and the conceptualisation of 'interactive cinema' will inform an understanding of the problems associated with new media texts. Such comparison also indicates why the amniotic sac is a conceptualisation which deals more successfully with these critical issues than 'interactive cinema.'

INNOVATION OF FORM.

The hardware and coding components of the amniotic sac are part of the rapid development in computer capability which has taken place since the early 1980's. The technology available at the time limited both the possible representation methods and the methods for interaction game designers were able to use. Computer graphics duplicated representational methods from painting and other graphical forms,

including them into the repertoire of representational techniques as soon as it was technically possible to do so. In the early 1980's there was a common level of technological development. This meant that the limitations presented by the hardware led to innovation in the coded representational techniques, intended to make the most of what hardware was capable of at any given time. The visual techniques which were adopted intended to persuade viewers that they looked 'into' rather than 'at' the image. They did this by utilising the cues human minds associate with depth perception. Scientific perspective provided an impression of three dimensional spaces. First used in *Battlezone* (1980), scientific perspective is a method of representation where objects in the distance decrease in apparent size according to mathematical ratios, causing parallel lines to converge to 'vanishing points.' Parallax scrolling was first used in *R-Type* (1988) to give an impression of depth by moving objects further away from the viewer proportionally slower than objects nearby. Both scientific perspective and parallax scrolling assist vicarious kinaesthesia, the sensation of embodiment at a distance, through the perception that the viewer is looking 'into' rather than 'at' the image and thus help to construct intra-diegetic immersion within the spatial world of the game.

The position of the technological substrate changed in the mid to late 1980's. Rapid development of new hardware expanded what could be done with software and code. This meant that the evolving technological substrate was now the driving force behind the development of representational techniques. Games became more complicated in terms of visual detail, both in terms of resolution and complicated animation. The introduction of CD-ROM drives and media enabled the addition of complicated content, such as speech and full-motion video (FMV) clips. Dedicated soundcards were introduced in the late 1980's in a similar period to the arrival of CD media. These cards allowed stereo sound possibilities in games, and the two innovations worked in tandem to make audio a realm of competition and innovation where games could set themselves apart. Speech added another form of sensory representation to the repertoire of techniques available to assist immersion. Perceived communication within the spatial world of games contributed to intra-diegetic immersion and vicarious kinaesthesia, by providing another mode of interaction to be embodied through. By the mid to late 1990's, dedicated graphics cards were released to greatly supplement the graphical memory and processing power of the computer itself.

Games could be made different in this environment by creating new uses of the available technological substrate, either in software or hardware, or in creating new concepts to enrich the associations between the human player and the game. Early adoption of a more powerful piece of technology, either hardware or code, allowed some games to leap ahead of their competitors in terms of representation and thus in potential virtual kinaesthesia. Such a competitive environment was a motivating factor behind the development of representational techniques which remain important today. The major graphical innovation of *Battlezone* was a true 'first person perspective,' where the images the Player receives of the world are intended to mimic vision as if the hybrid's 'eyes' are in the world. This assisted the sensation of vicarious kinaesthesia by suggesting the hybrid was actively moving within the spatial world of the game. *Wolfenstein 3d* (id Software, 1992) went a step further to assist the perception of embodiment at a distance in the human playing the game, by showing the hands of the hybrid on screen. The intention was to further suggest the human playing the game was embodied in the spatial world of the game. Since this form of personal association has been mimicked by the so-called 'first-person shooter' genre, this was a successful innovation. Coded representational techniques have been made more detailed in attempts to deepen the association with an embodied presence in the game world. For example, *Unreal Tournament* (Epic Games, 1999) allowed the player to shift the hands represented on screen to the left-hand side. This minimised any jarring conceptual distance caused by inconsistency in the association between the human playing the game and 'their' embodied presence in the game world.

When games provide a first-person perspective, it is artificially narrow and has no peripheral vision. A creative use of stereo sound minimised the problem through providing information in sound to help complete sensory awareness of the spatial world of the game. In an evolution of this development in code, 'positional audio' techniques were borrowed from cinema 'Surround Sound.' Whereas with stereo, a hybrid was able to turn to face a threat when warned by sounds, positional audio provides an awareness of events happening subjectively *behind* the hybrid at the same time as sounds presented as coming from around a corner. An entire game line was created in order to take advantage of sound innovations such as these, beginning with *Thief* (Looking Glass Studios, 1998). The additional detail afforded the aural

spectrum by positional audio significantly assists the perception of embodiment in a digital space and thus of acting *within* that space.

Visual representation leapt forward with *Quake* (id Software, 1996), and the visual advance also lead to an evolution of interface techniques. The most common form of interface on personal computers today is a combination of the mouse and keyboard. *Wolfenstein 3D* and *DOOM* (id Software, 1993) were both games where the architectural spaces to be navigated were on the same level as the hybrid. *Quake* represented an evolution in coded representational techniques which took advantage of more powerful hardware in order to run smoothly. Its levels were three-dimensional spaces and the architecture reflected this, involving stairs, complicated mezzanine floors and jumping puzzles viewed from the first-person perspective. This meant there were buttons on the keyboard to look up and down, since it was necessary to shoot at enemies at different heights than the hybrid's relative position within the spatial world of the game. The gaming community found the interface unwieldy and changed it. Introducing the mouse as an active part of the interface meant the first-person view intended to stand for the 'eyes' of the hybrid was now entirely moved by the mouse. The buttons on the keyboard now move the hybrid forward or step sideways *relative to camera*. This is called the 'mouse-look' option, and it remains the typical interface setup for FPS games today. The reduction of physical movements required to accomplish a movement within the spatial world of the game means muscle-memory becomes easier to achieve. Muscle-memory means the human playing the game is less consciously aware of the physical movements required to enact a movement within the space of the game-world through the interface. This in turn assists intra-diegetic immersion, since the player vicariously embodied within the space of the game-world can now *react without conscious decision* to stimuli within the game-world. This reinforces the perception of vicarious embodiment.

The advances in hardware development created the capacity to use more complicated coding techniques. Advances made in representational techniques at the level of code during this period assist the perception of embodiment within the digital space of games. They did this by reinforcing vicarious kinaesthesia and intra-diegetic immersion, or by altering interface patterns to make them more easily available to muscle-memory. The amniotic sac uses the ideas of embodiment and vicarious kinaesthesia as central concepts for the creation of an intersubjective, hybrid space.

However, there are alternative critical perspectives which favour a different paradigm than hybrid spaces to explain the place of narrative in games: 'interactive cinema.'

THE AMNIOTIC SAC VERSUS INTERACTIVE CINEMA.

Promotional journalism created the term 'interactive cinema' in the 1980's in reaction to the FMV sequences being introduced to games after the arrival and acceptance of CD-ROM media. The conceptual genesis of the term was caused by observation of a human player possessing apparent influence in how a filmed sequence unfolded. Once the term was introduced into the mainstream media it took on a life of its own. Game companies themselves decided to pursue games which more closely resembled films because 'interactive cinema' was such a popular idea. Poole describes that in 1999 interactive cinema was intimidating mainstream cinema with its apparent popularity:

> One increasingly popular term of praise for a certain sort of exploration videogame is to say that it is like an "interactive film." On the summer 1999 release of Silent Hill…. one journalist claimed that this game "fully exploited" the developments towards "fully interactive cinema." The media buzz is that cinema and videogames are on convergent paths. If this is true, Hollywould ought to be worried that videogames are going to swallow it whole. (Poole, 65)

Poole goes on to describe that a filmic element of *Silent Hill* is a pre-rendered introductory video sequence, but this sequence is not actually part of the *game*. FMV sequences can be beautifully crafted, but they are not relevant to the ludic experience of a game space. They are simply included as events to watch, they cannot be played with and as such are garnish to the actual gameplay (Poole, 78). Dismissive of the idea of interactive cinema, Poole concludes that its inception as a term is based on a lack of alternative vocabulary:

> It is, of course, understandable that the mass media, in having to deal with the vast but…. incomprehensible culture of videogames, naturally reach for the vocabulary of film – apparently the nearest medium in visual terms…. But before we start positing a hybrid future of "interactive movies," it would be well to take a cold mental shower by looking at what actually exists. (Poole, 71)

The actual status of interactive movies is debateable. The idea that games are a ludic activity stands in opposition to the idea of games as cinematic constructs. Cinema has never been interactive, so arguably adding an interactive element requires that a new definition be discussed. However, Brady Hammond disagrees with this critical position. His 2003 thesis argues that 'videogames' is an outmoded term, no longer appropriate to describe 'interactive entertainment texts,' and offers 'interactive cinema' as a critical framework instead (Hammond, 4).

Hammond's theories of interactive cinema cover similar conceptual and critical territory to the amniotic sac but come to some different key conclusions. He defines interactive cinema as "an experience involving one or more alternations between juxtaposed non-trivial interactive sequences and cinematic sequences" (Hammond, 88). To define what is meant by 'interactive' within this description Hammond favours the conclusion reached by Chris Crawford, that interactivity is "a cyclic process in which two actors alternately listen, think, and speak," (Hammond, 19). This would correspond to an input, process, output cycle when one speaker is a human and the other is a computer. Hammond argues that interactivity and immersion are associated, but not the association found in immersive interactivity through spatial exploration favoured by the amniotic sac. Hammond's view of interactive cinema relates the two terms through the idea of *mixed-media montage*:

> The juxtaposition of the non-trivial interactive sequences with the cinematic forms something that is greater than either component. The cinematic segments alone would be nothing more than bland software demonstrations and the interactive segments alone had already been created numerous times throughout the seventies. This montage construct, however, took the dichotomous elements of the contest and free-form play style and combined them into a unified whole. The result was not strictly a contest, nor was it strictly free-form, but existed instead as an immersive interactive world. (Hammond, 54)

However, the form of interactivity favoured by Hammond involves the human player less than the idea of spatial exploration leading to immersion favoured by the amniotic sac. Crawford's definition of interactivity as a cycle of 'input, process, output,' assumes that the human player will be involved in order for the cycle to complete itself, but does not describe how the involvement will shape the resulting experience. Is the player involved in the process of his or her own immersion, or is Hammond's process more passive in comparison to the amniotic sac? Analysing how

the montage process provides a bridge between interactive and non-interactive sequences in games shows the place of the human player in the exchange. Hammond describes a circumstance where two humans are watching one of them play an interactive sequence in a game. One is a viewer, the other is a player. Hammond then describes both of these humans watching a non-interactive film sequence of the same game. He argues that although from some perspectives both of the humans are now *viewers*, that the human who had been playing the interactive sequence will *perceive* the cinematic as juxtaposed with the interactive. This juxtaposition arguably distinguishes both humans from being viewers, as one of them is still associated with the interactive element:

> Just as the components of the montage affect how the total is perceived in cinema, so too do the cinematic and interactive affect one another. However, because of the differing media, the effect is not limited to perception, but is reflected back onto the sequences themselves. As such, the influence of the interactive sequence is felt in the cinematic sequence. (Hammond, 69)

So the interactive and non-interactive sections of the game are inter-related due to the montage affect, but is this an active or passive form of involvement? The association between the interactive and non-interactive elements occurs entirely in the human player's mind. He or she remains essentially a viewer, albeit a viewer possessing a different context in viewing the non-interactive element. This also raises concerns in terms of Burnett's assertion that immersion is a state actively sought by the player. Hammond's montage has little for the player to do which might be an *active* involvement in the game.

The idea this form of montage can transcend and combine interactive and non-interactive elements would answer Juul's assertion that interactivity and narration are not possible at the same time (Juul, 2004). However, Hammond's analysis never takes into account the different forms of temporality inherent within gaming texts, as Juul describes:

> In an "interactive story" game where the user watches video clips and occasionally makes choices, story time, narrative time, and reading/viewing time will move apart, but when the user can act, they must necessarily implode: it is impossible to influence something that has already happened. (Juul, 2004)

Hammond's inference is that the shifts in experience between interactive and non-interactive elements occur smoothly. This does not take into account how the perception of the montage would be affected by the 'perpetual now' afforded by the interactive elements of games, or the potential for the shifts in temporality Juul describes to be jarring. Hammond also does not take into account the conceptual investment in vicarious embodiment found in games.

The notion of embodiment is a central one to the amniotic sac, given the relationship between perceived vicarious kinaesthesia and intra-diegetic immersion within the hybrid. The closest that Hammond comes to addressing the concept of embodiment in games is through the relative position of the audience to the montage text:

> The audience exists both as player and viewer. In other words, the experience is from the perspective of both the viewer and the viewed…. With the viewer existing *outside* of the text and the player existing as a *part* of the text, Interactive Cinema creates a player that is both inside and outside. (Hammond, 73-74)

Although Hammond recognises that the player is inside the game, there is no comment on the game as a constructed digital *space*. The space which games occupy is inherently important, as spatial navigation through the graphical representation of the game over time is what distinguishes games from databases of latent code. Immersive paradigms of interaction emphasise the sensory pleasures of spatial exploration, which is carried into vicarious kinaesthesia:

> The initial visual impression that one is located in a three-dimensional setting is reinforced when one begins to move around, thus activating elements of spatial and temporal coordination. One of the distinctive (and pleasurable) features of games such as *Quake* is the impression of realistic mobility and presence within (occupancy of) a fictional parallel world. (Darley, 150)

Instead of three-dimensional settings, Hammond appears to approach the digital space of games as sets waiting for narrative events to unfold, as the player shifts the experience from interactive to non-interactive elements. There is little contact between the player and the game when using the montage paradigm, certainly little contact between the player and the game *as a game.* However, Hammond does discuss the idea of agency within the game world, as he sees the montage paradigm as

explaining the significant degree of contact between the player and the character provided by games.

Hammond's perception of agency becomes problematic because there is no apparent recognition that the agency is different than would be possessed by a human outside of the game:

> What the alternations between interactivity and cinema represent is the flow of information in a closed cycle. In a cinematic sequence, information is presented to the *player* by way of the *viewer*. The purpose of this information is to establish the context with which one can begin to perceive how to read the otherwise blank interactive avatar. The effects of this information are realized at the conclusion of the cinematic sequence when the viewer is given agency and becomes the player. The interactive sequence begins and the avatar *is* the player. Within the confines of the avatar's range of action, the player has complete control and is free to express their will. The avatar represents the agency of the player, the "I". (Hammond, 74-75)

Without recognition of network theory and the idea that any negotiation between a user and a new media object redefines the agency of both parties, Hammond cannot account for intersubjectivity in games. The player thus appears completely free to act without any restraint caused by the mediated nature of the exchange. Hammond goes so far as to say "the player has complete control and is free to express their will" (Hammond, 75). He does reference that this 'freedom' must be 'within the confines of the avatar's range of action,' but lacks any discussion of how the agency *is fundamentally altered* by this limitation. In games, the perception of agency held by the player is an illusion. The player as a distinct entity has no way of interacting with the mediated digital world of the game without interacting with the technological substrate, the code and the hardware through which the code is manifest. The instant the player interacts with the technological substrate, he or she become a *hybrid* entity during the exchange. It is the hybrid who possesses agency within the mediated digital space of the game, and the hybrid is in part mechanically constituted. Hammond does not address this issue within his conceptualisation of interactive cinema. There is also a lack of discussion of how the player physically interfaces with the game, and how that physical element shapes the exchange.

The element of interface is *important* to games. The interface of the technological substrate either stands as a barrier between the player and immersion or

as a bridge into the digital space of the game world. Poole even dismisses immersion as potentially clumsy because of perceived difficulties with interfaces:

> Furthermore, the clumsy apparatus with which the gameplayer has to wrestle in order merely to look in different directions – moving a mouse or a joystick – can never compete in terms of speed or intuitiveness with our natural, almost unwilled eye movements. As the field of view in a *Quake*-style videogame is artificially restricted vertically as well as horizontally, it takes a conscious decision and a mechanical fiddle just to glance down at the floor directly in front of you, to make sure you are not going to tread in some fatal ooze, break a trip wire or fall down a satirical pit. (Poole, 132)

Poole's claim that game interfaces are clumsy and require 'mechanical fiddles' needs to be addressed. This falls into a question of practice. *Any* interface is problematic when first encountered. Driving a car is hardly *intuitive* at first, but after a time most people do it without thinking. Hammond's preferred version of 'interactivity' taken from Crawford, where two actors alternately listen, process and think, has no reference to physical interaction although he describes a physical interface for how the human actor 'speaks' to the computer. The interaction Hammond mentions is of a more conceptual and passive nature than the interactive elements of the amniotic sac. There is no discussion of an interactive form which could achieve muscle-memory, and no mention of an interactive form which requires physical practice to be learned.

Muscle-memory is an important element of the altered agency found in games, by interacting with perceptions of agency in such a way to reinforce the sensation of vicarious kinaesthesia produced by the hybrid. Muscle-memory is outside the subjective, conscious control of the hybrid, creating the perception that the hybrid embodied within the game-space *acts without direct agency*. The sensation of embodiment at a distance is coupled with an agency not requiring conscious decision-making, which reinforces vicarious kinaesthesia. The hybrid is thus perceived to be more of a legitimately distinct entity, in turn reinforcing intra-diegetic immersion. The same process reduces awareness of subjectivity in favour of intersubjectivity, by emphasising the embodiment of the hybrid-space. Darley goes so far as to say:

> This dimension of direct physical involvement or 'hands-on control', which the computer game grants to the spectator/player, is perhaps the central and defining characteristic of the genre…. It is precisely the heightening of sensation, evinced through the necessity for skill with controls and the resulting impression of kinaesthesia induced by

> illusory participation in acts of spectacular risk and speed that lies in the heart of such games. (Darley, 157)

Hammond does not reference anything akin to 'hands-on control' within the interactive cinema concept. He actually goes so far as to say, "The actual physical manipulation of the hardware means nothing compared to the effects it causes in the software interface" (Hammond, 80).

The relationships Hammond offers to bridge the barrier between the human player and the character/avatar provided by the game are all presented as simple, one way exchanges which do not account for network theory or intersubjectivity:

> With the viewer existing *outside* of the text and the player existing as a *part* of the text, Interactive Cinema creates a player that is both inside and outside. As I said before, the player *is* the corresponding avatar, for the avatar is lifeless unless the player is present. If the player does not control Pac-Man, Pac-Man will never live. Conversely, the act of watching is all that it takes to give life to Pac-Man in the cinematic sequence as he flees from a ghost and then returns to chase that ghost. Watching is necessary, but it is also *all* that the viewer is capable of. (Hammond, 74)

The relationship between player and avatar is presented as unproblematic, simple and one way: 1) the player *is* the avatar, 2) the avatar is lifeless without the player. This presents a conceptual relationship between the two, akin to wearing a puppet on the hand. Hammond's conceptualisation presents the player as fundamentally *passive,* where one of the more energetic elements of how the player constructs their relationship with the avatar in the game is through 'the act of watching.' Where Burnett suggests "game technologies are about continually evolving relationships undergoing constant change" (Burnett, 174), the dynamic presented by Hammond is static. Hammond's player is a puppet-master in unquestioned control of events as they unfold within the game. The enjoyment within this conceptualisation comes from the fact that *someone else* has established the plot, like creating a doll's house for someone else to play in. The player can then learn new information over the course of the game and be unaware of potential twists in the narrative while still being the sole arbiter of forward movement, and otherwise detached from the game. Hammond states a specific opinion that theories of play are insufficient to deal with the "Interactive Cinematic playground" (Hammond, 61), and so the interactive cinema conceptualisation contains little to suggest that a game is being played at all.

Hammond is not approaching videogames, or 'interactive entertainment products' as games, instead favouring an approach which suggests they are narratives possessing an interface, waiting for a viewer/player to make them whole by seeing them unfold. However, 'interactive cinema' as Hammond defines it also contains several points of similarity with ideas found in the amniotic sac. Hammond views interactive cinema as being a cybernetic process:

> I have also shown that the player is integrated into the interactive by the juxtaposition of the cinematic. During the cinematic sequences, the camera is removed from the player's control, and the apparatus controls the player. The result is a cyborg cycle in which the organic qualities and the cybernetic qualities are constantly exchanging information. This information exchange exists neither in the mind of the player nor in the memory of the computer. Instead it exists at the level of the interface where cybernetic and organic come together. (Hammond, 77-78)

The difference between the two perspectives on the cybernetic nature of games lies in *subject activity*. For interactive cinema, the 'cyborg cycle' is characterised by control being taken from the player, whereas for the amniotic sac the cybernetic element is found the mechanical constitution of the subject. This mechanical constitution is something which the human player actively participates in, as he or she engages in ludic labour, the time and effort required to form a relationship with the code. Ultimately, the agreement on both conceptualisations being cybernetic processes underlines the differences between Hammond's interactive cinema and the amniotic sac: the human subject of the amniotic sac is more actively involved in and more changed by the exchange, whereas the human subject of interactive cinema is held aloof from the exchange and thus presumed to retain an unaltered subjectivity.

I argue the amniotic sac is a more successful conceptualisation for dealing with games than the interactive cinema approach favoured by Hammond. The amniotic sac includes critical issues which interactive cinema finds problematic or does not account for, such as the issues of agency, intersubjectivity, vicarious embodiment and how the physical nature of interacting with the technological substrate can shape the resulting exchange.

CHAPTER 3:
THE STORIES CYBORGS TELL.

The amniotic sac is the hybrid triumvirate formed between the human player, the code through which the game exists, and the hardware bridging the gap between the human and the code, which allows the code to become active. Ludic labour is the time and effort required to form a relationship with the code. *Planescape: Torment* (Black Isle Studios, 1999) has been selected as a case-study because the unique affect which sets the game apart is caused by an unusually detailed investment in ludic labour. *Torment*'s emphasis is not on representational techniques. Instead, all of the stunning richness found in the game is based in the time and effort required to form a personal relationship with the code.

BECOMING ENCODED.

Forming a personal relationship with the code answers the question of how there can be agency or interactivity in scenarios when you can only perform such actions as have been allowed for by the programmers. The instant the player interacts with the technological substrate, he or she becomes a *hybrid* entity during the exchange. The hybrid entity is not limited by the fact its code is predetermined by programmers, because the predetermination is part of the hybrid, becoming part of the intersubjective nature of the exchange. An enframed exchange is certainly limiting from a subjective perspective, but when considering network theory and the ideas put forward by Latour, this limitation is not a restriction imposed from outside so much as it is a redefinition of agency. The humancar discussed in Chapter 1 is prevented from taking some actions which would be possible as a human, yet this is part of the process where any negotiation redefines the agency of both parties. *Planescape: Torment* is a text where such redefinitions of agency occur on several levels simultaneously to shape the resulting hybrid entity. On one level, there is the hybrid of the amniotic sac comprising human player, code and hardware. Beneath that, there is a continual redefinition of agency as the human player negotiates with the code, and

it is this negotiation and fluid agency which is used to create the richness found in *Torment.*

There are two different forms of negotiating with the code in games. There is the *explicit*, where it is obvious that the underlying numbers which provide statistics for the hybrid are being altered, and the *implicit*, where negotiating with the code is concealed as part of the overall negotiations within the hybrid triumvirate. Implicit negotiations with the code are more likely not to be noticed when the hybrid is intra-diegetically immersed and embodied within the digital space of the game. It is harder to ignore explicit negotiations with the code as they specifically denote the game as an artificial construct. *Torment* opens with an example of explicit code negotiation. The player[2] distributes points between six different values, sliding numbers until the desired traits are achieved for the hybrid. 'Strength,' 'dexterity' and 'constitution' reflect how the hybrid will fare in physical conflict, whereas 'intelligence,' 'wisdom' and 'charisma' will influence how the resulting hybrid interacts with other characters in the game, among other things. This negotiation is explicit because it is impossible to conceal that the player is effectively tinkering with the numbers which are the 'guts' of the hybrid they will occupy and embody in the hybrid-space of the game. Once past the explicit negotiation with code, the game opens as a spatial environment. *Torment* is presented from a third-person perspective, so visually the hybrid is represented and explicitly embodied within the digital space of the game. This removes one of the tools available within the amniotic sac to cause vicarious kinaesthesia, shared visual viewpoint.[3] However, *Torment* focuses on creating the perception of *conceptual* or *intellectual* embodiment rather than direct physical presence.

Conceptual embodiment motivates the deeper complexity of ludic labour which underlies *Planescape: Torment.* The first possibility of interaction within the space of the game comes in the form of a conversation, and in *Torment* all conversations are implicitly part of building a relationship with the code. The representation of the hybrid (referred to in the game as 'The Nameless One') has woken up inside a mortuary and has no memory. *Torment* is a text which requires a

[2] I argue that at this point we are discussing a player rather than the hybrid. The game is not yet represented as a spatial environment, there is no space to become embodied *in* and no reason for muscle-memory to become relevant. If anything, the interface is a modified spreadsheet where the player shifts numbers between columns.
[3] See Chapter 4 and *System Shock 2*.

distinction between the *hybrid-character*, the entity which is negotiating the space of the game, and the *coded-character*, the details and information the game possesses which the hybrid-character does not. The distinction is required because the term *code* at once describes the entirety of *Torment* as a database construct, and more specifically the intersubjective elements of the Nameless One which the hybrid must negotiate. For example, in the initial conversation, a non-player character (NPC) reveals a tattoo on the hybrid's back which claims the hybrid is actually immortal, and that each time 'you' have died in the past 'you' lose the memories of that identity and begin again. This immediately establishes that the coded-character has a verifiable history and presence in the game-world completely unconnected to the hybrid-character. Also, the coded-character possesses information which neither the player as an entity distinct from the game, or the hybrid as part of the game possesses. Progress through *Torment* can arguably be measured in reducing the amount of information possessed by the coded-character which is not also shared by the hybrid-character. Such a process establishes the second level of negotiation within *Torment*. Agency is continually redefined *within the hybrid occupying the spatial environment of the game* even as there is an overall meta-negotiation within the hybrid triumvirate comprising the player, the code and the hardware.

The intellectual embodiment favoured by *Torment* is established by the internal negotiation within the conceptual representation of the hybrid. I say conceptual representation because the hybrid exists on two levels. The graphical representation of the hybrid within the spatial environment of the game, and the conceptual representation, which can be defined as *who the hybrid believes him or herself to be* within the social, interactive environment of the game. The hybrid defines *who* he or she is through establishing relationships with other characters. In *Torment*, these relationships exist and change through conversations which are implicit negotiations with the code. Conversations are set up as a list of potential responses below a block of textual description and commentary from whatever NPC you are interacting with. For the moment, we can disregard the content of each response and view them as an array of doors. Each 'door' selected leads to a new array of doors and the process branches rapidly; it is entirely possible to spend an hour of time outside the game navigating through *one conversation*. The branching indicates how these conversations are implicit and deep negotiations with the code,

each choice navigating the database underlying the game and constructing a unique individualised text from all of the segments 'activated' through this process.

The individualised text created by this process is relevant in two ways. Firstly, the hybrid uses the choices he or she is presented with to define *who* he or she believes themselves to be. For example, when the hybrid is provided with a choice between two factions to support, the choice is made within a moral grey area. There is no right or wrong, merely opinions formed from the information at hand, and so the hybrid decides which option is more appropriate for them. This choice helps to define his or her own mental image of his or her own intersubjective identity. The second point of relevance belongs to the code. The game also has access to the unique individualised text being generated by the database navigation of the hybrid. The game uses the individualised text to change the selection of options provided to the hybrid at the next conversational choice. A simple example can be found when the hybrid upsets a particular NPC. The NPC is going to be unwilling to assist the hybrid in achieving its goals, and this unwillingness will remain in interchanges later in the game, unless the hybrid undertakes something to make the NPC react more favourably.

Intellectual/conceptual embodiment flows from these two levels of negotiation with the code. Simultaneously and continually, the hybrid constructs his or her perception of who they are within the social, interactive environment of the game, while at the same time defining and refining the position and opinions of the hybrid, to the code. For example, it is entirely possible to decide to influence the coded-character which the game provides for the player during the initial explicit code negotiation by creating a physically imposing, mentally slow hybrid. In this scenario, the number of hypothetical 'doors' provided during conversations will be more limited and functionally different than for a more intelligent hybrid. Yet this 'limitation' will be contextually appropriate for the hybrid's view of his or her identity, and so the limitation actually reinforces the process of mental association. The hybrid thinks of him or herself as strong but mentally slow, and the social environment of the game also reacts to the hybrid as if he or she is strong but mentally slow. This process holds true for many different iterations of the same explicit negotiation, where it is equally possible to create a super-genius with extremely poor judgement, a canny but dim adventurer, a charismatic cretin and anything in between. A form of vicarious kinaesthesia is achieved as the two different understandings of

who the hybrid is, between the hybrid's perceptions of its identity and the contextual placement held by the code, converge over sequential choices made in the space of the game. Instead of personal association through a perception of physical embodiment, the perception is of mental presence. This is because each completed conversational exchange suggests the hybrid is a legitimate entity within the social, interactive environment of the game.

All of the options being presented to the hybrid are *legitimate* choices. Each conversational choice is made, arguably, so as to be the most appropriate option for the hybrid in that circumstance from the list available. It is, however, not a creative process in that the hybrid is only selecting from a list of options. Poole concludes from his observations:

> The process of conversation in computer games will never feel like a conversation to a player as long as he is constricted by having to choose from a selection of predetermined speechlets. (Poole, 105)

I contest this point because of the amount of impact negotiating with the code has on future conversational options. If sequential choices, each with fifteen or more options, are plotted out in a branching chart for the hour it takes to navigate one conversation, the significance of hybrid choice in reaching different results can be imagined. The above quote from Poole is not *wrong*, in that these conversations do not necessarily feel like a *real* unmediated conversations, but to dismiss the 'selection of predetermined speechlets' as without impact or relevance is a mistake. Each choice has been made to be the most appropriate for the hybrid. Each choice is a definition of identity which will be carried over to the next option, drastically cutting the *irrelevant* options out of the process. The choices are all still made from predetermined speechlets, but with the options preferentially selected in such a way as to ensure most of the possibilities are applicable to the hybrid. The effect is to present the hybrid with choices that are all *relevant*. Difficult decisions can then be presented to the hybrid which *will* have bearing on how the hybrid is viewed in his or her own eyes, and in how the hybrid is contextually positioned by the code, in terms of moral position, opinion and outlook. Additionally, reducing the irrelevant options from conversational selection encourages intra-diegetic immersion: contextually inappropriate conversational options emphasise the mediated nature of the exchange and contribute to Poole's perception that such conversations are not naturalistic.

Torment favours creating intra-diegetic immersion through mental presence within the game world rather than the perception of physical embodiment. The effect is to suggest the mind of the hybrid is directly engaged within a social, intellectual framework with few barriers between the mind and the game world. The process functions similarly to encouraging physical association and perceptions of embodiment. The difference lies in that instead of suggesting the hybrid is directly engaged with the physical representations within the spatial environment of the game, the hybrid is constructed as an entity within a web of social interactions. An entity who holds opinions and who is defined by the choices made in reaction to events and the people with whom the hybrid associates. Thus the conceptual distance between the hybrid and the coded-character is reduced, allowing the hybrid vicarious kinaesthesia *through* being mentally represented by his or her decisions and opinions in the game-world. These processes are ludic labour, the time and effort involved in forming a relationship with the code, and the relationship formed with the code is literally the point of fluidly evolving definition for the hybrid as it progresses through the game.

The way the relationship develops is fundamentally intersubjective. The hybrid-character conceptually embodying the entity negotiating the space of the game is forced to interface with the coded-character, the details and information the game possesses that the hybrid-character does not. Such a relationship means *Torment* depends less on muscle-memory than on the flexibility of the internal negotiations within the hybrid-character, thus allowing *who* the hybrid is to change and grow over time. This takes advantage of the perpetual *now* of game spaces, since *Torment* is framed as sequential choices all made in what is perceived to be the present. The temporal chronology of these activated segments within the coded database allows the hybrid to view his or her past in retrospect, making any changes in perspective and outlook over the course of the game visible. The capacity for the hybrid to grow and change in his or her own understanding and self-awareness helps to suggest the hybrid is a legitimate entity of the social and spatial world of the game.

CONSEQUENCES AND AFFECT.

Consequence underlies how the sequential choices made in forming a relationship with the code constructs the self-awareness of the hybrid and the creation

of presence within the game world. Poole forms the opposite opinion and argues the attraction held by games is an escape from consequence: "A sophisticated illusion that gives us pleasure without responsibility" (Poole, 111). A perception of consequence is vital to *Torment*. If the hybrid had no verifiable impact in the game world, it would become irrelevant and shatter the perception of mental presence and embodiment. In fact, responsibility and consequence are the major tools being used to establish a fundamental feedback loop of immersion. Every choice which the hybrid makes has its own impact upon its position within the world, either by helping to further define the traits and mindset of the hybrid, or by less subtly causing reactions to the choice. To use a particularly blunt example, it is possible to anger someone in a conversation so they refuse to assist the hybrid, or may become violently hostile. The consequence is that the hybrid may be unable to complete the particular quest, but it is a consequence which can be avoided by loading the game and trying again. Poole refers to such blunt consequences, a success or failure paradigm of game interactions. It is only possible to decide to avoid *specific* directions of development. The more subtle impacts are unavoidable; there is no way to avoid the hybrid being shaped by negotiating implicitly with the code through the succession of choices made through conversations, for example.

Late in the progression of the game, the Nameless One and his group of (perhaps unwilling) allies are in an area of Hell. An entity called the Pillar of Skulls holds information which must be gained in order to proceed. Every piece of information the Pillar agrees to provide has a price, and this is *unavoidable.* The most which can be done is to load the game and select a *different* consequence the hybrid will be responsible for. Importantly, all of the possible prices are gauged to be important to *this specific hybrid* based on how the hybrid has defined itself through implicit negotiations with the code. There is no easy way out. One of the possibilities is to sacrifice a member of the hybrid's party, an entity who the hybrid has invested time and effort to form a relationship with, who once escaped from the Pillar of Skulls. Sacrificing the NPC dooms him to a hellish eternity trapped within the Pillar, and the hybrid will be responsible for making the choice. The process where prices are based in how the hybrid has accorded value is part of the relevance found in forming a relationship with the code. The code has access to the individualised text formed from the segments activated as the hybrid navigates the database. The code thus has information indicating what the hybrid has particularly invested time and

effort in achieving or in forming a relationship with, and these 'valued' commodities are the options the hybrid must choose between. If the hybrid has consistently sought power, power in various ways is what the Pillar of Skulls will demand. If the hybrid possesses hard-won items, each individually representing significant investment and time to have gained, the Pillar will demand one for each boon.

The chain of consequence and responsibility *justifies* the hybrid, situating it within a continuum of realistic cause and effect, and is thus deeply important to immersion and conceptual presence. One of the most profound examples of chains of consequence and responsibility comes from *Fallout* (Black Isle Studios, 1997). At the end of the game, there is a sequence where the narrator describes how the hybrid has influenced every town visited throughout the game, detailing which have prospered or failed and the fates of the individual people the hybrid interacted with. The purpose of this is to provide evidence that the choices made as the hybrid extend past the end of the game's narrative. The simplest summary is that the choices made by the hybrid *are not treated as if this were just a game.* Malcolm Le Grice emphasises the importance of consequence when he says:

> If we return to my attempted definition of the real as the area of irreversible consequence, one overwhelming feature is that we become implicated in the consequence by our actions and choices. Our identities in this way become the trace of our imprint in the world as it moves from potentiality through the uncertainty of the present into history. Our history of choices in their turn determines our new location in the present…. Interactivity…. seems to model the relationship between choice and action and its effect on the development of a facsimile representation. (Le Grice, 234-235)

The hybrid's choices within the game-world have impact because of 'irreversible consequence' and thus become *real.* They are *tangible* in a way that is more fundamentally important than a success/failure dichotomy, because it is possible to chart the sequential consequences of your actions across the game. *What those choices may be*, for good or ill is irrelevant, the fact they exist and are consistently reacted to by the denizens of the world is enough. The process is a feedback loop of immersion. The hybrid makes a choice, pays the relevant price and witnesses the consequence. This ongoing negotiation with the code reinforces the perception of the hybrid as a legitimate entity in its own chain of causal events. With this perception reinforced, the hybrid moves on to make the *next* choice and will approach the

decision seriously due to the inferred knowledge that it too will have consequences. The cycle perpetuates itself.

Experiential storytelling is my term for when ludic labour, the ongoing investment in forming a relationship with the code, is more important to the hybrid than *reaching the outcome of the game*. Experiential storytelling is how the unique affect found within *Planescape: Torment* manifests itself. In *Torment*, the hybrid has direct control over the hybrid-character visually represented and embodied within the digital space of the game. The hybrid has direct control over the sequential choices made during conversations; forming a relationship with the code through these sequential choices is used to present that the hybrid has a mental presence within the world of the game. The hybrid *also* has control over the allies the Nameless One may find, possessing direct control over their movements within the spatial environment of the game. However, the hybrid does *not* possess any control over their conversation, and such conversation between the hybrid and his or her allies unfolds in the same way as the other conversations throughout the game. As the game progresses, the hybrid learns that his or her immediately previous incarnation was a ruthlessly Machiavellian individual. Through interaction, the hybrid learns the NPCs who have joined him or her were all enslaved one way or another to the hybrid's previous incarnation. What is the hybrid to do with this information?

The relationship formed with the code, where the game selects the most applicable potential responses for the hybrid to choose from, reduces the conceptual space between the hybrid and the coded-character. This means that when confronted with such information, the affect on the hybrid is profound. Through lengthy conversational sequences, the hybrid has become invested in finding allies within the social and spatial environment of the game world. Internal conversations between the hybrid and his or her allied NPCs allow the hybrid to take time and effort to form a relationship with them in the code. Such relationships also increase the amount of information the hybrid has about how these NPCs see the world, and *who* they are as characters. They are constructed as characters in their own right, who hold strong opinions and who are able to argue with one another.

The investment represented by the time and effort taken to form a relationship with these characters in the code means the hybrid is likely to feel responsible for and associated with these characters. Learning that what had been perceived by the hybrid as friendship actually qualifies as a continuation of bondage is going to have definite

affect. Depending on who the hybrid has constructed/defined itself to be during coded negotiations, the result may be shock and outrage, perhaps guilt. Perhaps this slavery is perfectly acceptable to a more ruthless hybrid, but the revelation is still going to achieve an affect. The legitimacy of the hybrid is reinforced by the revelation, situating it within a continuum of realistic cause and effect, and there is a convergence between the hybrid-character and the coded-character because more information is shared between the two. Arguably, at a fundamental level this revelation is an undifferentiated part of forming a personal relationship with the code of the game. However, part of the textual richness afforded by *Torment* as a game is the capacity for the code to allow the formation of one form of relationship between the hybrid and the coded characters he or she interacts with, and to then alter the relationship.

This ongoing, fluid relationship formed between the hybrid and the code is part of why the affect on the hybrid is notably different than is possible in other media. The time taken to form a relationship with the code reinforces the legitimacy of the ludic activity within the amniotic sac, making the events and interactions within the spatial/social environment of the game-world more *personal*. The perception of mental presence within the game-world means a less apparently mediated relationship between the hybrid and the coded NPCs. The unequal sharing of information between the hybrid-character and the coded-character means, arguably, progress through the game is a process of reducing the amount of information the hybrid-character has which the coded-character does not, until there are no more secrets. The overall arc of *Torment* does involve a process whereby this hidden information is revealed over time. However, this is complicated by the process of developing the relationship between hybrid and code through sequential choices. It is up to the hybrid to decide which *specific* aspects of his or her unknown or disturbing past to investigate, or attempt to correct. These choices and prioritisation define who the hybrid *is* to him or herself and to the code, as much as the investigation reveals who the hybrid *has been in the past.*

Many of these investigative conversations, some of the longest in the game, *have nothing to do with directly advancing the plot.* They are distinctly experiential in nature, being optional and focused entirely on reducing the amount of secret information held by the coded-character, thus defining who the hybrid is to both code and user. For example, one NPC in particular had his faith destroyed by the hybrid's

previous incarnation, and this is how the NPC was enslaved. It is possible to talk the character through his crisis of faith, but the investment of time is significant. The specific process involves a lengthy sequence of philosophical discussions and logic puzzles which are only made available to a hybrid with sufficiently high charisma, intelligence and wisdom. As an example of the level of complexity which is involved, the hybrid can be offered two identical conversational options where one choice represents the hybrid *lying* and the other is the same statement truly meant. The two options are both the same in terms of the results of the conversation, but how the hybrid is shaped by this kind of choice is profound because of the individualised text formed through navigating the code. The results of this investigation are to further the relationship formed between the hybrid and the code, to define the hybrid in his or her own eyes, and there are visible positive results in terms of dramatically improving the skills of the NPC once the crisis of faith is revolved. The particular conversation, as an example, also teaches the hybrid a great deal about the character of the NPC, in turn increasing the perception of responsibility and association between the hybrid and its coded allies. However, the interchange exists mainly as experiential storytelling, ludic labour forming and developing a relationship between hybrid and code as an end in itself.

A good example of how experiential storytelling and the relationships formed between hybrid and code have a unique affect is taken from late within *Planescape: Torment.* The final part of the journey in the game is taken by stepping through a portal into another realm. Crossing the threshold triggers a scripted sequence based on the individualised text created as the hybrid navigates the code of the game. On the occasion under discussion, the relationship formed between hybrid and code meant the Nameless One asked the NPC allies if they wanted to come on this leg of the journey, giving them the choice of whether or not they wanted to stay behind. The same process behind the code using the text formed by navigating the database over time to decide what options to provide during conversations informs the scripted sequence. The hybrid has no direct control or prior awareness of the scripted sequence, but still informs the events which unfold through the relationship established between hybrid and code in the 'past.' In the scripted sequence under discussion, the NPCs each individually explained why they chose to continue despite the risks. If this sequence were in a novel, it would be a dramatic highpoint before the climax of the narrative conflict, representing an end to the bondage and manipulation

of these NPC characters. This scripted sequence is another example of consequence and responsibility being used as a feedback loop for immersion, and as a method of achieving a startlingly deep form of affect through forming a relationship with the code.

The fact the game, from a certain point of view, decided the NPCs would risk themselves of their own free will for the hybrid because of the relationships established between them is deeply moving. It is also unexpected for a game to have the capacity to use the individualised text made up of sequential choices over time in such a deep manner. For a different hybrid which has been defined differently during coded negotiations, the scripted sequence is likely to unfold differently. To continue the above example, when the hybrid arrives in the next realm and the antagonist's fortress, all of the hybrid's coded allies are separated from the hybrid and from each other. As the hybrid performs actions necessary to reach the antagonist, there is a sequence of scripted sequences, one for each task completed. These are again based on who the hybrid has defined itself to be through the relationship established with the code. The antagonist gives your allies, as they are encountered, the choice to leave. Your allies in this example, one by one, choose to support the hybrid and the antagonist kills them out of hand. There is *no way to avoid this.* Most games typically define the climactic sequence of the conflict through greater numbers of more dangerous enemies. In *Torment,* the climax is grounded in emotional investment in the relationships formed with the code and coded NPCs, achieving a fundamentally different affect.

The games which are designed to include experiential storytelling are distinct enough that they should be specifically classified as something new. Consider Poole's comment that an interactive story of nine short chapters leads to a requirement for 16,777,216 chapters if each is independent of the others, and his conclusion that no writer would ever work that hard (Poole, 97). I argue *Planescape: Torment* achieves an interactive narrative by the definition that the *experience gained* from independent sessions of playing the game, from beginning to end, is fundamentally different. This is not just due to different interpretations of the same underlying narrative, but due to different *content* through participating in a different hybrid. For the sake of argument I have attempted to play through the game in *exactly* the same fashion as in a previous attempt, so as to create the same hybrid. I achieved *close* but still notably different results because the code is complex enough

that it is hard to establish the same relationship over so many sequential choices. Experiential storytelling is then is arguably unique, because it is based in the mechanical constitution of the subject, through forming a relationship with the code of the game.

So how would one construct a narrative structure designed to facilitate this form of storytelling? Poole's quote about the difficulty of such an endeavour is correct, insofar as it would not be a simple procedure. The tactic used by *Torment* and games like it is to provide an overarching story to which there can be a beginning, a middle and an end. The process of allowing the hybrid to define itself through forming a relationship with the code as the experience is explored then means that the ludic labour is of more importance than reaching the outcome. *Torment* is by far the most extreme example from the games explored for this thesis, notable for the depth and consideration which has gone into creating an experiential narrative which can be explored in so many ways. *Torment* has a beginning, middle and an end which are shared no matter how the hybrid has been defined by its choices. The hybrid begins in the Mortuary with no memory, and is left on its own recognisance for a time. Eventually exploring the spatial and social environment of the game space leads to a mid-point: the hybrid learns that an ancient witch is likely to be the one who stole its mortality and goes to confront her. After this point, the threads of possible paths expand again, eventually narrowing down to a sequence of events which every hybrid will reach as they progress through the game.

It is not true, however, to say that there is a *single* end point. All hybrids will have to deal with the antagonist, but there are at least ten different methods of doing so which in turn lead to at least five variant endings of various tones. From this description, if the 'threads' of the narrative were laid out flat, the potential paths of the narrative would resemble a figure-eight on its side. The fact that the threads gather together at the middle is useful, because it limits the amount of narrative 'space' the designers had to account for in order to allow the possible hybrids conceptual room to roam and define themselves by their choices. As another example, *Deus Ex* (Ion Storm, 2000) is a first-person action game which has an experiential narrative. There remains an overarching narrative being negotiated as the spatial environment of the game is explored. Individual choice manifests through episodes where the hybrid is provided the option of several different possibilities to commit to, and so define him or herself, based on conflicting information. This again

limits the amount of work covered in order to provide narrative space to negotiate, while still allowing its experiential nature. As Poole says, it *is* a vast amount of work to create an interactive narrative structure, but it can and has been done. The techniques used in *Torment*, *Deus Ex* and in other experiential narratives provide tools for future authors to follow.

CHAPTER 4:
WHAT HORROR CAN TEACH.

Planescape: Torment provides an emphasis on achieving immersion through ludic labour and forming a detailed ongoing relationship with the code. In comparison, *System Shock 2* (Looking Glass Studios, 1999) emphasises immersion through spatial exploration, vicarious kinaesthesia and muscle-memory. Affect lies behind the relevance of selecting a horror-themed game as a case-study for the thesis. The relationship formed with the code creates the perception of embodiment within the space of the game, and this embodiment is used to vicariously threaten the hybrid.

The game exists as a hybrid space. The mechanical constitution of the subject forms a spatial environment dedicated to achieving a horror atmosphere and affect, through forming a relationship between the player, the code and the hardware. Implicit negotiation of the code constructs the space as an individualised text when the hybrid navigates the database, allowing the affect to mirror the behaviour of the hybrid. This creates a different form of horror through intersubjectivity and the flexibility represented by the recombinant logic of databases, arguably unique to the amniotic sac.

CONSTRUCTING A HYBRID.

One of the primary methods of constructing association with the hybrid in *System Shock 2* is visual association. In comparison to *Planescape: Torment* where the hybrid possesses a third-person view of its visual representation within the spatial world of the game, the first-person visual perspective provided by *System Shock 2* stands for the 'eyes' of the hybrid. While not a new innovation in itself, it presents the least conceptual distance between the hybrid and the visual representation of the game's spatial environment. Reducing the conceptual distance between the hybrid and the world encourages vicarious kinaesthesia, which also serves to construct intra-diegetic immersion. If the hybrid feels embodied at a distance then there has to be a space for the hybrid to be embodied *in.* Both processes reinforce each other, perhaps to a point where critically they are parts of the same process. On one side there is the

perception of embodiment at a distance, while on the other there is the focus on that embodiment and its apparent agency, in order to become active *within* the spatial world of *System Shock 2*.

The interface through which the hybrid controls its movement and exploration of the spatial environment of the game reinforces the process of visual association. Aside from movement and jumping, other options have been added: it is possible to lean around corners or over the edge of a railing to the floor below. The visual options which would be hypothetically available to the *player* in the same situation outside the game have been considered, and attempts have been made to introduce them into the game. This further reduces the conceptual gap between the hybrid and the spatial environment, by limiting visual inconsistencies which would emphasise the mediated nature of the exchange. The hybrid possesses a capacity to crawl in order to reduce noise, can peer around a corner to gain information while hiding and can duck behind objects to avoid being seen. The efforts to link the viewpoint of the hybrid with the spatial environment extend into negative consequences: when the hybrid is attacked by a creature with a pipe, the first-person viewpoint will be knocked sideways to reflect being hit in the head with a blunt object. The affect of this is to be disorienting to the hybrid during the melee, which will also serve to heighten tension.

The adaptation of the interface encourages muscle-memory. The controls which bridge the gap between the human and the code are as intuitive as possible, and adaptable to suit individual needs. The mouse controls the subjective viewpoint, while keys chosen from the left-hand side of the keyboard control movement and the capacity to lean around corners, jump or duck. This encourages muscle-memory by keeping the controls simple and consistent. The interface is an important part of the visual association with the spatial environment. It is one thing for the hybrid to be capable of leaning around a corner, but if doing so requires conscious awareness of the interface then the exchange will still be emphasised as mediated. A necessity for conscious awareness of the interface would remove intra-diegetic immersion as the hybrid ceases to act *within* the space of the game. The hybrid's 'hands' and weapons are displayed on screen. When combined with the first-person viewpoint, this suggests the hybrid acts directly on items in the spatial environment of the game-world.

In combination, the visual association and fluid interface means, with practice and familiarity, the hybrid can react *without thinking* when threatened and respond

accordingly. Successful completion of this action/reaction sequence has the hybrid reacting as if embodied within the space of the game. Muscle-memory interacts with the perceptions of agency, reinforcing the sensation of vicarious kinaesthesia produced by the hybrid. Muscle-memory is outside the subjective, conscious control of the hybrid, creating the perception that the hybrid embodied within the game-space *acts without direct agency*. The sensation of embodiment at a distance is coupled with an agency not requiring conscious decision-making, which reinforces vicarious kinaesthesia. The hybrid is thus perceived to be more of a legitimately distinct entity, in turn reinforcing intra-diegetic immersion. The same process reduces awareness of subjectivity in favour of intersubjectivity by emphasising the embodiment of the hybrid-space. The use of personal address in *System Shock 2* reinforces the process of visual association indirectly. Entities within the game world react to the presence of the hybrid and provide modes of address using the second-person. This system means the hybrid is being directly addressed, suggesting the hybrid occupies the same space as the creatures addressing him or her.

In *Planescape: Torment* the coded-character is invested with significant depth and has a large quantity of information which the hybrid does not have access to. In *System Shock 2*, however, the game is structured around having as little to distinguish the coded-character as possible. In *Torment*, there is a visual representation of the hybrid on screen due to the third-person perspective provided by the game. This explicitly embodies the hybrid within the digital space of the game. In comparison, *System Shock 2* has nothing to explicitly embody the hybrid in the game world. The perception the hybrid is embodied within the game world comes from inference and visual association, and thus the textual negotiation between the hybrid and the code of the game occurs differently than in *Torment*. The coded-character has no information which the hybrid does not have, and in fact the hybrid possesses information which the coded-character arguably does not. The hybrid is first introduced when the only information about their identity is gleaned from inference: the hybrid created when the game loads its first image possesses the viewpoint of someone exiting a subway-station in front of a military recruitment centre. Beyond this point, everything which would otherwise be used to identify and define identity is positioned as a choice made *as the hybrid.*

Direct comparison with *Planescape: Torment* allows an explanation of this distinction. In *Torment*, the player alters an undifferentiated coded-character provided

by the game through the distribution of a set number of 'points' between different abilities, such as strength or intelligence. The interface for this procedure explicitly negotiates the code, in that the player shuffles numbers until satisfied with the results; it is not a hybrid activity. In *System Shock 2*, the coded-character is initially undifferentiated, meaning the hybrid begins with an interface instead of a personality. The coded-character has a first-person perspective of the world and is *capable of* moving, jumping, crouching or leaning, and these are the only skills available. Of course, the instant the player interacts with the undifferentiated coded-character and the technological substrate, a hybrid is created. The process of differentiating the initial blank canvas *is* a hybrid process in *System Shock 2*, manifesting when the hybrid is presented with sequential choices for annual military postings. Each of these postings affects the strengths and weaknesses of the resulting hybrid in the same way as the selection of numbers at the beginning of *Torment*, but in this case the process of selection is made as the hybrid. While these choices remain explicit negotiations with the code, since the change in underlying numbers is visible, the process of selection defines the hybrid through choices *made as the hybrid*. After each of these military postings, the hybrid is provided with a brief synopsis of his or her activities during the year to explain their increased skills.

In *System Shock 2,* the coded-character exists as a foil for the hybrid, providing a brief context for the position of the hybrid as a soldier and thus for the skills the hybrid possesses. There is no prior information needing to be understood which could get in the way of identifying with the hybrid as part of the spatial environment of the game. Another direct comparison with *Planescape: Torment* underlies the distinction between the two. In *Torment*, the first goal set by the game comes in the form of a tattoo on the back of the hybrid, addressed to 'himself.' It hints at information which the hybrid does not have and cannot act on, and so from the outset the coded-character is a distinct entity from the hybrid. *Torment* emphasises that the character has had an independent existence from the hybrid before the game officially began and allowed for the creation of the hybrid. In *System Shock 2*, the character has no identity except that provided by choices made as the hybrid.

APPLICATIONS OF HYBRIDITY TO MANIPULATE AFFECT.

Many aspects of how the hybrid is constructed are also used to manipulate the affect of the game, creating a feedback loop of immersion. Personal address, for example, reinforces the construction of the hybrid and the emotive language used in the direct address manipulates affect. When monsters in the game gurgle "We see you!" in the cadence and verbal format of a child's game, this unsettles the hybrid. At the same time, the use of second-person singular emphasises isolation and singularity. "You," is emotive language emphasising a single selfhood. The other forms of reference the game uses to address the hybrid have different connotations. At points in the game, the hybrid is referred to as 'Soldier,' 'Intruder,' or 'Insect,' among others, although these are the main distinctions. 'Soldier' has connotations of being professional, needing to be ready to react at any time, a protector and, in this case, a singular entity. This all implies the hybrid is personally responsible for reacting to the current situation and seeking its resolution. 'Intruder' is impersonal and hostile, emphasising a single entity and someone who does not belong. 'Insect' is stronger in emphasis and more personal, denoting irrelevance and being beneath the speaker's notice. A different form of direct address used in the game is the personal imperative. Certain creatures will yell "I'm sorry!" "Duck!" or "Run!" as they attack. This serves to again place the hybrid within the same spatial environment as the entities making the verbal address, and the affect of this is to jar and unsettle the hybrid. It is incongruous that an entity trying to kill the hybrid is going to try to help at the same time, and the reasons for the incongruity are gauged to disturb the hybrid. All of these modes of direct address share two traits. Firstly, they are all singular, serving to emphasise the isolation of the hybrid. Secondly, the personal address will influence the affect of the hybrid's experience through using emotive language and connotations.

The construction of the spatial environment of the game world through its mise en scene to manipulate affect becomes important, since the game is entirely viewed through the first-person perspective. The different levels of the ship are constructed as an architecturally cohesive whole, and it is possible to backtrack and explore the ship at will once some obstacles have been passed. Some games have a level-design where each map could effectively have no relationship to any other, and are strung arbitrarily together. The spatial environment which comprises *System*

Shock 2 has been constructed with few inconsistencies, in order to combat this tendency. Architectural features extend through all of the decks on the ship, providing the suggestion of three-dimensional cohesion. The affect of this is to lend legitimacy to the space being navigated by the hybrid. More importantly, each of the decks has been given a different architectural look and 'feel' based on their purpose. The Engineering level is drab, cramped and mazelike, full of machinery and very utilitarian. The Medical level is similarly utilitarian, but has been designed to favour soothing colours and with wide corridors to accommodate stretchers. The Recreation level has intercoms announcing how many days there are till Christmas, stores, restaurants and movie theatres. The fundamental key to how this is used to manipulate the affect of the hybrid lies in what I call the 'defiling of the banal.' The navigable space of the ship has been given careful thought, presenting legitimate spaces for people to work and live in. They are not fantastical or out of place. Along with the apparent normality of purpose, they are all spaces that have been corrupted and made threatening *because* of their otherwise banal nature. The mise en scene is such that the hybrid is aware of navigating what should be a soothing hospital area, yet there is blood on the floor, gunshot marks on the walls and someone has hanged themselves from the ceiling using ductwork and a sheet. The affect of these details is to suggest that nowhere is safe, that these are all areas that have already been overrun with violence. Navigating through the spatial environment of the game thus serves to reinforce the perception of isolation and vulnerability held by hybrid.

The perception of isolation is used with the hybrid's position of responsibility to achieve a similar form of affect to that found in *ALIEN* (1979). In both examples, characters find themselves trapped in a star-ship with alien creatures. The protagonists in both cases are responsible for dealing with the threat, as there can be no assistance from outside. Both ships are returning to Earth, so there are vast consequences associated with failure beyond the issue of individual survival. The affect of this in *ALIEN* is paranoia and a desperate, mounting tension. It is emphasised that the protagonists in *ALIEN* are normal people being expected to fight terrible odds on behalf of humanity. The affect in *System Shock 2* is similar; the distinction is that the 'normal person' expected to save humanity is the hybrid. The affects achieved in both cases are feelings of perpetual vulnerability, cornered desperation and an agoraphobic fear of exploring the unknown for fear of finding threats. These affects combine with the mise en scene to form what is arguably the

atmosphere of the game: the affect sought after by the game's designers which the hybrid need not be consciously aware of in order for it to function.

Since *System Shock 2* is heavily invested in its horror theme, increasing familiarity with the game's challenges is a problem:

> In videogames, regret is an easily vanquishable phantom. It operates merely as a fleeting wound that may be quickly salved. If I'd timed that jump correctly, Lara Croft wouldn't have been impaled on those spikes. So I'll do it again, properly this time. In 1983 in *Mind at Play* Geoffrey and Elizabeth Loftus wrote the following about classic arcade games: 'Computer games provide the ultimate chance to eliminate regret. All alternate worlds are available.' (Poole, 224)

Poole goes on to summarise the problem of familiarity as:

> If you know the consequences of your choice in advance, it is no longer a choice. A corner of the imaginary world has been cordoned off. (Poole, 98-99)

The specific example Poole refers to is dying in *Tomb Raider* and knowing to avoid turning a trapped corner. This issue of familiarity is important to *System Shock 2*, since the forewarning provided by prior attempts would strip the experience of threat and tension, dulling the impact for the hybrid. It is possible to save the game at any point, so there is no reason why any failed attempt made by the player should not be avoided by loading and trying again. The solution the designers of *System Shock 2* have chosen lies in using intra-diegetic immersion to make it more likely the hybrid will keep playing, than to jolt him or herself out of the experience. *System Shock 2* is a game heavily invested in being a horror experience, and yet it is *relatively difficult to actually die.* There are machines in the spatial environment of the game-world which will resurrect the hybrid if it is killed and others which will return the hybrid to full health. Both of these must be activated first, creating another motive for exploration and returning to old areas of the ship. Both require resources from the hybrid each time they are used. If the hybrid attempts something risky and dies, the game will not suddenly go to a menu screen. It will return the hybrid to life at a key location on each level on the ship, with a note stating a certain number of key resources have been lost. Presenting the hybrid with a non-spatial interface collapses the construction of the digital world of the game as a spatial environment, and emphasises the mediated nature of the exchange. Reviving the hybrid elsewhere

within the spatial environment of the game turns death into an event which still contributes to ludic labour. Death thus remains cohesive as far as immersion is concerned, one more form of implicit negotiation as the hybrid invests time and effort in forming a relationship with the code.

The position of responsibility held by the hybrid cannot be maintained without an awareness of consequences. *System Shock 2* is one of the games which first applied the positional-audio techniques outlined in Chapter 2. The hybrid will typically hear the denizens of the world before seeing them, allowing time to build up fear of the encounter, particularly when you hear something unfamiliar. In a more complicated use of the technique, the game also establishes that the creatures in the world can *hear the hybrid in the same way.* The consistency of this use of sound emphasises personal consequence. For example, it is possible to knock a plant off a desk while exploring, and hear a door open several rooms away as something unknown comes to investigate. The affect of this is to build tension as the hybrid is aware that an unknown creature is approaching their position. Such demonstrations of cohesive cause/effect chains of consequences also serve to place the hybrid as a legitimate entity within the space of the game, occupying a position within a 'realistic' interchange of events. Some of these consequences may lead to very different experiences of game play, depending on how the hybrid chooses to react. Running through the game firing a weapon will attract enemies from across the level to the hybrid's position, causing a game experience with heavy emphasis on constant threat. This will make the experience more difficult, since the hybrid will be using more ammunition than may be available. The alternative is to favour stealth. Stealth means listening for approaching enemies, crawling along corridors to reduce noise, (another demonstration of consequence) and eliminating enemies as quietly as possible. The affect and tension of either approach remains appropriate for the horror-themed game and yet are very different from one another. In the 'run-and-gun' option, the tension comes from constant conflict separated by short lulls and an awareness of depleting limited supplies. In the 'stealth' option, the affect is governed by attempts at avoidance which could fail at any moment if the hybrid should, for example, knock a plant off a desk.

The negotiation between the hybrid and the code is also used along these lines to provide different experiences of game play with different affects. The implicit negotiations with the code come in the form of defining and developing skills selected

by the hybrid, rather than through a branching environment of sequential choices. These skills are manifested through interactions with the game world. The weapons made available to the hybrid all degrade with use, eventually breaking unless they are maintained. A hybrid without the maintenance skill will have an experience with additional tension generated by the awareness that their weapon may jam during combat, and that they may not find a replacement in time. A hybrid with the maintenance skill will have an experience where the tension is based in the necessity of searching for the tools with which to maintain the weapons. This search will put the hybrid at increased threat due to increased requirements to explore. With the research skill it is possible to learn the weaknesses of opponents, and to gain damage bonuses at the same time as gaining unsettling information about what it is that created them. This requires a search through the ship to one of many hidden storerooms containing equipment needed in the research, and the affect is to again place the hybrid under additional threat. A further point is that the information learned is deliberately intended to unsettle and disturb the hybrid, adding a further point of differentiation to potential affect. It is also worth noting that due to the system of upgrades the game provides, the hybrid cannot be created as a master of all skills. Emphasising all options means the hybrid will be a master of none.

The interface provided for the skills when they are used in the game has also been gauged with an eye to affect. When fixing, maintaining or upgrading a weapon to make it more damaging, the interface is a randomly generated grid of lines connecting squares. The hybrid's skill in that area is compared to the difficulty of the task being attempted. This yields a percentage chance that any given square will fail. The percentage chance of success in these negotiations explicitly represents the negotiations between the hybrid and the underlying code of the game, detailing how the different skills defined and developed by the hybrid over time interrelate. These skills define and redefine the hybrid through altering its agency within the space of the game as new skills are learned. The goal is to link three or more squares together. If specific squares marked by a yellow border fail, the results are severe. A weapon being upgraded may break and require repair, for example, and a player without the repair skill would lose the weapon. The affect of this interface is caused by the fact that the *game does not stop* during the attempt. This yields the affect of paranoia as the hybrid attempts to complete a successful sequence while remaining aware that creatures are still hunting and may find them defenceless. These implicit negotiations

of the code underlying the game are a ludic labour as the hybrid invests time and effort in forming a relationship with the code. The affect of the game mirrors the altering agency of the hybrid, redefined fluidly as navigating the database constructs the code as a unique individualised text. The flexibility represented by the recombinant logic of databases creates a different form of horror through intersubjectivity, arguably unique to the amniotic sac.

Essentially, the hybrid nature of experiencing the game makes the affect much more *personal* for the hybrid, due to the lack of conceptual distance between the hybrid and the representational spatial environment. Stressful events in the game appear to happen to 'You' through the hybrid. This simultaneously assists continued investment with the hybrid-space at the same time as achieving an affect intended to further unsettle the hybrid.

EXPERIENTIAL STORYTELLING AND NEW HORROR.

Experiential storytelling is the best description for *System Shock 2* for different reasons than the phrase applies to *Planescape: Torment*. In *Torment* the term applies because it is based in sequential choices made as the hybrid, and the hybrid will be defined differently when beginning the game again, because the hybrid will form a different relationship with the code. The experience of existing as a particular hybrid over time drives forward movement through the game. For *System Shock 2*, since the coded character possesses no information the hybrid does not already have, all forward movement is by definition experiential, because the hybrid experiences all new information directly.

There are log entries scattered throughout the game containing information for the hybrid. Piecing together the information they contain means the hybrid can build a history of the downfall of the ship, and follow certain people from times before the disaster through to their death. Some logs contain information relevant to the hybrid by containing codes or clues required for puzzles, but mostly the affect of these logs is based in emphasising the lives and humanity of the ship's crew as they were overtaken by the disaster. They are also used to emphasise consequences. Late in the game the hybrid finds logs which explicitly discuss actions completed by the hybrid at earlier points in the game. This 'legitimises' the hybrid as an entity within a verifiable chain of cause and effect in the spatial environment of the game. There is a

second kind of information possessed by the hybrid in the form of intertextual awareness, which is irrelevant to the code. There is information scattered throughout the game for the hybrid's benefit directly referencing events in *System Shock 1*. The goal here is to influence affect by reminding the hybrid of experiences they may have had in *System Shock 1*, which the coded-character of *System Shock 2* cannot share.

One of the novel applications of experiential storytelling in *System Shock 2* lies in placing information in the game world so it is *possible* for the hybrid to be affected by it. For example, the method of upgrading the hybrid and negotiating explicitly with the code throughout the game has been explained as increasing levels of 'cybernetic modification.' This is not an issue until the hybrid is referred to as "leaving behind the weakness of flesh." This is not relevant, aside from as a piece of direct address designed to influence affect, until later in the game when the hybrid has to travel underwater. It would be typical for a game of this type to display a gauge for how long the hybrid can swim before needing to surface, but this never happens. The inference is at this point, the hybrid no longer needs to breathe. This is a piece of information which, should the hybrid fail to notice it, is irrelevant to the progress of the game. If it is noticed however, the affect would be one of dawning horror as the humanity of the hybrid is called into question. This is an aspect of experiential storytelling which is subtle in its influence but potent in its potential affects. The approach is so heavily based in the intersubjectivity demonstrated in *System Shock 2* that it is difficult to imagine how a similar affect could be achieved outside of the negotiations found within the amniotic sac.

The affect found throughout *System Shock 2* is distinct enough that I refer to it as 'New Horror.' E. M. Forster is quoted as saying, "The primary appeal of the novel is that you want to know what happens next" (Poole, 110). I argue this particularly applies to the horror novel. The reader is drawn into the narrative through character(s) who they are intended to sympathise with and relate to, then horrific events unfold which the reader experiences vicariously. The reader is motivated to read on and keep turning pages by fear of the unknown and to learn how the protagonist they identify with escapes. In comparison, the affect presented by *System Shock 2* leads to paralysis rather than motivation. This is due to the hybrid being continually influenced by the themes of isolation and perpetual vulnerability. The effect on the hybrid is to emphasise all unexplored areas as zones of potential threat. This means fear of the unknown expands to where it is arguably more significant than

facing any *specific* threat in the game. The hybrid's imagination is fuelling the tension and extrapolating from the affect of the atmosphere, in effect doing the game's job for it. The game generates enemies constantly, even in areas which have already been explored, ensuring that the perception the hybrid is under perpetual threat has a basis, justifying the affect such paranoia provides.

To refer back to a comment I made earlier when discussing *ALIEN*, the hybrid is just a 'normal person' and this is part of why the affect is so significant. In a film or a novel, the audience *trusts* that the protagonist will eventually learn to overcome the threat. In *System Shock 2*, all of the affects are used to influence the hybrid directly so they have nothing to trust in aside from their own skills. The results of this distinction can be quite startling. I have discussed this syndrome with game journalists, critics and players (Gamespot Magazine. 16 April 2002). They have mentioned stories where a hybrid has been attacked in *System Shock 2* unexpectedly and their panic reaction has been to reboot the computer to escape, or where hybrids have attempted to find a safe room and hide indefinitely (Gamespot Magazine. 21 January 2005). The embodiment of the hybrid within the spatial environment of the game leads to an inference that the hybrid can be directly threatened personally by the inhabitants of the spatial environment. Horror experienced through a hybrid is less 'mediated' in that *you* are the person who the horror elements seek to influence, rather than protagonists the audience is intended to relate to.

The ways this experience of horror can be damaged by such a lack of mediation is addressed in an article by Grahame Weinbren:

> I am Mario because I am responsible for Mario's (physical) actions. If Zizek is right, one of the horrors of *Psycho* is connected with my experiencing Mrs Bates despicable desire as my own without any way to take responsibility: responsibility depends on the ability to act, and, if necessary, to act against my desires. In a video game, on the other hand, the fact that my actions determine the actions of the characters endows me with total responsibility. Thus horror is a difficult, if not impossible, emotion to elicit in a computer game: I cannot be induced to desire the unthinkable while I am responsible for the actions of my character – the force driving me is the desire to keep my character going. (Weinbren, 185-186)

The hybrid cannot be forced into transgressive desire, however the hybrid *can* be placed in the position of having to accept the consequences for questionable actions. The hybrid is repeatedly placed in a position of responsibility throughout *System*

Shock 2, and is situated within cause and effect chains of events designed to demonstrate consequence. As *System Shock 2* progresses, it becomes apparent that there are two sides to the overall conflict: a telepathic hive-mind entity called The Many, seeking to bring peace by adding entities to its biomass, and SHODAN, a completely amoral artificial intelligence who nearly destroyed humanity in a quest for deification in *System Shock 1*. The way the ethical grey-area manifests is simple and unavoidable: the Many tries to convince you repeatedly that it is doing the right thing and is trying to avoid violence. However to 'agree' with it and join the biomass, the hybrid would have to 'die' in the game. The only alternative is for the hybrid to follow SHODAN's instructions, and the game provides regular evidence that SHODAN cannot be entirely trusted. For survival and the survival of humanity, the hybrid must assist one demon against the other and hope for the best. The affect is that the hybrid may become afraid of the consequences when tasks are *successfully completed*, because they are aware the only entity assisting them cannot be trusted and is using them as a tool for its own ends. This also emphasises their position of isolation and vulnerability. Weinbren is correct in *System Shock 2* cannot make the hybrid partake of a desire for the unthinkable. However, the hybrid has no other choice than to commit deeds which they are afraid of completing.

'New horror' is horror which is distinct from horror expressed through print and film, due to the different form of affect caused by the negotiations between player, code and hardware within experiential storytelling and the amniotic sac. The affect functions differently because the horror elements are less mediated. The relationship formed with the code creates the perception of embodiment within the space of the game, and this embodiment is used to vicariously threaten the hybrid. Although this lack of direct mediation does pose problems to some types of horror element, it remains a very flexible technique for manipulating affect. It is important to distinguish between *narrative* and *experience* here, as Juul argues:

> This brings us to the problem of what we actually mean by saying that something can be translated from one medium to another. In a probably slightly limited view of narratives, narratives can be split into a level of discourse (the telling of the story) and the story (the story told). The story-part can then be split into two parts, *existents* (actors and settings) and *events* (actions and happenings). (Juul, 2004)

As defined by Juul, the narrative of *System Shock 2* could be successfully expressed through other media, such as prose or film. However, the experience found when engaging with the narrative through experiential storytelling and the amniotic sac is specific and cannot be duplicated by other media. The reason the affect is unique to the amniotic sac is because the game exists as a hybrid-space. The mechanical constitution of the subject forms a spatial environment dedicated to achieve a horror atmosphere and affect. It does this through forming a relationship between the player, the code and the hardware. Implicit and explicit negotiation of the code constructs the space as an individualised text as the hybrid navigates the database, allowing the affect to mirror the behaviour of the hybrid. The flexibility represented by the recombinant logic of databases creates a different form of horror through intersubjectivity, arguably unique to the amniotic sac.

CHAPTER 5:
INTERROGATING THE AMNIOTIC SAC.

The recombinant logic of negotiation between the player of the game and the technological substrate comprised of hardware and code means games are intersubjective. The concept of recombination defines the ongoing negotiations within the hybrid triumvirate of the amniotic sac, and the relationship formed between the hybrid and the code. Arguably intersubjectivity and the capacity for creating a uniquely individualised text through navigating a database alters the concept of authorship, as does the potential for games, as digital objects, to be altered by their users in unanticipated ways. However, the idea that the modification or recombinant exploration of an existing game empowers a form of new authorship is a contested one. Such modification certainly creates a new form of subject, which in turn raises questions about subjectivity and problems of identity. In either case, I argue that the uptake and renegotiation of games by the online community is driving innovation of the form. Essentially, this Chapter will begin discussing the different ramifications of this thesis, whether for the way terms and definitions are approached or for greater conceptual questions which remain to be asked.

LEARNING FROM THE AMNIOTIC SAC.

Aarseth views alternative perspectives on the influences of media on communication as important because:

> The emerging new media technologies are not important in themselves, nor as alternatives to older media, but should be studied for what they can tell us about the principles and evolution of human communication. (Aarseth, 16)

Taking the amniotic sac as a form of representational expression which is just recently finding its feet may teach us many things about other forms of emotive communication and storytelling. Studies of the affect caused by reduced conceptual distance between the hybrid and the spatial environment within in FPS games could be applied to film techniques such as those used *The Blair Witch Project* (1999) and

in unsettling sections of *Strange Days* (1995). Both of these films present scenes from a first-person perspective, functionally the same as those used in games like *System Shock 2*. *The Blair Witch Project* is notable for achieving affect through using FPS perspective to achieve a horror theme, but is distinguished by retaining the same cognitive distance as in other films. The relationship between the audience and the spatial environment of the film is not altered along with the change in presentation to first-person perspective. The subjective camera is effective for suggesting the audience is being personally threatened by events. However, the film lacks any potential hybrid component. The audience is still intended to sympathise with the protagonists even while seeing from their eyes, and thus possess no capacity to *take responsibility*, conceptual or actual, for events on screen.

As a viewer, the affect achieved for me was to simultaneously cause personal association between myself and the subjective camera, and to cause frustration because I lacked a capacity to react to events. In my case, *The Blair Witch Project* achieves an immersive association between viewer and screen, but intra-diegetic immersion *within* the world of the screen is inconsistent and frustrating because of my inability to act. For some people, becoming personally associated with a subjective camera *which moved without personal volition* lead to nausea and motion sickness because of the inconsistent application of intra-diegetic immersion. Intra-diegetic immersion in the context of the amniotic sac depends on the perception of being embodied *within* the spatial environment of the game. Since the hybrid is vicariously embodied, the spatial exploration of the digital environment comes at his or her own volition. In fact, the interactive element of spatial exploration is a significant part of what immerses hybrids intra-diegetically within the world of a game. In the case of *The Blair Witch Project*, the subjective camera causes some of the audience to become intra-diegetically immersed within the space represented through the screen. The independent movement of the subjective viewpoint leads to dizziness, disorientation and nausea because the perception generated is one of the spatial environment spinning or pitching. Because of intra-diegetic immersion within the space of the screen, the effect was enough to cause the inner-ear to compensate for the perceived violent movement, leading to nausea.

Arguably, it is also true to say this lack of capacity to react to events on screen assisted affect and immersion by making the audience feel as trapped as the protagonists, thus causing paralysing horror in viewers. This in itself raises questions

of what place responsibility and a capacity to react has within immersion through personal association. After all, in a horror film with no use of first-person camera techniques, is the audience not also as equally trapped as the protagonists, unless they choose to walk out of the theatre?

Strange Days is a film which uses the concept of a hybrid experience through recombination to create singularly disturbing scenes. A serial killer uses technology to hybridise his experience with that of his victims: the killer experiences the sensations of being raped and murdered while committing the deed; the victim experiences the killer's desire during the attack and the tactile sensation of murder. The idea of a hybrid experience is used to unsettle the audience and to provoke thought. *Strange Days* is a film which has been said to be "a critique of the central paradox of virtual reality: You cannot share someone else's reality without abandoning your own" (Ebert, 2005). If this is the central paradox of virtual reality, then recombinant logic provides alternative conclusions: it *is* possible to share someone else's reality because of the negotiation found within the hybrid. The identity of the two individuals involved is not subsumed or replaced, but becomes part of a new agency combining traits of both and undergoing constant negotiation. The critical consolidations found in this thesis are relevant to more fields than games, and may be able to provide insights to many aesthetic experiences.

DISCUSSING CONSEQUENCES.

What do the conclusions of this thesis mean for the concept of 'narrative' in terms of describing fiction? The primary consequences do not seem to be based in any deeper understanding of 'narrative' as a concept. Since games lack a definite causal structure and are based in a set of possibilities and a recombinant logic, the division between story and discourse which is particular to narrative-theory does not apply to games. However, the thesis has introduced some interpretations of the term which may be enlightening. Games are not narratives, but games can retroactively be told as narratives:

> In this sense a game such as *Quake* – indeed, this is true of most games – is capable of generating many such stories, retrospective accounts – many of them similar, some of them different – of what happened each time one played afresh. Should the player eventually work their way

> through all four episodes then it would seem they are in a position to recount a story of near-epic proportions…. The problem, however, is two-fold: first the *fragmented* character of this story passage, symptomatic of the game experience generally; second, the extraordinary *poverty* of such an 'epic' relative to other forms of narrative. Thus…. the fact that one could *at best* only hope to complete it over a considerable number of playing sessions stretching over many hours, suggests that something other than the pleasure of storytelling, at least as it is traditionally understood, is operative here. (Darley, 152)

Perhaps narrative can be renegotiated to include the idea of storytelling as it is *not traditionally understood*. In terms of *Planescape: Torment*, narrative is arguably a process of synthesis within the hybrid, as time and effort is taken to form a relationship with the code, a process of producing pathways in the database. How the implicit negotiation with the code defines the hybrid as a fluid entity over time has already been discussed in Chapter 3. It is arguable that this process of construction *qualifies* as a synthesis of narrative, as it involves changing the form of the individualised text the hybrid creates through navigating the game over time. The underlying narrative does not change, but its reception involves negotiation and mediation between the code and the hybrid to define the text which the hybrid experiences. This is analogous to an argument made by Lev Manovich on the subject:

> It is often claimed that the user of a branching interactive program becomes its coauthor: By choosing a unique path through the elements of a work, she supposedly creates a new work. But it is also possible to see this process in a different way. If a complete work is the sum of all possible paths through the elements, then the user following a particular path accesses only a part of this whole. In other words, the user is activating only part of the total work that already exists. Just as with the examples of web pages that consist of nothing but links to other pages, here the user does not add new objects to a corpus, but only selects a subset. This is a new type of authorship…. that does fit perfectly with the logic of advanced industrial and post-industrial societies, where almost every practical act involves choosing from some menu, catalogue or database. In fact, as I have already noted, new media is the best available expression of the logic of identity in these societies – choosing values from a number of predefined menus. (Manovich, 128)

The point of contention here is that even if all possible paths through *Planescape: Torment* were available to the hybrid, the result would not be a coherent experience, let alone a narrative. Such a document would not even be a narrative in retrospect,

but best described as a database. Manovich discusses databases as a new cultural form in direct opposition to the idea of narrative (Manovich, 225-226). Manovich would thus view the 'whole' which the user accesses only part of in a branching interactive program as a database, and yet explicitly defines games as experienced as narrative by their hybrids:

> Of course, not all new media objects are explicitly databases. Computer games, for instance, are experienced by their players as narratives. In a game, the player is given a well-defined task – winning the match, being first in a race, reaching the last level, or attaining the highest score. It is this task that makes the player experience the game as a narrative. Everything they that happens to her in a game, all the characters and objects she encounters, either take her closer to achieving the goal or further away from it. (Manovich, 221-223)

If the hybrid were to apprehend the 'whole' of the work that is *Planescape: Torment* as a database, there would be nothing to motivate ludic labour. There would be no more reason to take time and effort to form a relationship with the code than in any other database. Experiential storytelling, where ludic labour has more weight than reaching the outcome, belies the idea that everything in the game takes the hybrid closer to achieving the goal or further away from it. If this were the case, the elements of *Planescape: Torment* focused on reducing the amount of secret information held by the coded-character, thus defining who the hybrid is to both code and user, would be redundant. Manovich's conclusion to his argument is:

> *The new media object consists of one or more interfaces to a database of multimedia material*. If only one interface is constructed, the result will be similar to a traditional art object, but this is an exception rather than the norm.
> This formulation places the opposition between database and narrative in a new light, thus redefining our concept of narrative. The "user" of narrative is traversing a database, following links between its records as established by the database's creator. An interactive narrative (which is also called *hypernarrative* in an analogy to hypertext) can then be understood as the sum of multiple trajectories through a database. A traditional linear narrative is one among many other possible trajectories, that is, a particular choice made within a hypernarrative. (Manovich, 227-228)

This means the 'narrative' itself is an interface standing between the hybrid and the 'whole' of the work that is *Planescape: Torment.* Narrative in games is thus a point

of synthesis between the hybrid and the game, undergoing constant negotiation during the production of new pathways through the database as the hybrid forms a relationship with the code.

Another term which needs to be revised based on the conclusions of this thesis is 'experience.' Originally conceptualised during research to avoid the contested nature of 'narrative,' 'experience' was intended to reflect the continuous negotiation within the amniotic sac. This suggestion of continuous negotiation was opposed to a specific text or entity which might be implied by 'narrative.' However, 'experience' also presents its own problems as a term within this analysis. 'Experience' has connotations and associations of subjectivity, the idea that perceptions of an event are inextricably bound up with the mind of the individual having the experience. These associations are antithetical to the idea of intersubjectivity through the mechanical constitution of subjects. Different human players engaging with the same game will create different hybrids but partake of a similar affect, for example the themes of horror found in *System Shock 2*, meaning that the affect is not purely subjective.

Intersubjectivity in itself complicates the notions of 'author' and 'subject,' raising them as terms for future analysis.

THROWING OPEN THE GATES.

The relationship between the growing community of online gamers and the game texts they negotiate is becoming more complicated. I argue the online community provides a welcome level of innovation through their contributions, and that this is breaking down the divide between producers and players within the game industry. Of course, there have been such claims before. The idea that contributions from the gaming community are engendering new forms of authorship has been a topic for academic and critical discussion for some time:

> On the level of new media products, the overlap between producers and users can be illustrated by computer games. Game companies often release so-called "level editors," special software that allows players to create their own game environments for the game they purchased. Additional software that allows users to modify games is released by third parties or written by game fans themselves. This phenomenon is referred to as "game patching." As described by Anne-Marie Schleiner, "game patches (or game add-ons, mods, levels, maps or wads) refer to the alterations of pre-existing game source code in

> terms of graphics, game characters, architecture, sound and game play. Game patching in the 1990s has evolved into a kind of popular hacker art form with numerous shareware editors available on the internet for modifying most games."
> Every commercial game is also expected to feature an extensive "options" area allowing the player to customise various aspects of the game. Thus, the player becomes somewhat of a game designer, although her creativity involves selecting combinations of different options rather than making something from scratch. (Manovich, 120)

The situation has developed drastically since Manovich made this comment. Rather than 'selecting combinations of different options,' game companies are releasing what are called 'development tools' (dev tools) to the public. Dev tools are essentially what the company uses itself to create the maps and environments used in their games, although possibly with a more user-friendly instruction set. Companies will release tutorials on how a particular map, already familiar to the public, was created. Additionally, there has been significant growth in members of the online community working on modifications to existing games in total absence of official development tools. This all amounts to a fundamental shift away from the spectrum of public contributions available when Manovich reached the above conclusion in 2001. At that point, the focus was on providing the opportunity for a wide 'new authorship' which required as little technical aptitude as possible. This process meant the dev tools released were intended to provide for the lowest common denominator and lead to 'authorship through selecting different options.' Presently, dev tools require a much more significant investment of time and education, either through trial and error or through following online tutorials from the company, or from other online contributors from the community. This means contributors, on average, possess much greater technical prowess and thus have been in a position to introduce some genuine innovation. The gap between producer and player is narrower than it has ever been.

The *System Shock 2: Rebirth* Project is one of the leading examples where the online community has offered significant contributions to a game without benefit of any official development tools. The Project has left the underlying game structure completely unchanged. They have dedicated a significant amount of effort to updating the graphics of the game, keeping the experience current with the ever advancing march of progress in graphical representation. As can be seen in **Figure 1**, the level of sheer talent on display in a completely free download to the public is staggering. Hence one of the other developments literally bridging the gap between

producers and players: the 'amateur' contributors behind such modifications can use their work as a portfolio for potential employment at game companies. The other benefit of using **Figure 1** as an example is it is obvious that this is *not* a contribution which has been caused through selecting options which are readily available. Creating the *Rebirth* modification is a process which has involved intensive work at the level of code, restructuring the graphical models for all of the entities in the game, redeveloping the textures which cover the polygon models and then animating the result. It is a process at a fundamentally commercial standard, particularly considering that in order to reach a sufficient level of detail, the *Rebirth* Project needed to design new sets of concept art *inspired by* the work demonstrated in the original game. It is easy to see why game companies are viewing such free contributions as very legitimate portfolios for professional work. The other aspect of interest provided by the *Rebirth* Project is that the *narrative* of the game has been left untouched and unaltered. The graphical quality has been updated because, as the game has aged, the visual representation of the game's spatial environment has become hypermediated and dated. The fact this amount of effort and skill has gone into updating the graphical quality of the game, without altering the narrative, is further evidence that it is the hybrid-space of the game and the affect it provides that sets it apart, rather than the narrative.

Half-Life: Counterstrike is a different facet of the same process. The central figure behind *Counterstrike* goes by the online handle of 'Gooseman.' He began working on modifications designed to make multiplayer FPS games more realistic, using the dev tools for *Quake 2*. 'Gooseman' designed the player models and the weapon models for that modification while working with a team of contributors.

Figure 1: A comparison shot from the *System Shock 2: Rebirth* Project.[4]

He later went his own way and founded a new 'amateur' development team who went on to produce *Half-Life*: *Counterstrike.* The modification was again released as a free download which required, like the *Rebirth* Project, the original game to function. *Half-Life: Counterstrike* proved so popular online that Valve, the company which had produced *Half-Life* and the online dev tools used to produce *Counterstrike*, purchased a license for the game from the 'amateur' authors. The company chose to make *Half-Life: Counterstrike* an official part of the *Half-Life* line, and to date it is statistically one of the most regularly played online games worldwide. Gabe Newell, the head of Valve, has been quoted as saying he tries to use the approach taken by the designers of *Counterstrike* when planning Valve's own projects:

[4] *The System Shock: Rebirth Project* by Etienne Aubert. http://perso.wanadoo.fr/etienne.aubert/sshock/sshock_rebirth.htm Image Copyright Etienne Aubert and the System Shock 2: Rebirth Project (2003 – 2005). Used with permission.

> "Any developer who bitches about, 'Oh, our publisher cut off our money,' or, 'The publisher made us ship the game early,' doesn't get it," he says. "That's the interesting problem you have to solve as a developer. If you don't, well, you'll be perpetually screwed." But how do you solve the problem? Newell cites the development of Counter-Strike, where a young college kid in Vancouver made a Half-Life add-on, as a prime example. "You bootstrap," Newell suggests. "The Counter-Strike guys didn't have some sugar daddy show up and drop a huge wad of cash in their lap. You have to be creative." (Keighly, 2004)

Despite the use of official development tools in creating *Half-Life: Counterstrike*, the impact caused by what began as an amateur production has been vast. It is difficult to draw the line between producer and player finer than when you have a situation where the parent company purchases rights for a game modification in order to market and sell it itself.

Another modification using the *Half-Life* dev tools worthy of note is *Natural Selection*, which has introduced a level of innovation and new forms of game playing uncommon to commercial companies, although not as popular as *Counterstrike. Natural Selection* is based in presenting a multiplayer experience which hybridises well-known traits from both First Person Shooter (FPS) and Real-Time Strategy (RTS) games. In RTS games, the player gathers resources in order to build military units with different capacities, in order to attack the opponent and defeat them through destroying their capacity to gather resources. *Natural Selection* breaks the players into two sides, one playing as human soldiers and the other as an alien race. Each side must gather resources, which are allocated by an individual player who has an overall tactical view rather than a first-person viewpoint. That player is basically playing an RTS game, where the rest of the players are playing an FPS game. The point of hybridisation is that the FPS players are given orders by the tactical player or General, and work to carry out the commands. In an RTS game, the computer has AI to handle how the units carry out orders given to them by the player. In *Natural Selection*, the FPS players have to work that out themselves, so they are effectively playing the part of front-line troops in an RTS game such as *Starcraft* (Blizzard Entertainment, 1997). At the same time, there are two Generals facing off in an overall battle of strategy and deployment, while the individual soldiers use squad-based tactics which would be familiar to players of *Counterstrike.* Another point of creative innovation is visible within the capabilities of the alien team in *Natural*

Selection. Every alien player can 'see' every other alien player anywhere in the map, even through walls. Crucially, they can also see any enemy units which are visible to any other player on their side. This introduces new tactics where one player will play as a small, fast alien and follow the enemy, making them targets to all the other alien players and showing the General what movements the enemy is making.

The reason I feel *Natural Selection* is worthy of note is because this level of innovation represents an alternative to the current 'mainstream' process games go through before publication. Games are an aesthetic field, and yet the process which creates them is certainly driven by intended financial return. The focus on 'intended financial return' does tend to minimise *risk* when beginning projects for investment. Frequently the path of development for a given game moves from a very innovative concept to a game 90% similar to the forerunners in its genre, with only some small differences to distinguish it. *Natural Selection* not only creates a new form of game experience through combining the primary traits of FPS and RTS games, but it underlines that the online community has vast freedom to *be* innovative in comparison to the avoidance of risk preferred by more mainstream production companies. In some ways, there are analogies to Hollywood versus 'indie' cinema.

The online modding community is a valuable creative resource both for innovation, training of potential future game designers, and as a less-risky test-bed to demonstrate that innovations will be popular. All of these possibilities mean that bridging the gap between producers and players is a desirable outcome of increased interaction between game companies and the online community, and such bridging is being actively sought. Additionally, there are critical questions raised by the process of modifying games: when someone modifies a game and then plays their modification, they are reinventing themselves as a new form of subject. The resulting hybrid is a product of negotiation between the hardware, the player and their own modification of the previous version of the game's code. Such a development seems to be unprecedented. The nature of experience under such conditions raises problems of identity and subjectivity for future analysis.

This next example is not based in the modding community, but is included because the online community is being given an unprecedented degree of agency in the development in an online world. *World of Warcraft* (Blizzard Entertainment, 2004) is a Massively Multiplayer Online Roleplaying Game (MMPORG) like *Everquest* before it. I will qualify my statement about degrees of impact in online

worlds by referencing Sherry Turkle, who has spent a significant amount of time analysing player interaction within games, such as *Everquest*, and in online MUDs and MOOs[5]. *World of Warcraft* does not allow the same degree of impact as MUDs and MOOs because those are consensually built up by the online community themselves, whereas MMPORGs are usually a static product from one company. The point of interest is because the geography and evolution of *World of Warcraft* is not static. It seems the actions of players will shape the development of events within the greater world. For example, there are two nominal 'sides' within the game world, each controlling territories. It is possible the territories owned by either side will change based on military victories of one side or the other.

Another point of difference between *World of Warcraft* and other MMPORG's is that it is part of a lengthy pre-existing canon. Blizzard Entertainment has a long-running sequence of games inside the *Warcraft* narrative universe, and *World of Warcraft* is a new canvas on which the company can paint its fiction. There are 'rumours' within the game world of potentially world-changing developments to come. These rumours could be baseless or actually be hints to the community from the company developing the game and, given Blizzard Entertainment's actions in the past, are likely to be a mix of both. One of these rumours suggests that gathering together a group of high-powered Warlocks and accomplishing a very difficult sequence of quests could re-open the Dark Portal. The Portal is a bridge between two worlds already well known within the *Warcraft* canon, and if true, would provide players access to an entirely new online world connected to the existing *World of Warcraft* geography. This level of evolution in MMPORGs is unprecedented, as previous examples were set up by companies and then left completely static for people to explore or ignore as they saw fit.

Blizzard have noted that canonical events will unroll over time, meaning story elements left unanswered in previous games will become developing history in *World of Warcraft*. This means that someone beginning to play the game six months after its release will find a world, ideally, shaped by six months worth of events in which previous players have participated in and assisted to form. The level of potential agency being offered to players in *World of Warcraft* is very limited in comparison to MUDs and MOOs, yet still very innovative within the spectrum of MMPORGs. It

[5] For a more detailed examination of MUDs and MOOs, see *Life on Screen: Identity in the Age of the Internet* by Sherry Turkle.

may represent a new form of storytelling within the genre, but its success or failure will only be visible in future analysis ,as the game was released less than three months before the time of writing.

FINAL WORDS.

The amniotic sac is a critical consolidation to studies of games which moves beyond 'narrative' as a central concept and instead favours an approach based in studies of affect and the intersubjectivity found in the mechanical constitution of subjects. Our understanding of gaming is still redolent with redundant terms from narrativist approaches using the previous sense of narrative in storytelling. As discussed in Chapter 1, the central critical divergence between narrativist and ludic critical approaches was based on applications of 'narrative.' The narrativist approach holds that games can and should be read in the same way as a novel, poem or film, and that they will (or should) have many of the same elements, since narrative is universal to all of these categories. The ludic approach holds that although games certainly have plots, characters, and aspects of traditional narratives, these aspects are incidental to game play. Neither critical approach considers affect, although ludology is interested in ludic labour, independently of the contribution ludic labour makes to the distinctive affect found in intersubjective games. The critical stance taken by this thesis is that games are *not* engines for expressing a narrative, and so purely investigating them as narrative texts is a very reductive and narrow approach. I do not believe that 'narrative' is the best way to understand games or how they operate, but I am interested in how games *are capable of expressing narrative* as a new form of experience. With that said, however, I believe that games provide a rich, textually deep engagement with stories *through being a ludic experience*.

It is the ludic element which is at the heart of the new conceptualisations in this thesis. Immersive paradigms of interaction emphasise the ludic and sensory pleasures of spatial exploration, which are carried into vicarious kinaesthesia and the perception of embodiment at a distance. Vicarious kinaesthesia itself inspires intra-diegetic immersion as the hybrid acts *within* the spatial environment instead of *upon* the game. Ludic pleasure is then a motive for the recombination within the hybrid triumvirate formed between the human player, the code through which the game exists, and the hardware bridging the gap between the human and the code.

Experiential storytelling is my term for when ludic labour, the ongoing investment in forming a relationship with the code, is more important to the hybrid than *reaching the outcome of the game*. This ongoing, fluid relationship formed between the hybrid and the code is part of why the affect on the hybrid is notably different than is possible in other media. The time taken to form a relationship with the code reinforces the legitimacy of the ludic activity within the amniotic sac, making the events and interactions within the spatial/social environment of the game world more *personal*.

This thesis is a way of conceptualising intersubjectivity, how it is achieved, why it is relevant and what effects it has on both the humans who become mechanically constituted and the game texts which depend on them doing so. There is already a booming critical field interested in affect and the constitution of subjects by affective means in media.[6] The amniotic sac and games are situated within this kind of analysis and are of importance because they represent a distinct form of affect achieved through the mechanical constitution of the subject. The central concept behind these critical movements, such as reader-response theory in literature and ethnographic (or audience) studies in film is that humans are no longer born and live out fixed identities. Instead, people are constantly constituted as such, as individuals, through the affect of media transmission of various kinds.

In situating the amniotic sac within a growing critical field focused on affect, it is arguable that this overall critical field be referred to as 'affectology.' This is due to a shared interest between these critical approaches in a shift from affects based in the subjective experience of the reader/audience/player, to something which is clearly intersubjective and based in media interfaces. These approaches thus shift the meaning of artworks from the viewpoint of the reader/viewer/player, who is a subjective individual person, to something which is collective and mechanically constituted, thus escaping the idea of a subjective experience. There is a distinction between affectology applied to the amniotic sac, and to other forms of new media: the amniotic sac is an affective field which humans enter into as they become a hybrid, rather than something where each aspect is private and distinct. Since affectology is not defining itself in relation to 'narrative,' either for or against, it is arguable that affectology is moving into a post-narrativist critical space.

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[6] See previous critical approaches to the concept of 'Affect' – Teresa Brennan, Lauren Berlant et al.

By contributing to the growing field of affect-related study, the amniotic sac provides tools for future theorists to work with and from. Further analysis of the ideas raised by this thesis in the future will yield new ideas as critical awareness is brought to bear on the subject, and new gaming examples come to light.

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