

“Moments to Talk About”:
Designing for the Eudaimonic Gameplay
Experience

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Abstract

This thesis investigates the mixed-affect emotional experience of playing videogames. Its contribution is by way of a set of grounded theories that help us understand the game players' mixed-affect emotional experience, and that support analysts and designers in seeking to broaden and deepen emotional engagement in videogames.

This was the product of three studies:

First — An analysis of magazine reviews for a selection of videogames suggested there were two kinds of challenge being presented. Functional challenge — the commonly accepted notion of challenge, where dexterity and skill with the controls or strategy is used to overcome challenges, and emotional challenge — where resolution of tension within the narrative, emotional exploration of ambiguities within the diegesis, or identification with characters is overcome with cognitive and affective effort.

Second — further investigation into the notion of emotional challenge became a reflection on the nature and definition of agency. A new theory of agency was constructed — comprising of Interpretive, Actual, Mechanical, and Fictional Agency. Interpretive Fictional Agency was highlighted as particularly important in facilitating a mixed-affect gameplay experience.

Third — further interviews led to a core concept of 'emotional exploration' — an analogy that is useful in helping explain how to design for emotional challenge, why players would be interested in seeking it out, and how the mixed-affect emotional experience is constituted during gameplay.

These three theories are integrated and the mixed-affect emotional experience of interest resulting from gameplay is defined as the *'Eudaimonic Gameplay Experience'*.

It is hoped that this will help developers and researchers better understand how to analyse and design single-player videogames that increase the chances for a deep, reflective and more varied emotional experience to take place, and take advantage of the latent expressive and artistic potential that still remains under-explored in videogames.

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Declaration

I, Tom Cole, hereby declare that this thesis and the work presented in it is entirely my own. Where I have consulted the work of others, this is always clearly stated.

Sections of this thesis have been part of the following publications:

- Cole, T., Cairns, P., & Gillies, M. (2015, October). Emotional and functional challenge in core and avant-garde games. In Proceedings of the 2015 Annual Symposium on Computer-Human Interaction in Play (pp. 121-126).
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Chapter 1

Introduction

The videogames industry is worth over \$120 billion worldwide [209], and £5.7 billion in the UK alone [221]. Over the past 20 years and, especially since the advent of widely available smartphones, it has become part of mainstream culture. More people are gaming than even before — be it on their phone, their PC, their console or even — at time of writing, their watch [168, 221].

Yet for all this commercial success, despite the money they generate, the broad appeal that they have and the diversity of platforms to play on, videogames do not appear to have developed the emotional breadth and depth or cultural penetration of other media forms such as literature or film. The broad public understanding (echoed amongst many games developers) is that games are mainly for ‘fun’ only and are there purely for entertainment [150]. Not only this, but they are often regarded as being of interest and relevant to only certain subsets of the population, in comparison to the purported broad appeal of art, music, literature and film [6].

All games involve emotions — this is why we play them in the first place. Even the most abstract of board games provide feelings of achievement and pleasure in defeating another player (e.g. chess) or the system (e.g. solitaire). The most supposedly ‘mindless’ match-3 videogames (such as Candy Crush Saga [241]) provide feelings of victory over the system when completing a level. However, games often do not display the same kind of emotional range, depth or finesse of other mediums. If you were to compare the range of products available at retail (digital or physical) for books or film or the nominees for awards such as the BAFTAs or Academy awards, with those of videogames, the range of emotional experiences being offered by videogames tends to be narrower. If films only showed the emotional range and sophistication of the Hollywood summer blockbuster (e.g. Transformers or the Marvel films), then it would be a reasonable approximation for what’s observed amongst most current com-

mercial games releases.

The resurgence of independent games development (facilitated in-part by reduced barriers to entry such as reduced costs of digital distribution over the internet and the greater availability of more accessible game making tools such as Unity, GameMaker, Construct, Twine etc.) has done much in seeking to address this issue [6]. Amongst them are several developers specifically seeking to challenge ‘what can be done’ within the videogame form. This interest in exploring the boundaries of the art form of interactive digital entertainment tends to be seen amongst smaller developers where budgets, and therefore commercial risks, are much potentially much lower — giving opportunity for more experimentation with ‘expressive systems’ [199] and allowing them to cater to smaller yet more focused markets. Certain games developers consistently produce emotionally-diverse games, but this seems to be more through a ‘gut instinct’ about their craft rather than explicit, rigorous and, most importantly, transferable understanding. There seems to be little explicit understanding of *what* works exactly, or *why* certain methods do work when used.

“In short, unless accompanied by the skills of scholarship, the authors of even the most innovative demos are predisposed to become one-shot-wonders who are ill-equipped to go on to repeat their initial success in other problem domains.”

(Paul Buxton [40])

This is where the greater opportunity for critical reflection and research of academia comes in, and this is the inspiration for this thesis.

All games involve our emotions in some way, but many games only elicit emotions and experiences associated with the concept of ‘fun’, light-hearted entertainment or power-fantasy fulfilment [82, 150]. It is commonly understood in discussions within media, the industry and consumers that games such as *Grand Theft Auto*, *Call of Duty* or *Gears of War* feel very different, emotionally, to games such as *Papers, Please*, *Journey* and *Dear Esther*. But how? What is the exact nature of the difference in the emotional experiences of these games? Can these differences be identified and, subsequently, can we identify common patterns and/or features that will help in designing games that recreate this kind of emotional experience in the future? Can we, in the words

of a participant in the work of chapter 6, create more emotionally-resonant “*moments to talk about*”?

There are several models and theories on how our emotions are structured and how they occur, across a number of differing schools of thought. Many of these are covered in chapter 2, including theories from the fields of psychology (e.g. Ekman [79], James [125], Fridja [90], Feldman-Barrett [9]), philosophy (e.g. Ben Ze’ev [19], Leino [144]), and the games industry (e.g. Lazzaro [141], Bartle [12]). From the array of options on offer it was hoped that some of these models or theories of emotion would prove to be more useful in answering these questions than others. However, it was found that not only was it nearly impossible to find a way of describing emotions that was useful to this project, but it was unnecessary and there were other more productive routes to follow other than defining exactly what an emotion is.

There is a large body of work on how we experience emotion in other media already, but videogames are not like other forms of media or entertainment [82, 175, 202]. Whilst film, art, theatre etc. are usually passive and non-interactive, videogames are interactive by their very essence. This means that whilst literature regarding emotional experience in other art forms will be useful and informative, there is only so much that can be used to explain how we feel when we sit down to play a videogame. Often, when emotional involvement in videogames is discussed, the conversation centres on subjects such as character development, dialogue and plot. These are properties that are shared with other mediums and have been investigated extensively. However, even where there is only a very small element of agency, the very fact that we *can* do something as simple as control the movement of the player character and/or viewpoint of the game world radically changes our relationship to the artefact and requires a new understanding of how we experience emotion [28, 119, 144, 175].

It is the rules and mechanics, the systems that emerge out of them, the power and control that is shared between developer and player that make games, games. It is the actions that we take within games, and their effects within the diegesis (the world of the game), that engage us and cause us to consistently return to digital worlds [34, 222]. Therefore, when speaking of

emotional engagement in videogames we should consider how the *rules and mechanics* of a game communicate with the player [86, 87, 186]. In addition to the emotional timbre, what kinds of *values* do the systems convey (consciously or unconsciously) and what emotional resonance might these have?

This thesis is structured as follows:

Chapter 2 presents a summary of relevant literature to this project. This mainly covers differing theories of emotion (which illustrates the complexity of trying to define emotions as already mentioned in this introduction), similar work on emotional engagement in videogames plus topics that became of interest during the course of this research such as Eudaimonia, the mixed-affect entertainment experience and self-determination theory (SDT).

Chapter 3 provides an introduction and overview to Grounded Theory — the research methodology used in this thesis. It describes the variants of Grounded Theory that exist, clarifies the differences between them, and how Grounded Theory was specifically implemented over the course of this project. It ends with a rationale for why the author’s position and style evolved over the course of the research project.

Chapters 4 to 6 describe three grounded theory projects that took place, the resultant theory and why they are of importance. Chapter 4 investigates the language used in written reviews of a range of games. From this a theory of two different types of challenge emerged — emotional and functional. Of these two, emotional challenge was a new concept that merited further investigation. Chapter 5 began with an intention to do as such, but the flexible and reactive nature of grounded theory led instead to a focus on a new theory of different types of player agency, one of which (interpretive fictional agency) was particularly important in facilitating emotional challenge. Chapter 6 again began with an intention to pick up from chapter 4 and further explore emotional challenge, and a theory was constructed around the core concept of ‘emotional exploration’. This concept is effective in explaining what happens during emotional challenge, how to design for it and why players are interested in seeking out this kind of challenge. These three chapters are followed by chapter 7, which integrates these 3 theories, makes clear how they are inter-related, and shows how they help define the ‘Eudaimonic Gameplay Experience’ — the final

novel contribution of this thesis.

This thesis ends with a conclusion to summarise the journey taken from this introduction to the end of chapter 7, and the utility and importance of the findings presented in this thesis. The appendices contains various diagrams and lists of codes to help illustrate the grounded theory process followed in chapters 4 to 6.

It is hoped that the original research of this thesis will inspire and help researchers and designers analyse and design games which explore our emotions, tug at our heart-strings and cause us to reflect on the human condition, in a more consistent and deliberate manner, and give players more “moments to talk about”.

Chapter 2

Literature Review

“If you’re going to be breaking something, including a tradition, the more you understand it, the better a job you can do of it.”

(Bill Buxton [40])

2.1 Introduction

This literature review presents theoretical context and background to this project’s initial question, which was — “How can we broaden and deepen emotional engagement in videogames, with a focus on the interactive elements of games such as mechanics, rules, systems and control schemes?”

To do so, this literature review covers the following areas:

First — what is an emotion? In the beginning it was felt important to develop an understanding of emotions conducive to further work in this context. There are an abundance of theories of the emotions from a wide variety of fields such as psychology, phenomenology, psychoanalysis, aesthetic theory, etc. It is beyond the scope of this work to provide a detailed account of every theory that exists across all areas, but an attempt has been made to provide a broad overview of the thinking that surrounds the concept of ‘emotion’.

Second — all games involve emotions, so *what kind of emotional experiences* are we looking to focus on in this project? If we describe a game as having deeper/more intense emotional engagement, what do we mean by that exactly? Emotional experiences prominent in the gaming landscape and models used to account for them are discussed. What are the shortcomings of these models, and why do we need new ways of examining the player experience?

Third — What difference does interactivity make? Why can’t we use theories of affect from other, non-interactive, media? When viewing art or watching film we are at best a voyeur and at worst a disinterested observer. But with videogames there is always a role to be played, whether embodied within an

avatar we are given, an avatar we make, or not embodied at all. What effect does this drastic change in identity have on the emotional engagement of the participant/player? How do current models of games design account for the player's emotional experience (if at all) and why do we need a new one?

Finally — Extant Theory (theory outside of that generated by the grounded theory process). Where do the notions of challenge (chapter 4) and agency (chapter 5) fit into the Eudaimonic Gameplay Experience (chapter 7)? How do they relate to each other, why are they important, and what effect could they have on the player's emotional experience in-game? The work from the final research project (chapter 6) was given context and related to self-determination theory, psychological theories of escapism and media studies theories of emotional regulation and media consumption. These theories are also covered here.

2.2 Emotions

Emotions are incredibly complex and surprisingly little understood. Despite an abundance of sources to use when studying emotional phenomena and their pervasiveness in our everyday lives, finding a universally acceptable theory of emotions is an endeavour that is 'devilishly difficult' [19]. The best that can be expected from any one theory or framework is a *partial* understanding — bringing to mind the parable of the blind men comparing notes after touching different parts of the elephant.

In this chapter several major theories of emotion are discussed. Much of the material comes from psychology but other approaches are also discussed.

2.2.1 Psychology

Psychological theories of emotion date back to one of earliest psychology thinkers — William James[125]. Since then, four main schools of thought have emerged within psychology — Darwinian (although this does not include any writings of Darwin himself — see below), Jamesian, Cognitive and Social-Constructivist [58].

Some theories clearly fall into one category, others straddle more than one. Theories can be further sorted into those which attempt to *categorise* feelings

and emotion, and those that *describe* them using multiple dimensions. Categorical theories (e.g. Ortony, Clore and Collins [176]) are generally older than those that involve dimensions, and were strongly influenced by the advent of computers [85]. This style of thinking is now seen by some to be limited [85], and this author agrees that the strict logic of many of these theories leave them ill-suited for explaining the finer complexities of emotional experience.

Darwinian

These scientists are so named because they believe that there are a *fixed* number of innate emotions common to all humans, regardless of culture or environment, that evolved to help ensure the survival of humans. The most well-known exponents of this school are Ekman [79] and Izard [124] (who state that there 7 and 10 basic emotions respectively, although Ekman later revised his number to ten.[78]). Their biggest influences are Charles Darwin himself [61] and Silvan Tomkins — the originator of affect theory [218].

Much of this theory was based on Ekman's work on cross-cultural recognition of a broad range of facial expressions between Westerners and the Fore people of Papua New Guinea (a remote group who at that time had never had contact with the western world) [80]. Ekman then linked certain expressions (which were defined by creating a code for combinations of muscle contractions) to emotional descriptions and found that there was a strong correlation between certain facial expressions and emotion combinations and that these were constant regardless of ethnic or cultural variation. In another study similar results were achieved when Shaver (who was studying how emotions are represented in different cultures) asked participants to sort pictures of emotions into groups [200].

Robert Plutchik has theorised 8 basic behaviours that map to 8 basic emotions [181] and Tomkins' affect theory did similar with 9 low/high intensity affect pairs [218]. Nico Frijda is sometimes considered to straddle both the Darwinian and Cognitive schools with his theory of action tendencies (inclinations to act in ways that have helped us survive as a species) [90].

Whilst there is a common insistence on the existence of universal emotions amongst those of the Darwinian perspective (with many of these basic emotions

agreed upon), this is not the same as universal *expression*. Ekman found in later research that emotional expression is culturally mediated via what he termed ‘display rules’ [81]. In the context of this project, the interest is in emotions as they are *felt*, not emotions as they are *expressed* — which would be distinctly different.

There are many emotions that do not fit into the categories described above. Darwinians would answer that these ‘other’ emotions are combinations of ‘basic’ or universal emotions that are then culturally mediated. Despite the large amount of experimental evidence that supports the existence of universal emotions [58], many scientists and theoreticians remain unconvinced that all human emotional experience can be boiled down to a handful of universal emotions.

Jamesian

For William James (and, coincidentally at the same time, Carl Lange), the emotional experience was all about what was felt in the body — a phenomena which came *before* the emotion itself. So instead of the ‘common sense’ thinking of ‘stimulus → emotion → expression’, in the James-Lange theory emotions are thought to work as ‘stimulus → bodily change → emotion/expression’. An emotion, therefore, is a conscious recognition of what has happened in the body’s physiology [125, 137].

Exactly what ‘bodily change’ means has been a matter of some debate, but the important difference to note is that, rather than arising from the brain and *central* nervous system, emotions are a recognition of what is going on in the *peripheral* nervous system. The implication is that if you act in a certain way with your body, this will have an effect on your mood (for example if you smile you will feel happier, eventually) — your bodily feedback could *override* the cognitive component of emotion.

Later researchers disputed the idea that the peripheral nervous system was at the root of emotion [47], and the James-Lange theory was eventually eclipsed by cognitive theories. A revival of James-Lange theory came about in the 60s with the Two Factor Theory of Schachter and Singer [193] (by way of Maranon [149]) which maintained that both physiological arousal *and* situational

appraisal/cognition was necessary for emotion. The main criticism of this theory was that it was very easy for subjects to mis-attribute their emotions. An example of this is sometimes employed in films — two characters who dislike each other are thrust into a stressful situation. When the situation passes (but their arousal is still high) they attribute that arousal to a sudden surge of amorous feeling, rather than their bodies still feeling stressed, and resolve it by kissing.

Cognitive

During the 1950s theories of emotion involving cognitive appraisal were developed by scientists such as Arnold (responsible for Appraisal Theory) [7], Lazarus [139] and Zajonc [233]. Their view was that it was not the body that is the root of emotion, but our perceptions of events and the environment. For these early cognitive theorists the sequence of components leading to emotion was (perception → appraisal → emotion), which took into account a subject's *prior experience* — something which theories of emotion had neglected before then. They also reasoned that there must be some element of commonality to emotions felt by different subjects (or a 'common core'), otherwise humans wouldn't be able to understand and communicate with each other [58].

Lazarus and Zajonc took this a stage further later on and introduced two-levels of appraisal — molecular (which pertained to the individuals direct harm/benefit and ability to cope) and molar (pertaining to core relational themes, or the 'common core' referred to above). However, they differed on how emotion and cognition were related — where Zajonc held that emotion and cognition were independent from each (although affecting and modifying each other constantly and directly), Lazarus maintained that cognition is a *necessary* precursor for emotion to occur. Damasio also describes two layers of appraisal; primary — which is quick, unconscious, grounded in a body response but trading speed for accuracy, and secondary — which is slow, conscious, and considers the hypothetical situation [60].

An interesting variation is that put forward by Mandler [148], where the sequence was 'feeling → cognitive analysis → emotion'. This has interesting hints at crossover with more recent theories of affect arising from the social

sciences (e.g. [68, 153]) that draw on Spinoza's original usage of the term [203], where the term 'affect' hints at something felt which does not fit into the usual understanding of the term 'emotions'. Indeed, many scientists have begun to use 'affect' and 'emotion' to mean different, but related, components of the emotional experience ([163, 187, 188] etc.). In the social sciences, 'affect' is more often used to mean emotions or moods which cannot be accurately identified.

Frijda [90] is a major theorist in the field who has had his theory applied to emotion in film by Tan[212] and games by Perron[178]. Tan applies Frijda's logic and framework of emotion to film to suggest two kinds of emotion that arise from film-viewing — *fiction emotions* (those which arise from reactions to the diegetic content of the film), and *artefact emotions* (those which arise from an appreciation of craft and technical implementation) [212].

Frijda claims that there are 12 laws that affect how an emotion is constructed, carried out and then maintained or dissipated. Despite this comprehensive range of 'laws', none of them make note of the *cultural* situation of the individual. In fact, *most* cognitive theories take little account of how the values and cultural contexts of a subject may affect their emotional experience [58], and this is where the social-constructivist view enters.

Social-Constructivist

Social-constructivism states that emotions are *products* of culture, rather than *mediated* by culture as suggested by Ekman [78]). Of particular significance in this area is James Averill. According to Averill, emotions play a special kind of social role and should be thought of as a socially-constituted syndromes that are complexes of subjective experiences, expressive reactions, physiological responses and coping reactions [8]. Emotions are not just for our survival — they're there to also keep us in our place socially, and they are *actions*. Appraisals are culturally determined. Social-constructivism also acknowledges that how we *talk* about emotions greatly affects how we *experience* them.

Theory of Constructed Emotion

Formerly known as the Conceptual Act Model, Feldman-Barrett presents a model that is a blend of James' and Schacter/Singer's theories [9]. She saw that one of the biggest problems facing scientists was that they cannot agree on criteria for when an emotion is present or not, and that even when there is agreement then it's near-impossible to measure emotion with any kind of empirical consistency. Instead she likens emotional experience to the experience of colour. People experience emotion when they conceptualise it, in the same way that they conceptualise light of certain wavelengths as a colour. There is a core affect state, which is then categorised as an emotion, which will vary depending on the individual and the culture they find themselves in.

In essence, Barrett's theory can be expressed as: conceptual knowledge + core affect = emotions. What we *know* directly affects what we *experience* — there are *no fixed categories of emotion hard-wired into the brain* that are waiting to be discovered. The involvement of core affect means that emotions are not discrete emotional events — they are states that change with continued re-evaluation and changing cognition, rather than entities fixed in a moment in time (something which has also been observed by the film scholar Greg Smith [201]).

To replace the use of strict categories, Barrett defines emotions as occurring along two dimensions: valence (positive ↔ negative) and arousal (high ↔ low).

2.2.2 Ben Ze'ev's Philosophy of Emotion

Out of the many accounts that philosophy gives for the emotions, one that shows promise is that offered by Aaron Ben-Ze'ev [19].

In Ben-Ze'ev's theory, emotions have three components — a *cause* (a perceived change in the situation), a *concern* (a comparison between the different situations presented before and after the event) and an *object* (the focus for the emotional change). Here, the object is always another human or an "agent who is capable of enjoyment and suffering"[19]. If the object is inanimate, then we either ascribe feelings to that object and then feel emotion towards them, or the emotion is actually directed towards ourselves. Thus, the focus of concern

is a combination of the emotional/cognitive object and the evaluative object.

In addition to this, there are three components – *cognition* (which provides context and focus for arousal), *evaluation* (determines significance of event or subject-object relationship) and *motivation* (which refers to a readiness or desire to act — similar to Frijda’s concept of ‘action tendencies’ [90]). Outside of this framework for emotions there are also ‘feelings’ — which occur at the lowest level of consciousness (i.e. there are no un-felt feelings).

Different emotions, therefore, are made up of various combinations of these components and from what Ben-Ze’ev calls prototypical categories (which seem to be similar to Wittgenstein’s idea of ‘family resemblances’ [229]) and there are fifteen of them. Ben-Ze’ev opts for this approach because he deems binary categorisation as clear but too restrictive, whilst prototypical categorisation allows flexibility and contextual sensory data to be considered [19]. All of these prototypical categories include accounts for the characteristics of emotions - that they are unstable, vary in intensity, are usually brief (although different emotions last for different lengths of time) and come from a partial perspective.

Ben-Ze’ev makes a major point about the power of television lying in its ability to arouse emotions without any effort on the part of the viewer. This explanation is unconvincing — the audience is no more or less involved when watching a traditional theatrical production, and there is work done on films that makes a strong case for an *increased* effort on the part of the viewer leading to a greater emotional ‘return on investment’ [212]. With regard to videogames, their unique power to elicit emotion lies in how the player *must* make an effort (as Aarseth terms it, ‘non-trivial traversal’[2]) in order to proceed in the game and in how the player’s input (to a greater or lesser extent) affects the game world they inhabit.

Summary of Theories of Emotion

At the very start of this research it was felt essential to be able to precisely define what an emotion is, so that emotions felt by players could be identified and categorised, and a certain cluster of emotions or emotional experiences selected for focused research. However, after the extensive reading summarised above, this was found to not be the case.

Each model lacks suitability for this project. Darwinist theories are too simplistic to deal with the complex feelings and experiences that are of interest for this thesis, little seems to be gained by specificity of cognitive theories or Ben Ze'ev's framework, and there is little agreement on what emotions exist, what emotions are, and how they occur. Social-constructivist and the Feldman-Barrett's Theory of Constructed Emotion are far more useful in allowing a nuanced conversation about emotions without forcing them into strict categories, and yet none of them really bring us any closer to furthering the interests of this thesis — namely answering the question of how to broaden and deepen emotional engagement in videogames.

The emotional response of the player during play is complex. Identifying a single emotion — be that commonly identified gameplay emotions (e.g. fear, anger, frustration) or those that are seen less commonly (e.g. pity, sympathy and sadness) would not accurately or *usefully* describe any emotional experience during gameplay. It would only identify *one component* compartmentalised from the whole experience. Again, as mentioned previously, the parable of the blind men touching different parts of the elephant seems apt here — all are correct, but each only partially and without proper context.

It became clear during this reading on emotion that I was in fact wrong about the need to accurately and consistently identify individual emotions in order to analyse gameplay for this thesis. Not only is it a major endeavour in-and-of-itself to research, select, justify and then implement the use of a particular model of emotion, but identifying a specific emotion would not actually help in the understanding of how to design and produce games which elicit a deeper and more personal feeling experience. It would not help understand what that 'different emotional experience' actually was. None of these models of emotion help us determine and name what types of emotional experience are common place, and what kind of emotional experiences are less common and therefore of greater research interest.

In short, after extensive reading on the topic of emotion, it was felt that none of this literature would help answer the questions that were at the heart of this project.

In the next section, the focus will move away from emotion research in gen-

eral towards the more specific study of emotions in games.

2.3 Emotions in Games

2.3.1 Academia

More Than ‘Fun’

Despite players themselves having issues with viewing games as a less worthwhile or productive activity [120], there has long been a conviction amongst players, designers and academics alike that games ‘could do better’, and that they do not always have to be ‘light-hearted and ‘fun” [162].

Some have focused directly on one emotion such as fear [179]. Others have focused on a generalised form of ‘emotional response’ [211], or taken physiological measurements of emotional arousal but been unable to ascribe it to a specific emotional experience due to the limitations of the measurement apparatus [165, 166]. The best conclusion possible from this work is that gameplay experiences raise excitation and arousal levels. However, these cannot be linked to any specific set of emotions or emotional experiences. Isbister has made general (and self-evident) arguments that videogames are emotional but without describing *how* these experiences come about [123].

Others have focused on enjoyment in digital games, but found it difficult to agree on a definition that would allow cross-study comparison. In their comprehensive review of 87 quantitative HCI studies of enjoyment in games, Mekler et al. [160] found a wide range of definitions for enjoyment and a large range of measurement tools (many of them not-standardised) in use. The lack of consistency and comparability between different studies, compounded by the lack of a standardised and accepted measure for enjoyment in games provides many challenges to progress in this area.

These studies also seem to ignore the many players that engage with digital games for experiences resulting in something other than what is covered by the, arguably shallower, satisfactions of ‘enjoyment’ or ‘pleasure’ found in the hedonic entertainment experience [150] (‘hedonic’ meaning the optimisation of pleasure and the avoidance of pain/unpleasant affect). Elson et al. have pro-

vided a summary of the different ways in which games can provide more than hedonic experiences [82] and Montola goes so far as to describe how extreme role-playing can be likened to ‘social bungee jumping’, in that they can elicit distressing experiences in a useful and gratifying manner [162]. A few scholars from Games Studies have attempted to explain how the emotional experience in games differs to that of other non-interactive media with varying degrees of utility.

In section 2.2.1 (in the section on ‘Cognitive’ theories) we discussed how Tan applied theories of Frijda to the world of film. Tan proposed two kinds of emotion that arise from film-viewing — *fiction emotions* (those which arise from reactions to the diegetic content of the film), and *artefact emotions* (those which arise from an appreciation of craft and technical implementation) [212]. Perron goes on to augment this with the category of *gameplay emotions* (those which arise from actions taken within the game by the player and the corresponding feedback) [178].

It is relatively straight-forward to see that players would react with *fiction emotions* to in-game events and cut-scenes making up the narrative of the game, and *artifact emotions* to beautiful graphics, well-honed user interface design or particularly well-crafted audio and music. Perron’s work identifies the gap that exists when analysing emotions in games but not from film, literature, animation etc. — emotions that arise from the *interactivity* of games, from the buttons we press, the actions we perform and what those actions mean in the diegesis of the game. However, whilst Perron’s work establishes that there is an extra *source* for elicitation in games, it gives no comment or idea as to what those emotions or emotional experiences might actually **be**. It rightly asserts that there are more potential sites for emotional engagement in games as compared to film and other non-interactive media, but does not tackle how these emotions might be *different* to those arising from film, literature, art etc.

Frome attempts to specify eight points where these emotions might arise from (which he titles ‘Inputs to Emotions’), but they add little to Perron’s general notion of ‘gameplay emotions’ [178]. Some of Frome’s other work makes a distinction between gameplay and interactivity which he insists is of great importance to understanding player emotion [92], and yet it is very difficult to see

how this distinction would have any impact our understanding here. Calleja's work [43–45] again provides interesting and valuable comment on *where* emotions in gameplay might arise (alongside player-generated narrative, which he terms 'alterbiography'[44], but not on what emotions they might be and how they are experienced by the player. There are some excellent frameworks on how to design for the human condition, but these have not commented on what emotions are being experienced by the player, nor how these come about. Their focus is more on how to convey abstract emotional and real-world systems (see [185, 186]) or how to be sensitive to and consciously convey value systems in games (see [86, 87]). Whilst these models show how to design games 'differently' and potentially give opportunity for a more diverse set of emotions to arise, but they do not pass comment on how a player might actually feel, the kind of emotional experience they might have and how or why that experience comes about.

In HCI (Human Computer Interaction), the vast majority of research on user experience (UX) in general focuses on hedonic UX (e.g. momentary pleasures such as unwinding and relaxing) rather than eudaimonic UX (e.g. longer term goals such as pursuing personal ideals and achievements)[158]. This means that the idea of eudaimonic UX (revolving around the idea of Eudaimonia, or 'living the good, virtuous and meaningful life' [217]) is new to HCI in general, and not just games. Whilst hedonic UX is not devoid of elements of meaning, eudaimonia has far stronger links with conceptions of 'meaning' [65, 158]. The big issue here however is, "How do you measure meaning?"[158]. Engagement, of which meaning could be said to be a component, in videogames is a nascent area which has yet to see a broadly accepted measurement. Whilst several tools exist that attempt to measure engagement in videogames (such as the Immersion Experience Questionnaire — IEQ [129], Games Engagement Questionnaire — GEQ [33] and Player Experience of Needs Satisfaction — PENS [184]), they are all specific to certain types of games, genres, and facets of the gaming experience [70].

The works discussed in this section are concerned with how emotions arising from engagement with games differ to emotions arising from other media consumption, how games could be designed to be more diverse, or with certain

relatively-narrow aspects of the gameplay experience and the trouble with measuring them quantitatively. However, there is little that helps us understand how the emotional experience of the player is actually formed or how it can be elicited, analysed and discussed as a complete gestalt experience. They do not account for how all the aspects of a game are experienced by the player from an emotionally-focused point of view, and so this leaves a gap in the literature for this project to investigate.

Positive out of Negative

It is well established that positive experiences can result from negative emotions [26, 161] and that, far from wishing to *avoid* this negative affect, many players *appreciate* negative affect in their gaming experience [25, 83]. The assumption that positive affect is required for a positive experience is a bad one [156], as is testified by work on worthwhile experiences — leading to personal change and growth [120], arising from uncomfortable interactions (documented both inside [119] and outside [20] of games research). This work has established that what the media-studies researcher Oliver and Bartsch term ‘appreciation’ [173] is an important part of many interactive experiences, but more work is needed to establish how these experiences are structured exactly, and how they can be designed for.

Emotional Challenge

The experience of spectacle, wonder, and hard fun has been covered elsewhere and is common in digital gameplay [135, 140, 141, 210]. The focus of this thesis is not on this, but on the complex, mixed-affect emotional experience that often arises from playing more avant-garde games [198, 199].

There has been an increasing body of work in HCI focused on the player or participant experience in ‘serious games’. Marsh and Costello point out how, in HCI research, gaming experiences that are not ‘fun’ are usually inappropriately labelled ‘bad’ experiences, and draw upon research in film, theatre, literature, music and art to build a framework for analysing ‘serious experiences’ in games that produce long-term affect and memories [150, 151]. Iacovides and Cox build on this further by asking how serious experiences should be

considered and evaluated [119], and Mekler and Bopp further investigate and question HCI's continued conflation of negative emotions with negative experience, and why players might be motivated to seek out those negative emotional experiences [25, 156].

However, one concept that merited further exploration is what actually constitutes the idea of challenge and how these negative emotions are elicited. Work in chapter 4 proposed a distinction between *functional* and *emotional* challenge in videogames. Emotional challenge is that which is achieved by leaving parts of the experience ambiguous, confronting players with difficult material or by the use of strong characters, story and good writing. It is overcome not with skill and dexterity (as in functional challenge), but with a cognitive effort not dissimilar to the aesthetic experience of the sublime [38, 132, 196]. The core pleasure here for the player is the resolution of tension within the narrative, emotional exploration of ambiguities within the diegesis, or identification with characters.

Bopp has since found that anger and sadness were the most prominent emotions experienced during emotional challenge, and that despite the negative valence of these emotions that the experience was found to be positive and meaningful [27]. This clash between 'negative emotion and positive experience' [26], makes emotional challenge difficult to measure [27]. Bopp also found that character attachment greatly contributed to experiences of emotional challenge [26], which she investigated further with a focus on emotional attachment [28].

Denisova et al. have operationalised emotional challenge as part of their work on challenge in games [69, 71]. In line with some of the findings in chapter 4 (namely, "games do not have to be difficult in order to be challenging"), they make a distinction between difficulty (where a task is hard to do) and challenge (which involves a stimulating task or problem). They further makes a distinction between emotional challenge and a new kind of challenge — decision-making challenge. Here, emotional challenge is similar to its definition in chapter 4, and decision-making challenge comes from making decisions that are difficult to make or which lead to regrettable outcomes [71]. Additionally, emotional challenge had implications for thoughts and feelings outside of the game or after the play session ends, whereas decision-making challenge

applies only within the game.

Emotional challenge has also been studied within the context of virtual reality (VR) [177], where it was found that VR deepened emotional challenge and heightened emotional response if deployed in conjunction with functional challenge (see chapter 4). This runs slightly counter to the results reported in chapter 4, where it is suggested that functional challenge is highly likely to be antagonistic to emotional challenge — although this notion has yet to be tested.

Reflection

Reflection is as an important component of the player experience [159], and games have previously been identified as being particularly effective at triggering reflection [134]. The act of reflection has links to meaning making — Khaled defines reflection as, “what happens when we encounter situations that cannot be effectively dealt with using previous experiences and solutions” [134], and Mekler et al.s ‘Framework for Meaning’ involves reflection at many levels. However, games for reflection must be designed very differently to how common practice dictates. Khaled suggests providing for interpretive flexibility, a licence to participate and dynamic feedback to users and to prioritise questions over answers and disruption over comfort [134]. Marsh and Costello further suggest that a game needs a ‘take-away message’ to linger in the minds of players after the play session, and infer that reflection tends to happen more after gameplay, rather than during the gameplay session itself [151].

More recent work has attempted to provide empirical evidence of reflection during gameplay. Bopp et al. [26] found evidence of self-reflection revolving around the player being reminded of the past, thinking how they would react in a given situation represented in the diegesis, and being stirred to think about their own personal development and ideals. Bopp et al. [28] also found evidence of reflection in their work on Emotional Attachment to Game Characters in their category of ‘sympathetic alter-ego’ — a character which the player identifies with and reflects a part of themselves within the game, which also links to a greater emotional connection to characters and ‘feeling understood’.

Mekler et al. [159] analysed a series of player interviews with Fleck and Fitz-Patrick’s 5-level framework for reflection [88]. This framework starts with at the

bottom end (least reflective) with non-reflective description, and moves through reflective description, dialogical reflection, transformative reflection and finally critical reflection at the top end (most reflective). Interestingly, despite the passion and fervour observed amongst certain sections of games players, participants had trouble naming a reflective experience. This is corroborated by the recruitment and interviews that took place during the work for chapter 6. However, they were still able to identify difficult themes, difficult choices and the need to control emotions as important factors in encouraging reflection[159].

Related work by Whitby et al.[224] used the reflective framework of Baumer [17] to investigate ‘perspective changing moments’. They further described endo-transformations (to do with the game as it is actually being played) and exo-transformations (which occur outside of the game). In their study they observed primarily endo-transformations — where players were caused to reflect upon decisions or assumptions they had made about the game, but which didn’t seem to bleed into any changes in their thoughts or lives outside of the game. They found that the chief cause of these perspective-challenging moments was ‘narrative reveals’, but that it these moments could (rarely) occur through using the games systems. In particular, they found that Procedural Rhetoric (as per Bogost’s definition [24]) was possible, but very difficult and rare in games.

Leino’s Phenomenology

It has been suggested that phenomenology provides interesting new ground for exploration of our relationships with technology [74]. This can, naturally, include videogames.

Phenomenology asks the question, “How do we act *through* technology?” rather than, “How do we act *on* technology?” This moves the conversation towards a discussion of the player’s *experience* of how they engage with a game and how the player and the game become *entwined*, rather than a discussion of the *artefact* itself in isolation. There has been little systematic application of phenomenology to the experience of playing videogames, but one who does is Leino [144].

At the root of Leino’s phenomenological explanation of the emotional experi-

ence of games is the assertion that emotions are intentional — they are always *about* something. This intentionality, as experienced during the act of playing a game, is not just *mediated* by the game, but *transformed* by it (something that Leino calls ‘cyborg intentionality’). Emotions are also not the same as the words used to *describe* the emotion (i.e. we cannot be certain that anger is what the subject is feeling, even if they say they are angry), and Leino aligns with Feldman-Barrett [10] in his belief that emotions are not discrete events, but an ongoing system or series of *processes*. These aspects lead to the conclusion that in order to study the emotions, we should gain indirect access to them by studying the *object* of emotion, rather than the emotion itself. Whilst I agree with Leino that it is important that we work out *why* a player cares about some elements of a game more than others, I disagree strongly with his statement that a primary attribute of games is that the player is free to ascribe significance to anything, and to whatever extent they please, within a game. Game design and gameplay is, quite clearly, always a negotiation of control and facilitation between the designer/developer of a game and the player. It is not beyond the realms of possibility that a player would affix a great deal of importance to an element that the game designer considered less important, nor that a feature which the designer felt was crucial to the experience go unloved by players. Players cannot ascribe meaning at will. A more accurate metaphor for this negotiation of agency and power/control would be that of the ‘game possibility space’ [24], where the designer sets a grounding point and the parameters and limits for exploration, and the player explores those systems and environments set up for them.

Leino goes on to posit that since you cannot separate the emotional experience from the world in which it takes place, the game artefact must be considered not only from the player’s perspective, but from the player’s perspective *as it is being played*. This leads Leino to advocate a turn towards 1st person perspective analysis, in contrast with the 3rd person perspective traditionally taken by games studies scholars. This perspective helps highlight how analysing the game or the player experience in isolation from each other is insufficient. videogames do not just provide worlds – their rules and systems also shape the player’s attitudes, actions and play styles. There is a ‘preferred

performance' to be had from the player within the diegesis, and the game does not exist without this performance driving the system as programmed by the designer.

If this is the case, then a tighter description of what the game world happens to be is also necessary. Here Leino makes an interesting argument for considering game worlds as extended facticities (to use Sartre's usage of the term [191]), with the ramification being that emotions felt in game are *real* and have the same qualities as emotions that are felt in real life. Additionally, he separates elements of the game world into two categories for the sake of creating a new 'experiential ontology' – deniable (those elements that can be ignored without it impeding your gameplay progress) and undeniable (those elements which cannot be ignored, and will impede player progress if not attended to). He ends this by theorising a new kind of existence we take on during the act of playing the game which he calls the 'gameplay condition'. The gameplay condition consists of a lusory attitude (similar to that described by Suits [208]) combined with the freedom and responsibility for choices within the game. As Leino considers this analagous to our 'human condition' (the 'gameplay condition' being equivalent to *'the player's human condition in the world of the game'*), anything that the player discusses or experiences as part of their gameplay experience is going to have commonality, to a greater or lesser extent, with what would be experienced by someone else (what he refers to as 'intersubjective plausibility'). For all his emphasis on the player's experience of the game *as it is being played*, Leino appears to not consider the potential cultural and social variance between players, and therefore how elements of the concept of 'human condition' might vary between individual humans.

In summary, he advocates that any model of emotion needs to account for the mode of directedness (which is roughly analagous to naming an emotion, e.g. anger, sadness, joy etc.), the object as experienced, and the constitution of the object from the first-person point of view. Additionally, he suggests that a videogame be considered an ontological hybrid of artefact, process and experience.

Tavinor

Like Leino, Tavinor [215] also focuses on the ontology of game emotions rather than how those emotion experiences are constituted or how they are experienced. His research revolves around the puzzle of fictional emotions — why do we have feelings about something that doesn't exist, and which we *know* doesn't exist? Additionally, are these feelings different from those experienced in other media?

He interrogates cognitivist views, which state that emotions are always about a task or level in a game that players wish to fulfil. However, this doesn't always play out as simply as they would have it. Tavinor uses the example of the 'Little Sister' characters in the game *Bioshock* [238] to illustrate the problem.

The Little Sisters in *Bioshock* are a type of monster that appears in the form of a twisted little girl who yields in-game currency to be spent on upgrades and abilities. When the player has defeated the Little Sister's guardian (a giant diving suit wearing warrior known as a 'Big Daddy'), they have the option to either harvest the resource from the Little Sister (killing her in the process), or release her from her tormented existence. The latter means you will not get the resource straight away, but the game quickly repays you with a gift from another NPC later in the game which turns it into a case of 'delayed gratification'. It means that regardless of what decision you make, you do not lose out in terms of in-game resources. **However**, the player is faced with a quandary as to whether they should harvest immediately or wait for the pay-off later. This means that this is a *moral* decision, rather than a decision about a task that you succeed or fail at.

A similar situation can be seen in many games by Telltale Games such as *The Walking Dead* [275]. You have one bad choice versus another bad choice, and neither one really makes much difference to the game in terms of its systems. And yet many players will agonise over these decisions, even in the knowledge that it makes little difference in terms of completing a task or goal of the game.

Tavinor discusses at length the nature of whether we can have real emotions about fictional things, and refutes the idea in that form. His conclusion is

that we have *real* emotions about *real* beliefs about what we think is true in a fiction. He concludes that the role of emotions in videogames to help us become immersed in the experience (although he doesn't examine or explain his understanding of the notion of immersion at all, which is problematic), and that they are separate from us and therefore 'cheap'. By this he means that we can have our emotions stimulated but without any real-world consequences, and that *this* is the reason why games are fun. Whilst not quite the same, and despite reservations over the use of the word 'fun', this is not entirely disconnected from the concepts that arise from the investigation that is detailed in Chapter 6.

Unfortunately he does not specify how this emotional-stimulation-without-consequence is qualitatively different from the emotional experience that comes from watching horror movies or a tragedy, and he does not elaborate on what he means by the word 'fun'. However, he does comment briefly on how the interactive nature of games means that they allow emotions such as responsibility, guilt and threat-to-self (cf. threat to *another* in a horror film) to be experienced, which is not possible in other mass media, due to the existence of a 'fictional player-character proxy' (he doesn't go into details about the construction of what he thinks the player-character proxy is).

2.3.2 Industry Sources

Progress in the games industry has usually been tied very tightly to technological advancement. Emotion is often discussed in a discursive and light fashion in videogames media and conferences, but seldom in-depth and with the desire to create a framework for focused implementation and further discussion. Some have claimed to investigate emotion in games although they have tended to conflate it with pleasure [140] or motivation [11].

Nicole Lazzaro — a veteran player experience consultant and a frequent speaker at industry conferences is one of small number of industry figures to have claimed to engage with the subject of player emotion. For Lazzaro, the point of studying player emotion is to be better able to encourage them to play a game and eventually part with more money (she has consulted widely for the free-to-play sector). Her focus is very much on the nebulous characteristic of

'fun' in videogames and her well-known paper/Game Developers Conference talk [142] divides this into *hard fun* (which comes from personal triumph over adversity), *easy fun* (pleasure from exploration and role play, the satisfaction of curiosity), *social fun* (pleasure derived from relationships with other people) and *serious fun* (where a game provides meaning and value outside of the gameplay context).

In other writings [141] she further elaborates that emotions play five distinct roles: enjoyment, focusing of attention, help in decision-making, creation of performance and help with learning, although these are not explored in any great detail nor supported with much other discussion. Curiously, she asserts that emotions are often fleeting and that players are often unaware of them. This is a broad, unsubstantiated statement that has not been backed up with rigorous evidence. Given the vast conversation to be had about whether emotions or meta-emotions *require* cognition or not, whether emotions *involve* cognition or not, or how much cognition *affects* emotions if it *is* involved that is referred to above, this statement lacks credibility.

Lazzaro [141] used a facial recognition system based on Ekman's work to measure player's emotions during gameplay and uses the results to refine her four categories of fun from earlier formulations [142]. She affirms the need to 'design for emotions' because "emotions are needed to make choices, and choices are what constitutes games", but then states that designers cannot design emotions directly. Whilst this is true to an extent, it's still possible to construct a set of systems and/or world for the player to explore that leans heavily towards invoking a certain range or type of emotions or moods.

Ultimately, Lazzaro's 'Four Keys to More Emotion in Player Experiences'[140] do not deal with emotion per se, but rather aims to clarify what kinds of 'fun' there are to be had in a videogame, and how to design for them. Bartle's seminal work [11] investigates *motivation*, but it does not explore player *emotion* — although, as pointed out by Bartle himself, it is sometimes misquoted as doing so [12]. More up to date work on gamer motivation has been carried out by Nick Yee and his company Quantic Foundry [230–232], but similarly to Bartle's work does not deal specifically with the emotional experience. Brie Code's recent writings on the concept of tend-and-befriend as applied to the

domain of videogames [54] investigates designing games for a different set of experiences, but again without investigating the emotional experience itself.

From the field of product design, Don Norman makes reference to three emotional layers that designers need to take into account when they design a product — behavioural, cognitive and reflective [170] (previously named as visceral, behavioural and reflective respectively [169]). Norman's *visceral level* is about body reactions, instant feedback and the hard-wired response. The *behavioural level* is about learned skills and governs most of our behaviour and is affected by expectations (which help to set up and maintain behavioural states). But it's the highest level, the reflective layer — that of slow and conscious cognition and deep understanding, that is the most important to designers. Emotions formed at the reflective layer are *consciously* constructed and last longer. All three levels are interlinked, and the flow of information goes up and down between all three, but levels can also be purposely called into conflict with each other. For example, visceral and reflective levels often contradict each other in art.

2.3.3 Summary of Emotions in Games

Study of emotions within the games industry have tended to conflate pleasure or motivation with emotions themselves. Whilst these three concepts are linked and overlap at many points, they are distinct from each other. 'Why is this player playing this game?', 'What pleasures are being given?' and 'How do they feel?' are three different questions. Pleasure involves positive emotions, but sources from academia suggest that the emotional experience in videogames is not *just* about pleasure. Positive experience does not always require positive emotions, and negative emotions do not always equate to a negative experience. The situation appears to be more complicated than that, and more work focusing on the player emotional experience is required. The lack of agreement on definitions (such as 'enjoyment' or 'positive user experience') and of standardised quantitative methods to measure these experiences also suggests that qualitative investigation would be appropriate.

Leino's work is interesting, but doesn't help us identify the experience of interest — although it does suggest that certain features of a game could be

used to influence a ‘preferred performance’. This ‘preferred performance’ could include increasing the capacity or chances of a mixed-affect emotional experience in the player. This is corroborated by several scholars’ work on reflection — which suggests that encouraging player reflection during gameplay is key to creating these moments of emotional significance.

2.4 Specifying the broader and deeper emotional experience

It is important that the emotional experiences that we are attempting to focus on are well-defined. Are we talking about *specific* emotions, certain *combinations* of emotions, certain types of experiences, or something else altogether?

What does it mean to broaden and deepen the emotional engagement of videogames, and why should we?

2.4.1 Why study this?

videogames are the first interactive mass medium. Other media are restricted to just representation, but games do more than represent — they *simulate and model systems* with rules [198]. From a commercial point of view, a narrow set of emotions and themes to games means that many people who might play games (and therefore spend money on them) are missed because they simply do not see a game that appeals to them. We can contrast this with film or literature — where there are titles/works to suit nearly all tastes or markets. By not solving our issues of authorial creativity in the videogames industry, we are ‘leaving money on the table’. Chris Bateman phrases this well when he writes, “we are all losing money when we narrow our understanding of what videogames can be” [16]. Some have ventured this is (at least partly) due to a narrow range of diversity amongst games developers [6], but this is also because, as an industry, we sell ourselves short and overly focus on the nebulous quality of ‘fun’ at the expense of other potential rewarding experiences. Developers often focus on producing mass-produced artifacts which are *not* art due to money pressures [199]. This doesn’t mean that no videogames at all are art, or that none are challenging us to think differently — just that relatively few

of them are [202]. More could and should be.

There is a broad consensus that videogames often revolve around power and overcoming challenges [131] or about ‘things’ rather than people and feelings/emotions [59]. Many do not consider videogames capable of being autobiographically expressive [199]. Whilst this is not surprising — it is difficult to implement emotions in rules [131], precisely modelling emotions in rules and interactions is not the only way to approach the problem. Instead of hard-coding specific emotions into the rule-set we could create a ‘possibility space’ [24] that suggests certain forms of interaction or encourages certain types of performance [144] — facilitating the player’s construction of *their own nuanced experience*, rather than dictating every facet of it through the rules, content and cut-scenes. After all, all fictional worlds are incomplete [131], so it could just be a case of deciding what gaps to leave and how large to make them.

2.4.2 ‘Avant-garde’

Definitions of the avant-garde specific to other fields such as film [29, 167] have limited use for an interactive art-form. In film, for example, the viewer is a passive voyeur looking through a directed window onto the diegesis, but in videogames the player is an integral actor in the diegesis and can often direct their *own* view of it. Sharp [199] and Schrank [198] have each made their own contribution of the understanding of games which is geared more towards viewing games as an art form, rather than an entertainment product. Sharp makes an interesting use of John Hospers’s ideas of thin aesthetics (focus on formal aspects only) and thick aesthetics (where context and culture are taken into consideration) [115], and looks at how the gaming community and artistic community would view games and ‘artgames’ differently. Brian Schrank’s categorisation of different kinds of avant-garde along two axes (radical↔complicit and formal↔political) provides a strong framework with which to explore how games could be more diverse.

For Schrank, the key characteristics of the avant-garde are that they open up the experience of playing games and/or expand the ways that games can shape culture. They can achieve this by being radical (less conventional and using more ‘mind-bending’ tactics) or formal (using well-established tropes

and methods), political (opens up the experience of being in the world) or formal (opens up the experience of playing games themselves) and everything in-between. The radical-formal questions and dissects the *medium itself*, whereas the radical-political makes statements about the *world we live in* and doesn't follow the established rules of the medium whilst doing so. The complicit-formal re-appropriates games for art — it is art for art's sake, but aware of its own context, and the complicit-political seeks to redistribute power from traditional gate-keepers and setup temporary ad-hoc utopias in order to bring aspects of our real lives into clearer focus. Schrank also adds another axis that sits alongside those summarised above — that of the narrative-formal and the narrative-political. In the same way that the formal avant-garde draws attention to the forms and conventions of the medium, the narrative-formal encourages the player to make the familiar seem unfamiliar again (as it was near the beginning of videogames where *everything* would have been considered avant-garde because everything was new) and force the player to analyse and re-establish their understanding of the form. Similarly to the political end of the spectrum above, the narrative-political challenges and twists pop culture. It doesn't seek to destroy culture, but to *transform* it and re-appropriate it for political means.

2.4.3 Carroll's Theory of Art

It would be an oversight to not give consideration to how the world of art approaches diversity of the medium. For this topic the art philosopher Noel Carroll provides some useful points for consideration [48]. In the pursuit of the question, "What is art?", several theories have come and gone in the art world — art as representation, art as a series of forms, art as an expressive vehicle, the institutional theory of art etc. As well as being the result of sustained philosophical debate, it seems that the cycle of theories may also be used as a crude marker for the ever changing nature of the public or collectors' taste in art. "What is art?" has similarities to the question "What is a game?" — maybe the answer is more an indicator of tastes of the age rather than a definitive philosophical answer describing the essence of the medium. If the conversation for games is following a similar path to that of art through the ages, could we learn

from the mistakes of the past and skip a few steps to more contemporary and useful understandings of games?

In the neo-formalist view of art, something is an artwork when it possess form that is appropriate to represent its content. This is a statement fraught with difficult and too wide open to interpretation of the word ‘appropriate’, but it does highlight how form and content must be considered together as a whole — an idea which has only recently been discussed in games design. Indeed, where does form end and content begin, and vice versa? It also raises the question for this project of how we can separate the emotional affect of form (i.e. rules, systems, mechanics) from that of the content of a game (i.e. graphics, narrative, characters etc.).

Carroll also mentions the idea of the artist deliberately harnessing emotions whilst creating the artwork and then finding a way to effectively transmit this to the audience (finding the form to fit the content, as discussed above), a version of the expression theory of art that Carroll calls ‘transmission theory’ [48]. These emotions are individualised, not general — they are an expression of the individual emotional experience of the artist.

This has interesting ramifications for games design and production. Many of the more ‘affecting’ games that are of interest to this project tend to be made by individuals or small teams. Does this individualised expression lead to a deeper and more nuanced emotional gameplay experience? Why should it be that *this* approach to design would be more successful than that which involves more generalised expression?

2.5 The Difference Interactivity Makes

Games are a uniquely powerful medium for the 21st century [87]. They are the only medium capable of story *generation* as well as story-telling [44]. In games, we actively participate in *creating* meaning, as opposed to solely *interpreting* the meaning of a static text, or viewing a static or moving image [86]. This has become more evident than ever in recent years as the discussion about ‘emergent stories’ in the press and industry literature linked to games such as *Minecraft* [263] and *Day-Z* [243] show us. The *actions* of a player can elicit emotion every

bit as much as well-written dialogue or a slick cut-scene [55, 82, 107], but they are often not considered. If anything, discussion of how the mechanics make us feel tends to only arise when they conflict with the fiction that the game represents, something known as ‘ludonarrative dissonance’ [112].

There has been little formal investigation into how the procedural elements of games (i.e. the rules, mechanics, systems and controls) are involved in our emotional reactions, with many papers instead tending to focus on aesthetic content such as sound, visual and narrative (for example in Lankoski [138]). Some well known industry models are readily available. Formal Abstract Design Tools by Church [52] helps build game worlds that are interesting and provides a method for designers to conceptually map out the game space to encourage player engagement. The Mechanics-Design-Aesthetics framework [117] is often referenced — where a developer would start with the feeling they want to give the player (aesthetics), then work out what kind of systems are needed to create that feel (dynamics), and finally what rules they’d use to create those systems (mechanics). There is also the tetrad model by Schell — made up of aesthetics (most visible elements to the player), mechanics, story and technology (less visible to the player) [194]. According to Schell, the game-play experience is a product of these four criteria.

Models such the Formal Abstract Design Tools, the MDA framework it inspired or Schell’s tetrad model are all very useful for designing fun and engaging games, but they do not encourage the designer to think about what kind of *emotional* experience they wish to impart or, having decided upon an emotional experience to convey, how to build it. There is little evidence to suggest that any of these models are used consistently by games developers and there is little, if any, research to back up their efficacy and utility.

Videogames’ key departure from other media is that they put the player into a role, and the player is acting out that role — this is what makes videogames particularly powerful in ways that other media cannot [82, 108, 162]. As Rusch phrases it, “games have the potential to make statements about how things work by representing processes with processes” [185].

In seeking to analyse how affective games achieve their aims, Flanagan’s Values at Play framework has some application [87], despite its focus on val-

ues expressed by a game, rather than emotions (the Values at Play framework is a design methodology to help a designer analyse what kind of values are unconsciously embedded within their game, and then consciously embed values they would like to see expressed in the systems of their game). Whilst the designer's intentions are not fully determinative (players co-operate with the designer in the constitution of meaning and experience), it is possible to *affect* how likely a certain interpretation is to be made. To do so we can analyse the game from three different layers — expressive, ludic and technological, and ask what values are embedded in the presentation, rules and method of presentation/play respectively. One of the things that is desirable about the Values at Play framework is that it recognises that values are expressed procedurally and *not* just in the narrative. Much of its thinking also transfers over from the domain of values to that of emotions.

In summary, little is known about how interactivity can be leveraged for emotional affect in videogames and there is little analysis (for example, using close textual analysis) of how those games that are known to do this well achieve their emotional impact.

2.6 Extant Theory

In the course of work done in chapter 5, the investigation turned towards a reconsideration of the concept of agency in videogames. Additionally, the key findings and theory that developed during the work in chapter 6 were contextualised with self-determination theory, psychological theories of escapism and the concept of the eudaimonic entertainment experience. These topics are therefore discussed below.

2.6.1 Agency

Since its definition by Murray as regards its use in digital media[164], the notion of agency has been discussed at length (e.g. [152, 213, 223]). Earlier work extended the concept of agency focusing on the range actions available to players (e.g. [154]) and later authors, such as Tanenbaum and Tanenbaum, argued for agency to instead be considered as a 'commitment to meaning' —

i.e. agency isn't about an increase player freedom of action, it's about the *intent* behind the player's actions and the meaning that is imputed by that intent [214].

In the Tanenbaum and Tanenbaums' view this interpretation mainly applied to 'narrative games', where they considered freedom of player action (the more 'conventional' understanding of agency) as being in direct conflict with the story [213]. Such later work was useful in broadening the conversation around agency, but did so by attempting to graft extra meaning into the idea of agency, making it an overly broad and muddier concept. A better route may have been to establish new vocabulary to differentiate their notion, in certain circumstances, from that already established. It may have also allowed their notion to have been applied more easily to games without a narrative focus (which may have been just as appropriate) and would have allowed this particular discussion on agency to proceed with more clarity and nuance. Additionally, even though they begin by proposing a refocus from the *outcome* to the *intent* of the player's actions, their illustrative example focuses upon the results of player actions in the diegesis.

The concept of agency *still* isn't used with consistency by either media or developers. It is often the case that a game gives the player control over their minute-to-minute actions (e.g. with combat or upgrade paths for equipment etc.), but allows them little to no effect on the narrative or interaction with and/or development of NPCs. This is particularly common in triple-A games, where it simply costs too much to develop material/assets to make content that might never be seen, leading to games that usually play out, more or less, the same each time.

Some videogames implant illusions of agency into the players mind, causing them to believe that they can affect and change the narrative or NPC development. A clear example of this is Telltale Games' Walking Dead episodic series of adventure games [275], where the player is often told that a character will remember their responses in conversation or decisions, and is frequently faced with time-pressured choices with supposedly important consequences. Replays of an episode show that these responses and decisions actually make little to no difference to the storyline or the gameplay. David Cage, the head of

Quantic Dream, whose games' (e.g. [237, 249, 256]) marketing revolved around claims of being able to affect the narrative profoundly through your actions, has recently referred to his narratives as 'bending stories'— stories which can stretch a *little* bit, but which will always need to snap back into place sooner or later [41].

Even so, these decisions *still mean something to the player*. Whilst they may have no effect on the narrative or world of the game — in the space between the controller and the diegesis, they may potentially have an effect in the space between the controller and the *mind of the player* — which may still profoundly affect the player's experience. In addition to a mechanical/functional possibility space for exploration, couldn't agency be used in reference to a cognitive/affective possibility space for reflection (similar to that suggested by Bartsch and Hartmann [14])? The more common, player-freedom-focused, definition of agency at this time does not answer these questions satisfactorily. Tanenbaum and Tanenbaums' re-rendering of agency as a 'commitment to meaning' may be of interest here, but they clearly assert that this applies only to 'narrative videogames' — although they do not specify exactly what they mean by this [213].

It is worth considering whether the ideas of 'agency as player-freedom' and 'agency as commitment-to-meaning' could be re-imagined so as to coexist in some way. Do they *have* to be considered mutually exclusive of one another? The work in chapter 5 investigates how this might be so.

2.6.2 Self-Determination Theory

Self-determination is one of the major psychological theories in human motivation [219]. Originally conceived by Edward Deci and Richard Ryan [189], it states that there are three needs which must be fulfilled to achieve optimum mental well-being — competence, autonomy and relatedness. *Competence* is where an individual has the ability to show mastery over part of their environment (e.g. a skill or task). They are able to show that they have developed skills in a certain area and have an opportunity to demonstrate this. *Autonomy* is where someone has the ability to make some choices in their life and have some decision-making power so that they can act on the world in a way that

matches their own desires. Note, this does not have to be absolute i.e. someone does not need completely free-reign in their lives in order to satisfy this criteria, simply that they have been able to make some decisions in how their live is conducted. *Relatedness* is where an individual feels connected to others around them and a sense of belonging.

A recent review of the use of SDT in HCI found that the majority of researchers cite it in a shallow manner and do not engage with it in-depth. The net result of this is that whilst SDT is cited widely, it has contributed little so far to the field of HCI [219]. Games, being interactive, afford the player (cf. viewer/reader) a degree of autonomy and often, though not always, a good chance of satisfying competency needs. It seems fair to assume that playing a multi-player game may contribute to a sense of relatedness, and this has been shown in studies of massively multiplayer online games [190] and in studies of players using games to deal with difficult life experiences [120]. Furthermore, SDT research on games in general has tended to focus on the needs of competency and autonomy, but not on relatedness [219, 220]. The Player Experience of Need Satisfaction Questionnaire (PENS)[184] only includes three items connected to relatedness, and even then it's only relevant to the study of multi-player games such as MMOs.

Even less discussed than multi-player games is how playing a *single-player* game may give players a sense of relatedness. Tyack and Wyeth seem to be only to have done so to date [220]. For them, relatedness comprises of three aspects: reciprocal love and care, acceptance of one's true self by others, and perceived belonging to social/cultural groups. They see relatedness as being satisfied by games from three potential sources: parasocial relationships, games development culture, and the game artefacts themselves. Parasocial relationships is a concept originally introduced by Horton and Wohl [114] to describe one-sided relationships of an audience member with performers in mass media — originally on television. In the context of a videogame this refers to the player identity with any character in the diegesis, but particularly with that of the player avatar/character. With regards to games development culture, Tyack and Wyeth use Bourdieu's concept of habitus [30] — a shared sense of history and set of influences, to explain how relatedness could be satisfied — where the

gamer feels part of a sub-culture or liked-minded people. Finally, Tyack and Werth assert that during play the player constructs 'mind' in order to relate to the game itself, and so may feel that playing the part of the player character allows them to come closer to their 'ideal self'.

2.6.3 Stenseng's Escapism Scale

Stenseng proposes a model on escapism [204] that shows considerable overlap conceptually with the definitions of Hedonia and Eudaimonia (see section 2.6.4) which became important as a result of the work detailed in chapter 6.

Regulatory Focus Theory (RFT) [110, 111] concerns where a person's focus is when they engage in an activity, and defines two different self-regulatory viewpoints. A *promotion* focus leads to pursuit of improved standards and ideals and an allocation of time and attention to that end. A *prevention* focus leads to maintaining congruity between one's actions and current duties and obligations. A *promotion* focus leads to growth and disruption of the 'status quo', a *prevention* focus leads not attempting to improve one's situation, thereby avoiding failure, any negative evaluations that might be forthcoming from those around them, and is associated with seeking to protect the self's unity and stability from exterior threats [204].

Stenseng, inspired by RFT, investigated different modes and motivations behind activities that resulted in 'escapism' (escapism is here characterised by task absorption, temporary dissociation of parts of the self and reduced self-evaluation). He found there were two types of escapism — *Self-expansion* (correlating to RFT's *promotion* focus, and an increase in positive affect) and *self-suppression* (correlating to RFT's *prevention* focus, and avoidance of negative affect).

In *self-expansion* an individual engages in an activity and sees it as an opportunity for self-development and growth. Whilst these activities may be risky or present potential threats to the individual's self in some fashion, the individual undertaking the activity sees this as a worthy endeavour since it will result in self-improvement. These activities are linked with a higher level of life satisfaction, and can lead to an 'upward spiral' of positive effect in live.

In contrast, *self-suppression* is when someone engages in an activity to re-

move negative affect and otherwise avoid troubling thoughts from consciousness. The individual undertaking these activities wishes to avoid thinking about their current situation or any potential future challenges.

2.6.4 Hedonia and Eudaimonia

Positive Psychology is a sub-domain of psychology which researches what happiness is and how to attain it (it's also known, more plainly, as 'happiness studies'). Up until the early 21st century, many studies depended on a measure known as subjective well-being (SWB) [76], where the participant would assess how happy they are themselves and report accordingly. Subsequently, happiness was associated with maximumisation of positive affect, minimisation of negative affect, and self-assessments of high life satisfaction. It is understandable that, at this point, 'happiness' was interchangeable with 'well-being' [65].

However, life satisfaction did not always map accurately to this more 'hedonistic' conception of happiness. Life satisfaction was plainly observed in spaces where there most definitely was not a maximising of positive, and minimising of negative, affect. As time went on, some researchers considered that happiness, as experienced and reported by participants, was *not* the same as psychological well-being. This meant that SWB was no longer always the correct way to measure psychological well-being [65]. This gave rise to a separate view on happiness known as 'eudaimonia'.

Hedonia, or the hedonistic tradition, of positive psychology rates happiness through the maximisation of positive affect, and the minimisation of negative affect. Originating with the greek philosopher Aristippus and later popularised by Epicurus, it should not be confused with the modern-term 'hedonism', but simply states that anything that is displeasurable should be minimised, and anything pleasurable should be increased, *within reason*.

Eudaimonia takes a broader and less-defined view on how to achieve happiness. Eudaimonia, derived from the writings of Aristotle [217], is concerned with living well ('the virtuous life') or living up to one's human potential. Not only does eudaimonia *not* privilege positive affect over all else, but it also places less emphasis on happiness as an end goal, and more on happiness as a continuing project or process of realising one's true nature, which never

really comes to a conclusion.

Whilst eudaimonia and hedonia are clearly very different ideals, there is significant overlap, interplay and co-existence between the two. For example, someone living eudaimonically will experience hedonic happiness, but not all hedonic enjoyment is derived from eudaimonic living [65].

2.6.5 Eudaimonic Entertainment Experience

Recent research in media research has explored the ideas of hedonistic vs. eudaimonic entertainment [13, 14, 227], as a means for understanding why viewers purposefully view ‘difficult’ films that do not necessarily give pleasure as it is commonly understood [173].

Whereas the purpose of hedonistic entertainment is to maximise enjoyment for the viewer (and is pleasure-seeking), eudaimonic entertainment aims to evoke a strong sense of ‘appreciation’ in the viewer (and is meaning-seeking). ‘Appreciation’ is defined by Oliver and Bartsch as, *“an experiential state that is characterised by the perception of deeper meaning, the feeling of being moved, and the motivation to elaborate on thoughts and feelings inspired by the experience.”* [173] These two types of entertainment fulfil different need gratifications in the viewer — both of which can result in satisfying experiences and strong motivations for viewing. The majority of research to date has focused on the hedonistic mode of entertainment [13, 160] and research on eudaimonic gratifications and motivations is nascent [26, 27, 158]. Oliver et al. recently investigated the potential for eudaimonia/appreciation in digital games [175], associating mechanical gratifications with enjoyment and narrative gratifications with appreciation. Many other studies show that this distinction is oversimplified (e.g. [20, 138], plus the results of work done in chapter 4).

“Why do people like consuming media that makes them feel sad, bad or upset?”. This is not a new path of enquiry — the compelling nature and popularity of tragedy (potentially the oldest form of theatre [217]) has always been discussed without coming to a solid conclusion [172, 197]. This is seen in the work of scholars such as Bartsch, Oliver and Hartmann [13, 106, 173]. Indeed it is Mary-Beth Oliver who coined the phrase ‘Eudaimonic Entertainment Experience’ (EEE). The processes that lead to this type of experience have begun

to be investigated by scholars in HCI such as the range of challenges possible in games [69], hedonic and eudaimonic user experiences [158], mixed affect [161], and how games can be used to convey more serious experiences [119]. Nevertheless, the core properties of what constitutes and what causes the eudaimonic entertainment experience require further investigation.

2.6.6 Bartsch

The work of Anne Bartsch has been mentioned a couple of times already in this literature review (see sections 2.6.5 and 2.6.1).

Although Bartsch works within the domain of cinematic entertainment [13], there is much that could be of use as a starting point for my own thinking on related topics in interactive entertainment and videogames. In her paper on appreciation, co-authored with Oliver [173], they assert that there has been much research done on gratifications arising from amusement and pleasure, but point out that not all entertainment is about such things. There is, not surprisingly, a reluctance to classify gratifications had from tragedy or serious films (think ‘Hotel Rwanda’, ‘Schindler’s List’ etc.) under the term ‘enjoyment’ or ‘pleasure’, but they still need to be accounted for in some way.

Further to this they propose three major types of gratification: fun, suspense, and ‘moving and thought-provoking’. The latter of these is far less looked at and the topic of their research. In a previous paper, Bartsch investigated the ideas of emotions vs. meta-emotions — or ‘reflective thoughts and emotions about emotions’ [15]. She found that both positive *and* negative emotions could result in favorable appraisals and positive reactions at the meta-level. This has strong ties to the notion of appreciation, as discussed in the previous section. Together with Oliver they ran 3 studies to investigate their three proposed types of gratification (fun, suspense, moving/thought-provoking) and found that fun equated with *enjoyment* and light genres such as comedy and romance, suspense with action-oriented films, thrillers and horrors, and thought-provoking with appreciation, tragedy, drama, classics and documentaries. Interestingly, whilst ‘fun/enjoyment’ is ascribed a positive valence and ‘suspense’ a negative valence, thought-provoking was not given a valence of emotions at all.

In later work [13] Bartsch investigated these notions further and identified seven factors involved in emotional gratifications from screen media — three related to the appeal of specific feelings (*fun, thrill, empathic sadness*), and four related to how emotions are involved in the gratification of social and cognitive needs (*contemplative emotional experiences, emotional engagement with characters, social sharing of emotions and vicarious release of emotions*). In her discussion of these factors, she discusses concepts of eudaimonic and psychological wellbeing, how the seven factors above can be mapped to the 3 main requirements of self-determination theory, and points to several avenues of research pertaining to how entertainment can contribute to long-term wellbeing, rather than just regulations of emotions in the short-term.

This preceding work is important for understanding her recent work with Hartmann [14], which has further investigated what kinds of challenges are involved in eliciting three types of gratification (fun, suspense, appreciation). Cognitive and affective challenge resulted in higher levels of appreciation, affective challenge with reduced cognitive challenge resulted in heightened suspense, and the absence of either kind of challenge corresponded strongly with fun. This adds to Hartmann's earlier writing on media consumption for recreation versus that for psychological growth [106] — here 'fun' relates to recreation and 'appreciation' maps to psychological growth. However, the status of 'suspense' is a little more questionable. Traditionally it has been placed with 'fun' under the heading of hedonic entertainment (cf. eudaimonic entertainment involving experiences of 'appreciation'). However, Bartsch and Hartmann's work calls this into question.

Of most relevance to this project is the distinction of hedonic entertainment and fun from that of eudaimonic entertainment and appreciation, and the role of differing kinds of challenge to each. The role of challenge is investigated in Chapter 4 (in work that preceded that of Bartsch and Hartmann), and the former hedonic/eudaimonic distinction is investigated more in Chapters 5 and 6. Both concepts are involved in the integrative framework that is explored in Chapter 7.

2.6.7 The Aesthetic Experience of the Sublime

The concept of the sublime was a major topic of discussion in the 18th Century, with the first well-formed synthesis of the concept appearing in the writings of Burke [38], having been inspired by writers such as Dennis [72]. In turn inspired by Burke, Kant wrote extensively on the distinction between ‘the beautiful’ and ‘the sublime’ [132] where the beautiful results in pleasant sensations which are joyous and cause one to smile, but the sublime arouses enjoyment mixed with horror (something that Burke referred to as ‘rapturous terror’). Kant also proposed three types of sublime: the terrifying (mixed with dread), the noble (mixed with quiet wonder) and the splendid (mixed with beauty).

Schopenhauer extensively developed this notion of the sublime. Previously, the sublime was thought to only arise from the contemplation of nature — this is why the painting *Wanderer above the Sea of Fog* by Friedrich is often used to convey the concept of the sublime. But Schopenhauer thought this was limiting and not entirely true. He agreed with Kant that there is terror involved, but the key for Schopenhauer is that the object under contemplation must be hostile to us in some way and threaten to overwhelm us. For this to happen, a viewer must first comprehend the vastness of what they’re perceiving, and ‘wrench ourselves free from our will’. It is beyond the scope of this work to provide a proper explanation of Schopenhauer’s concept of the Will-to-life and what it means to turn away from it, but what it amounts to in this context is that the viewer must make a conscious effort to detach themselves from the situation in order to avoid becoming overwhelmed by what they perceive. For Schopenhauer, the sublime experience is mixed with pain, whereas that of the beautiful is not. The beautiful has a *loss* of self-consciousness, whereas the sublime involves an acute self-consciousness both when first perceiving the object of contemplation, but then also when overcome it through an intellectual and emotional effort. The experience of the beautiful is relatively straightforward between our imagination and understanding. The sublime is turbulent and awakens us to a sense of something greater than ourselves.

As a result of this new understanding, Schopenhauer did not agree with Kant’s typology of the sublime — since all experiences of the sublime involved

terror and pain to some degree. He proposed that there were two types of the sublime — the dynamical (associated with objects of nature, as was traditional), and the mathematical (when a psychological concept threatens to overwhelm us). Schopenhauer saw that the mathematical sublime is what occurs for the viewer of a tragedy. We experience a moment of transcendence at points in the tragedy — in Schopenhauer's words 'the will-less contemplation contemplation of the object'. For him, *this* is the sublime. Additionally, Schopenhauer specified six degrees between the beautiful and the sublime. For the purposes of this, however, these are not important.

A useful summary of the sublime has been written by Freeland, which is refocused upon art (in her case, cinema) [89].

1. The sublime involves 'rapturous terror'. The object is something terrifying, but as long as we are safe we have the intellectual pleasure of astonishment.
2. Something about the object is vast, powerful and overwhelming.
3. Contemplating the object invokes ineffable and painful feelings, which are transformed into pleasure and cognition of the object.
4. This prompts moral reflection.

This takes into account the large amount of thought that has occurred on the concept of the sublime, distils it into a useful summary, and helps avoid the contemplation of the aesthetic experience of the sublime from overwhelming us.

This chapter has provided a survey of theories on emotion, emotions in games and background on a number of other fields (such as Self-Determination Theory, Escapism, Hedonia and Eudaimonia etc.) that became relevant during the course of research for this thesis.

Having established a literary and theoretical background on emotion in this chapter, the next chapter acts as both an explanation and literature review for Grounded Theory Methodology — the research methodology used throughout

this thesis. It will explain what Grounded Theory is, how it is different from other qualitative methodologies, the variations and debates that exist within the tradition, and provide context and rationale for how Grounded Theory has been used during the course of this project, and explain the reasoning behind those decisions.

Chapter 3

Methodology

3.1 Introduction

Grounded Theory Methodology (GTM) is a powerful way to develop theories in domains where there are obvious opportunities to contribute in the form of carefully developed *explanatory* conceptual theories. Reasonably nascent areas of academia, such as the study of videogames, stand to particularly benefit from this approach.

Although GTM originates from sociology, it has gained a degree of recognition and use in the overlapping fields of HCI and Game Studies. However, ‘Grounded Theory’ as a label does not represent a single universally agreed on methodology, and the fragmented way it can be interpreted and deployed has caused confusion and controversy [97]. GTM is often treated as a single, agreed set of methodologies and principles — glossing over nearly 50 years of heated academic debate in the process. This chapter explains why it is important to include a clear indication of what variant/interpretation of GTM is being used and explores some of the philosophical differences between the major schools within GTM. Readers will then be able to more accurately evaluate the merits of the results of this thesis, as well as other projects that claim to use a ‘grounded theory’ approach (many claim use of GTM inaccurately and do not show a real understanding of GTM, its variants, its rich tradition and how this impacts their results, conclusions and how their work is received by others.). This chapter therefore takes the form of both a methodological explanation and a literature review of grounded theory.

This chapter starts with an overview of the major variants of the Grounded Theory Methodology (GTM), the elements they share and how the implementations differ. There will not be a debate around the merits of the different interpretations of the methodology directly, but rather the differences will be

presented openly so that the reader is better able to evaluate for themselves the results of this thesis. It is hoped that the reader is left with a deeper understanding of why certain approaches were chosen during this project. This will be followed by a rationale for the GTM approaches used within this thesis and how they have evolved over the course of the project.

For further information the reader is encouraged to consult sources referenced in this chapter, although they may wish to begin with a practical introductory source such as Bryant [36] or Mills and Birks [23].

Important note: All data collection, analysis, and theoretical work in this project was carried out solely by the author.

3.2 GTM Overview

Grounded Theory Methodology is a set of tools and techniques for rigorously collecting and analysing data in an area of interest, resulting in a novel theory that explains one or more processes and/or phenomena in that domain. Using these techniques means that the theory is ‘grounded’ in the data — hence the name. It is held to be an inductive or abductive process, depending on which school of GTM is adhered to. Glaser and Classic Grounded Theorists would say GTM is inductive, whereas Straussian and Constructivist Grounded Theorists would assert GTM is an abductive process.

It is worth pausing to *very briefly* review the differences between deductive, inductive and abductive (the lesser known) forms of logic.

Deduction is where a specific conclusion is derived from general or universal premises which are known to be true and certain. Therefore, the conclusion is guaranteed. e.g. Socrates is a man, all men are mortal. Therefore, Socrates is mortal.

Deduction is used to make predictions about the future, but is non-ampliative — that is it cannot add to current knowledge due to its strict requirements for the premises to be 100% certain in order to draw valid conclusions. If the premises are true, then the conclusions must also be true (if they are validly drawn). Deduction is truth-preserving.

Induction is where a generalised conclusion is formed based on the observation of a number of specific instances. Cause and effect is observed, and a set of rules or hypotheses are generated to link the two. Inductive reasoning can be strong (if there is a lot of evidence available and the conclusion is highly probable) or weak (less evidence and probability is low). There is always an element of probability involved, and conclusions can be false even if the premises are true. e.g. All the swans I have seen are white, therefore all swans are white. This isn't true — black swans do exist, although it is highly probably in most parts of the world that the next swan observed will be white.

Induction is also used to make predictions about the future, and is ampliative — it **does** add to current knowledge, even if that knowledge may not be certain and true (as in deduction), merely likely or probable. Induction is therefore not truth-preserving like deduction is.

Abduction is where a best or *most likely* explanation for a specific situation is drawn from an *incomplete* set of observations. Again, probability is involved and the conclusion is likely. Abduction is often summarised as “inference to the best explanation” There could be a number of possible explanations for the set of observations, but one explanation is more likely than the others based on the (limited) information at hand. e.g. Medics use abduction to diagnose a patient. They cannot be sure they have all the correct information, and it may not even be possible, but they make an ‘inference to the best explanation’ when making a diagnosis.

Whilst deduction and induction work from premises through to conclusions (i.e. using the past or present to predict the future), abduction works in the reverse fashion and uses current observations to provide explanations for probable causes (i.e. using the present to explain the past). This also means that, like induction but unlike deduction, abduction is not truth-preserving.

3.2.1 History of GTM

Origins

The term 'Grounded Theory' was coined by Barney Glaser and Anselm Strauss (in '*Discovery of Grounded Theory*' [102]) to describe the methods they employed in their study of palliative healthcare [103]. They produced it at a time when quantitative, empirical methodologies were dominant in the Social Sciences over exploratory, qualitative methodologies. Glaser and Strauss argued that other qualitative methodologies at the time tended to rely on a somewhat restrictive set of 'grand' theoretical traditions (e.g. Marxist analysis or psychoanalytic analysis) which were not always appropriate or useful. They felt that many social scientists were preoccupied with testing other people's theories and not doing enough work to build *new* theoretical insight in the field of the social sciences [101]. The intention at the time was to give a degree of empiricism and transparent rigour to the production of high-quality qualitative theoretical results, without feeling the need to fully yield to prevailing positivist values at the time.

Initially the primary method was referred to as 'constant comparison' [102], but progressive developments yielded a full research methodology. Constant comparison's main aim was to identify conceptual themes or categories within data relating to a substantive domain of study, such that those concepts can be employed in the production of a novel theory about the primary concern within that domain. A set of clear and transparent methods were devised to lend rigour and transparency to the process of theory generation.

A difference of opinion

The original 'Discovery' text [102] had areas that were vague and causing confusion (e.g. Glaser and Strauss had assumed that most readers would understand what was meant by 'coding', and its place in the GTM framework). Glaser wrote a series of small instructional texts (most notably *Theoretical Sensitivity*[101]) in response to these criticisms. After his work with Glaser, Strauss worked with Juliet Corbin to write *Basics of Qualitative Research* [205]. *Basics of Qualitative Research* summarised this prior work in the constant compar-

ative method and grounded theory methodology, and presented it as a more accessible guidebook on GTM. The purported readability and greater availability of the various editions of this work has placed this guide at the forefront of many researcher's initial attempts to use GTM.

However, Glaser is highly critical of his co-originator's interpretation of the methodology, to the extent that he claims that the methods described in '*Basics of Qualitative Research*' were **not** grounded theory at all, but another form of qualitative data analysis. His particular concerns were with what he termed a 'worrisome concern with accuracy' and detail, and over what he perceived as as high risk of 'forcing' categories onto the data, as opposed to allowing codes and categories to arise from the ground up from the analysis of the data. He wrote the rather polemic *Basics of Grounded Theory: Emergence vs. Forcing* [97] specifically as a rebuttal to Strauss and Corbin.

After Strauss's death, Corbin alone continued to update and publish new editions of '*Basics of Qualitative Research*' (2nd: 1998, 3rd: 2008, 4th:2015), which maintained the divergence from the original texts [101, 102], and Glaser has continued to argue that it is not grounded theory as described in '*Discovery*'. Over time, these approaches have become known as Straussian, and Glaserian (or 'Classic' Grounded Theory, as Barney Glaser and his followers refer to it themselves.)

The 'Constructivist Turn'

In the late 90s and early 2000s Kathy Charmaz, responding to concerns in some circles about the treatment of participants and the perceived positivism in GTM, wrote about how a more constructivist mindset should be brought to the methods of GTM [51]. Charmaz and others were concerned that GTM presented as an overly positivist methodology. Their contention was that codes, categories and theory *do not 'emerge'* from that data as if they were always present, waiting to be discovered (as Glaser asserts), but *are co-constructed by the researcher and participant* in the process of data collection (often by interview) and analysis [182]. This implicitly suggests that the role of the researcher in the production of data needs to be acknowledged and the researcher's prejudices, views and intellectual history taken into account during the analysis.

Glaser's response was to assert that GTM has no inherent need to be constructivist in its approach, that the constructivist turn was pointless and a distraction away from the true nature of GTM. The views and thoughts of the researcher are simply another variable — an extra piece of data, to be considered in the analysis with other data [96], according to the Glaser dictum that “all is data” [100].

Charmaz continues to promote the constructivist-oriented variant of GTM [49]. Others such as Clarke have extended GTM to produce other constructivist, and more sociology-focused, qualitative methodologies such as Situational Analysis [53].

3.2.2 Common methods and concepts

There are therefore, broadly, three main schools of thought regarding the implementation of GTM — Classic/Glaserian, Straussian, and Constructivist. Despite the differences and heated methodological debate that has taken place from 1967 and still continues today, all variations of GTM share a common set of principles and tools:

- *Production of a theory*: What distinguishes GTM from other methodologies is that its product is a **theory which explains** what is happening in a domain, and **not a categorical or detailed description** of the domain.
- *Coding*: The practice of applying labels to parts of the data (be this words, sentences or paragraphs in a transcript, areas of an image, time points in a film etc.) with words that describe what is happening in that section (often using gerunds to emphasise the process present [49]). Coding takes place at several stages of the investigation, but all GTM projects begin with initial or ‘open’ coding, with various strategies for intermediate, or ‘focused’, coding later on. Earlier stages attempt to ‘fracture’ data into parts to be manipulated and worked with. Later stages of coding reconnect these pieces into meaningful complexes as categories and (later) concepts.
- *Simultaneous data collection and analysis*: The parallel and iterative processes of collection and analysis of data. Unlike conventional research

thinking (where data is collected and then analysed), grounded theory encourages instant analysis of any data collected — which informs further data collection. In this sense, rather than the data posing a question and analysis providing an answer, during GTM collection and analysis of the data are deeply entwined in an on-going conversation.

- *Theoretical sampling*: The act of iteratively seeking data which will challenge, enrich, or reinforce the **concepts** being developed or produced, according to the theoretical ideas currently being produced. New data is *not* led by a need to represent diversity amongst participants or data sources, but to fully flesh-out and challenge a developing category or concept in the theory.
- *Memoing*: The production of theoretical ideas and musings about the nature of the codes being produced and the data being collected. Thoughts and ideas that arise during collection and analysis are noted and expanded upon through writing. Eventually these memos will help form the basis of an emerging theory.
- *Constant Comparison*: The ongoing of comparing codes with codes, categories with categories, codes with categories, memos with codes and categories etc. as the project progresses through multiple rounds of data collection and analysis. This is the core process that leads to the creative and interpretive connections that lead to theory generation. A method for this can be writing codes/memos/categories on post-its and moving them around a whiteboard/wall, or using a software program to achieve something similar.
- *Theoretical Sensitivity*: This refers to the ability of the researcher to sense ‘what is going on?’ in the data as they become more immersed in it and work with it throughout the course of a project. A researcher’s sensitivity depends on themselves as an individual and how much self-insight they possess, on their intellectual history to date, and their ability to keep an open mind as they work with the data at hand.
- *Saturation*: The point at which new data collected from the domain isn’t

adding anything further to the properties of categories or concepts that have occurred during analysis. This is not the same as 'there is nothing new in the data'. Data collection always reveals new insights and ideas, but during the course of a GTM project it may not add anything which challenges or enhances the developing theory.

- *Theoretical Integration*: In the final stages of a GTM project the researcher will integrate all the parts of the developing theory into one cohesive whole, whilst also drawing on elements of extant theory. This aids in adding explanatory power to the novel theory, and in situating it in relation to the wider body of knowledge.

3.2.3 Variations of GTM

Glaser and Strauss

Glaser's Classic Grounded Theory Methodology (G-GTM) is quite radical. He states that the process should be as inductive as possible, and as such the researcher should initially avoid literature with *direct* relevance to the domain of interest (a broad literature review is fine and encouraged), avoid setting out a research question too early, and avoid using rigid practices or methods to code raw data. Importantly, G-GTM is not intended to be a methodology exclusive to sociology or a specific tradition within qualitative research, but a general purpose methodology for the production of theory in *any* substantive domain [113]. Other variants tend to assume practitioners operate within the social sciences, and therefore ascribe to a philosophical position that underpins their exposition of GTM. For example, Charmaz has included this since the first edition of her textbook [49] and Corbin has included a chapter on philosophical considerations underpinning the research from the 3rd edition of her textbook onwards [56]. Glaser feels that this is unnecessary, and a distraction from the 'doing' of Grounded Theory.

Glaser does not contend that a constant comparative coding strategy could ever yield an objective and definitive set of codes from which to build theory [101]. This contrasts with Strauss and Corbin, who tend to emphasize 'complete', accurate, and *verifiable* coding strategies around a set of pre-determined

research questions as a set of methods that are fully compatible with GTM [205]. However, Glaser claims that Strauss isn't presenting a GT methodology at all, but rather a sophisticated set of tools for Qualitative Data Analysis (QDA) [97]. His main concerns are:

- Grounded theory is a set of methods that can be flexibly used regardless of philosophical background and of field. He does not see the need for the researcher to accept a certain philosophical position in order to use GTM, unlike Strauss and Corbin's explicit acknowledgement of the heavy influence of symbolic interactionism and pragmatism.
- Strauss and Corbin's emphasis on producing a detailed model as being obstructive to the real power of GT. Glaser instead adds for a succinct and easily expressible word or phrase that is readily understandable and has 'grab' [101]. For example, 'super-normalising' — where people who have previously been ill go to great efforts to show everyone that they are okay and recovered, when they really are not (this was the core concept from Kathy Charmaz's PhD thesis, which was supervised by Glaser).
- Glaser thinks Strauss and Corbin should not concern themselves with 'worrisome accuracy' [96, 97] and transcribe interviews, instead they should only take brief field notes of observations and thoughts for later contemplation. Strauss and Corbin advocated full-transcription of interviews and detailed notes of interactions for later reference so that no detail of an encounter was lost to faded memory.
- Glaser advocates delaying a focused literature review, and insists that the researcher must enter that domain with as little fore-knowledge of it as possible. To possess extensive knowledge of the domain 'pollutes the mind' of any researcher, risks any chances of novel theory being produced and results in the unconscious 'forcing of data' i.e. a top-down application of codes to data that does not really warrant it, rather than allowing codes and categories to arise inductively from the 'bottom-up' or inductively. [97, 98, 101]. A broad literature review is acceptable however, since this sensitises the researcher to a wide array of concepts which

would increase their theoretical sensitivity. Strauss and Corbin advocated a detailed and focused literature review prior to investigation so that the domain of inquiry can be accurately identified, research questions can be formulated and so that proposals for funding and grants can be written.

- Glaser gives primacy to the autonomy of the researcher, who usually works alone. He views the need for ‘verification’ as a dangerous restriction on the creativity of the researcher and their sensitivity to the emergent theory from the data.

The end goal in G-GTM is the *discovery* (rather than production) of a *concise conceptual hypothesis* relating to the primary independent variable present in the domain being studied [101]. To this end Glaser advocates early conceptual abstraction, and criticizes S-GTM (and other similar variants by extension) for being overly concerned with accurate and detailed description, and model building. For Glaser the process of conceptual coding rests on the ‘sensitivities’ of the researcher and should lead almost immediately to conceptual theorization about the domain rather than ‘objective’ model building within the domain data (for Glaser, categorising codes is not enough to constitute a theory — whereas it could be in S-GTM).

How these ‘sensitivities’ can be said to apply within an allegedly ‘objectivist’ and, ostensibly, inductive discovery of a theory is an ongoing point of debate (e.g. [133]).

S-GTM advocates spending a significant amount of time researching and formulating the exact research question(s) that the researcher wishes to answer, and presents a number of conceptual questions the researcher might ask of the data in order to ensure that the researcher gains a relatively complete (and therefore detailed), verifiable model of the social processes employed by domain actors. It is worth noting that whilst earlier versions of S-GTM, by the nature of their emphasis on producing a *detailed and complete* model of the domain, lean more towards the positivist position, Corbin’s views and recommendations in later editions have progressively moved towards those of constructivists such as Charmaz and Clarke.

Glaser and Charmaz

Glaser's insistence on the validity and utility of the inductive creation of generalized, abstract, conceptual (but still substantive) theory from data, has drawn substantial criticism. Charmaz deals with the supposed criticism that GTM is apparently objective or positivist by stating that knowledge is neither produced out of nothing, nor discovered — instead the researcher co-creates meaning within the domain they are studying [49, 51, 182]. Methods and results, therefore, should not only reflect the stories of the actors concerned but also be mindful of the values and stories the researcher themselves bring to **their** interpretation of that data. This is despite Glaser *emphasising* the creativity and autonomy of the individual researcher, and that this is something they should be aware of and preserve at all costs.

Similar to Strauss (and in contrast to Glaser), Charmaz does not advocate strategies for isolating the researcher from pre-existing theory, as Glaser does [97, 101], but rather proposes that a researcher use their knowledge of possible relationships between the actors in the research process to develop conceptually rich *narratives* which are important to both researcher and subjects. Similar to Strauss she prefers detailed analysis of carefully recorded interactions (usually transcriptions) between the researcher and their respondents to accurately represent the interactive research process (compare this to Glaser, who refutes recording interviews and depends on brief field notes).

In keeping with his own dictum of “all is data”, Glaser sees the views and values of the researcher as simply another kind of data to be analysed [100]. Whilst Glaser sees any concern with accuracy or verifiability as being unnecessarily restrictive, others see G-GTM's failure to fully address the role the researcher and their background plays in collection and interpretation of data, as well as their ‘smash and grab’ approach to data collection and attitude to interviewees, as too great to ignore [182]. Glaser sees the advent of C-GTM as unnecessary [35, 96], and it has been observed that the challenge presented by Charmaz is never addressed directly by Glaser [35].

3.2.4 Summary of the differences between the variants

Table 3.1 presents a summary of the differences between these three main variants — some of which can be quite subtle. This table does not offer a definitive rendition of each, but rather is presented to illustrate how the relative differences between the variants can be understood.

That the three GTM variants appear to disagree on important issues of concern in research practice is not to say that these approaches are all utterly irreconcilable, and it is suggested here that the primary difference between them can be reduced to what kind of result one is expecting from the process.

- G-GTM seeks a theory in the form of an abstract and succinct hypothesis concerning the one key variable in the system which has the most effect.
- S-GTM more often attempts to construct a less abstract theory using a detailed and multi-layered model of how the numerous variables in the system interact.
- C-GTM produces a theoretical output which sits between the other two types while also explicitly appending observations about the imputed, implicit thoughts, hidden narratives, and contexts of the individual actors and the researcher. It is more concerned with giving an authentic ‘voice’ to the participants than the others.

One key difference between the variants is that G-GTM strives for one single theoretical category that ties all the codes and categories together. In contrast S-GTM and C-GTM recognize that there will more likely be several major themes and categories needed to give an account for what is happening within the domain of study. This variability in the conception of ‘theory’ has led some commentators to take issue with the idea that GTM produces theory at all [216]. Such criticisms may depend upon which variant of GTM is being discussed, what one feels a theory should amount to, as well as one’s understanding of the imputed epistemology proposed by the three main variants of the methodology. That said there is evidently room within GTM to account for a number of different perspectives.

	G-GTM	S-GTM	C-GTM
Philosophical Position	More positivist	Earlier editions ('90, '98)- more objectivist. Later editions ('08, '15) - more constructivist	Constructivist
Data collection	Selective (only field notes) Explicitly against detailed observation	Accurate (Full transcription)	Accurate (Full transcription)
Primary source of Data	Interviews, but "all is data".	Interviews	Interviews
Status of researcher	Researcher as 'objective analyst'. Can analyse self as another 'variable'.	Variable according to philosophical position. Must be self-reflective.	Co-constructor of data. Constant need for self-reflexivity. Explicitly concerned over role of researcher's interpretation of data.
Broad literature review	Good for 'theoretical sensitivity'	Can sensitise researcher	Necessary for sensitisation to subtleties in data and participants
Focused literature review	Avoid until after theoretical saturation (to avoid bias). Post-saturation, useful for write-up, context and integration with field.	Delay till later to help contextualise theory	Necessary to be sensitised to subtleties in data and participants More substantial later on to contextualise theory
Research question	Undefined at start. Only approximate area of interest to be decided. Question arises from initial data analysis	Well-defined before research	Approximate before research Subject to modification during project
Variations in coding strategy	(extant) 'theoretical' coding optional. Line-by-line open coding encouraged Simpler, more straight forward	Axial coding to assist in discovery of core category (NB: Axial coding deprecated from 3rd edition onwards) More complex and detailed	Axial coding optional (caveats apply) Line-by-line open coding strongly encouraged Simpler, more straight forward
Desired result	Simple explanatory theory around a core concept that underpins process(es) observed in data	Detailed model of categories and codes around core/axial concepts.	Powerful core concept(s) that explains/underpins participants stories.
Main quality concerns	Fit Explanatory power Relevance to domain Adaptability to similar/other areas	Model fit to data Verifiability Completeness	Fit Explanatory power Conveying peoples' stories. Confirmation of utility by participants
Key Question	<i>"Is this concept useful for explaining the patterns we see in the domain?"</i>	<i>"Is this conceptual model accurate, complete and correct?"</i>	<i>"Does this concept explain and convey what people have said and/or feel?"</i>

Table 3.1: Summary of differences in GTM variations

Glaser regards these differences as so important that any variant which proposes data accuracy or verification over conceptualization, and any clear promotion of researcher sensitivities or biases over the inductive construction of theory from domain data, is deemed by him to be a re-modelling of the methodology to the point that such new versions are no longer GTM, but rather a form of Qualitative Data Analysis (QDA) which appropriates the jargon of GTM [96, 97, 99]. Glaser's focus is on keeping the process of GTM purely inductive, maintaining researcher autonomy and creativity so as to give maximum chance for novel theory to arise from the GTM process. The philosophical challenge to pure induction is long standing and most modern thinkers recognize that knowledge cannot reliably be formed inductively from data. Therefore, it must be constructed, in some respects by the researcher's own engagement with the data they collect and analyse. At the very least it seems that many researchers acknowledge that the process is an abductive [49] interplay between the data and the researcher's 'sensitivities' rather than purely an inductive, mechanistic, 'discovery' of the theoretical 'truth' by a tabula rasa researcher.

This suggests that the methodology according to Glaser is **not**, and never was, pure positivist objectivism and the argument that it *is*, in some ways, is more likely to constitute an argument against the more detailed verificationist approach of Strauss [97]. In this sense then, the approaches of Glaser and Charmaz could be said to be closer to each other than either of them are to Strauss and Corbin — even if they may not wish to admit this!

3.2.5 GTM vs. other qualitative methodologies

Many qualitative research methods use some of the same tools that grounded theory does — such as coding, categorisation and comparison of codes (not to be confused with *constant* comparison, which requires the separation of data collection and analysis). This has led many to assume that this is all that is required for a study to be labelled a grounded theory. However, using some of these tools doesn't mean that the researcher has used grounded theory any more than they have used the objective scientific method because they mixed some chemicals together and watched what happens. Coding, comparison and categorisation are incredibly useful tools, but if they are used to identify themes

in the data — that is thematic analysis. If they are used to produce a taxonomy or model — then that is another form of qualitative data analysis, but it is *not* a grounded theory project either in practice, nor in the results.

Many research studies claim to use grounded theory, but a closer read reveals that their methodology is not grounded theory, but a different form of qualitative data analysis. This has not only been commented on by Glaser [97–99], and Birks and Mills [23], but the author has also found this to be the case from their own experience. In common with Birks and Mills [22], the author has found that many studies purporting to be grounded theory studies have actually used a form of thematic analysis as their method (for an explanation of thematic analysis, the reader is referred to Braun and Clarke’s excellent primer [32]), or have simply used preliminary coding strategies whilst dispensing with subsequent stages essential to Grounded Theory.

The main issues that the author has noticed with publications are:

- **The lack of a theory.** Frequently a study will claim to use a grounded theory approach, but has instead provided a description or taxonomy rather than a theoretical explanation for what is happening in the area of interest.
- **Overly detailed theory.** An author may claim that they have a theory, which may well be true in some senses, but is too detailed and therefore too specific to that particular situation to be of use outside of a very specific problem area — again veering very close to being a description rather than an explanatory theory or abstract concept.
- **A top-down approach.** GTM is an inductive method, which means that codes, concepts, categories and meaning are derived iteratively from the *data upwards*, rather than data being ‘forced’ into a pre-determined framework from the *researcher/concept downward* (this is one of Glaser’s concerns over the ‘forcing’ of data — hence the subtitle of his rebuttal to Strauss [97]).
- **Collection of all data before analysis.** The interleaving of data collection and analysis is absolutely critical to the practice of grounded theory.

Without analysis of the data and the resultant memoing guiding where to look next for more data, there can be no constant comparison of codes and emergent categories. There can be no theoretical saturation — how can you ensure that your codes and categories are fully-explored (saturated) if all of your data has been collected already? If you are certain that you are able to collect all the data you need before *analysis*, how can any resultant theory be said to be grounded in the data and inductively derived from the bottom-up, when it is clear that you have pre-existing ideas about what you will find in the data — inferring a (possibly unconscious) top-down approach?

If it's not a theory, you have not used grounded *theory*. If it has not been generated inductively/bottom-up from the data, it is not *grounded* theory.

To be clear, this is not a statement on the superiority of one qualitative research method over another — such a statement would evidently be fatuous, and the researcher must select a methodology that suits the project at hand. It is simply making the distinction between GTM and other methodologies clear, making a plea for researchers to provide more accurate descriptions of the methodologies they use, make clear their assumptions made before and during research, and for researchers to pay the same diligence to understanding their *methodology* as they do to understanding their subject area.

3.3 Example procedure for a Grounded Theory project

To help the reader understand how a GTM project looks in practice, the following steps are an example of the practical steps that a GTM project may go through from beginning to end. Due to the flexible and reflective nature of GTM, this is by no means a definitive procedure, but hopefully illustrates what the above philosophy and principles look like when carried out. Specifics on how that stage has been implemented in this research is given where appropriate/possible.

1. Researcher identifies area for investigation.
 - Area may be roughly defined, or area of focus may be more detailed

in the form of research question(s). This depends on the style of GTM chosen and other factors (see above).

- Literature review prior and during research varies according to style of GTM and philosophical position.

(Since this is a nascent area of enquiry there was little specific literature review to be done before recruitment and interviews commenced. However, as part of the initial literature review for upgrade the author carried out a wide and non-specific literature review around the specific topic of emotions in videogames.

Recruitment for all studies was done using very general calls for participation so as to not prematurely narrow-down future avenues for enquiry and to keep options for theoretical development open.)

2. Researcher collects **small** amount of data

- This can be pre-existing such as written material (for example, as used in chapter 4) or, more commonly, generated through interview and transcription of the interview (as seen in chapters 5 and 6). *This would only be a few articles or a single interview.*

(In chapter 4, a small number of reviews were analysed for a handful of games — some which appealed to a ‘core’ mainstream game-playing audience, and some which appealed to those more interested in avant-garde style of experience (see chapter 4 for a more detailed discussion of this distinction). In chapters 5 and 6 one or two interviews were carried out with games players.)

3. Researcher applies codes to this data.

- Data can be pre-existing written material or generated through interview and transcription.
- ‘Codes’ are short labels which summarise/describe what is happening in just that line/section of data.
- Coding can be done section-by-section, line-by-line or ad hoc/only where something ‘interesting’ occurs.

(In chapter 4 codes were applied on an ad-hoc and section-by-section basis. In chapter 5 was first coded ad-hoc and section-by-section, but later on line-by-line coding was used to gain deeper understanding of the data. In chapter 6 coding began with line-by-line detailed coding of data.)

4. Researcher looks at codes generated for any emergent ideas or patterns, and writes a 'memo' to record thought process.
 - Memos occur at any time throughout project, but particularly between sessions of data collection and analysis.
 - At the start of a project patterns and emergent ideas are ill-formed and difficult to come by. The researcher needs to continue with the project and 'trust in the process' at this point.
 - Later memos may well be 'memos about memos' depending on the state of development of the emerging theory.

(Memos are written on codes, reflections on groups of codes, and ideas sparked by certain codes and phrases used in source material. A memo is simply a written account of the thought process — important both for in-the-moment processing and later retrieval and reflection during theory development and write-up.)

5. Using the results of step 4, researcher determines where/how to collect more data, and does so.
 - This is 'theoretical sampling'.

The researcher's primary concern is **not** to sample for population balance (i.e. along gender, age, educational or racial lines), but to respond to gaps and suggestions in the developing theory. The focus on recruitment is on collecting data that will challenge, test, expand, add more detail to and develop ideas and potential lines of enquiry suggested by the analysis so far.

(In chapter 4 this meant collecting reviews from more 'core' games, more 'avant-garde' games and beginning to include reviews of games that showed properties of both in order to test emergent ideas and theory. In chapters

5 and 6 this meant conducting interviews with players of games that had been mentioned in connection with strong, c complex mixed-affect experiences, based on those games discussed with initial interviewees.)

6. Researcher repeats steps 2 to 5 as many times as is necessary

- Theory emerges half-formed from early rounds of coding and analysis.
- Emerging theory determines direction of next round of data collection, coding and analysis (leading, eventually, to theoretical saturation).
- Researcher remains flexible and open-minded to directions the data and analysis might take them.
- Over time certain codes become more important/useful in explaining what is happening in the data, and get raised to categories and/or concepts. Codes then become 'properties' of these categories and concepts.
- Each round of data gathering and analysis should be used to test and improve the developing theory.

(In chapter 4 ideas and suggestions arising from the analysis of reviews of the first handful of games of interest affected which reviews (specifically, games that reviews were written about) were collected next for analysis. Further cycles of analysis and directed collection, with constant comparison ongoing between results of different stages of the collection/analysis cycle facilitated further testing and development of emerging theory. In chapter 5, sensitivity to what the data was suggesting took research into a very different direction to that initially planned. Instead of a deeper investigation of the core concepts raised during the work in chapter 4, the work focused on related yet substantially different ideas and emerging theory.)

7. Researcher stops collecting data when new data does not suggest any new properties of categories in the emerging theory.

- Not to be confused with 'stop collecting data when there's nothing new to be found'. Any new data collection will usually yield new items to

think about. However, the important question is are they related to the **developing theory**? Does this data contradict the theory, and therefore suggest it needs modification?

- This is ‘theoretical saturation’.

(In the studies in chapters 4, 5 and 6, new data from reviews or interviews were not significantly challenging or modifying the respective theory in each study, which signified that theoretical saturation had been achieved).

8. Researcher writes up theory and integrates it within other theory for the literature for that domain.

(Post-theoretical saturation is the point where literature that was more specific to the domain of enquiry was consulted. During the work in chapters 4, 5, and 6, engaging and reflecting on literature adjacent and complementary to the new theory helped situate it in respect to other research and clarify its contribution to the field.)

3.4 Usage of GTM in this Project

All participants were unpaid and volunteered their time for free in response to general calls for participation or a personal request. In addition to the lack of budget and administration needed, research has suggested that data from volunteers can be of higher quality than if they were paid [228]. Over the course of this PhD, participants have been eager and willing to volunteer their time to contribute to this research.

Chapter 4 used a S-GTM inspired approach (via Adams et al. [3]), chapter 5 was carried out from a more Constructivist approach, and the work in chapter 6 was carried out from a hybrid of Constructivist and Classic stand points. It is therefore worth explaining why each methodological variant was used, and why there was a change between the chapters.

The study in chapter 4 was completed early on in the course of this PhD, when less research on HCI research methods, and more pertinently the area of GTM, had been completed. At this time procedure was influenced by a well-written and instructive chapter by Adams et al. on Grounded Theory Method-

ology [3] in Cairns and Cox's book on HCI research methods [42]. This chapter outlined a Straussian approach to GTM without mentioning any other variant of GTM. In the context of that study it was the most appropriate model — there were a large number of sources and there were no interviews conducted meaning that there was little personal narrative to take note of (data sources were all journalistic game reviews). The resultant detailed model, axial categories and theory formed was in keeping with a Straussian approach.

When the study in chapter 5 came to focus on the personal experiences of videogames players, it was decided that the methodology be re-evaluated. In the interim period more research on GTM as a method had been carried out, and whilst S-GTM was a suitable model for the study detailed in chapter 4, moving forward it was felt that C-GTM was a better fit. This is for two main reasons. Firstly, the main method for data capture was individual interviews, rather than pre-existing literature, and so it was felt at that time that the personal narrative of participants could be dealt with more appropriately and reflected better through using a C-GTM model. Secondly (and most importantly), it was felt that C-GTM was more 'epistemologically honest' than S-GTM. It is near impossible to imagine a researcher 'bracketing out' their background, ideas and experiences from previous work when interpreting the data collected. S-GTM attempts to present a detailed, verifiable model for the knowledge domain being studied, but it was felt that this level of objectivity is simply not achievable within the methods and parameters of this project, and that it may have hampered the potential for novel and significant outcomes.

C-GTM acknowledges the researcher's interpretive faculties in the construction of theory and observations of the knowledge domain, whilst also emphasising the personal narratives of participants. Due to the more intimate nature of the project (investigating emotional experiences felt during gameplay) and the nature of data collection, it was decided that C-GTM was a better fit for future studies.

Having completed the work in chapter 5 using Charmaz's book as a guide [49], and having investigated GTM even further than before, it was felt that adopting a mixed approach to GTM — one between Classic and Constructivist stand points was the most appropriate. Constructivist approaches and meth-

ods tend to focus on detailed descriptions and the personal narrative of participants and are very much geared towards the social sciences.

This being a qualitative HCI thesis, the abstraction and flexibility afforded by the Classic/Glaserian approach was deemed more suitable. However, it was felt that the cursory note-taking advocated by Glaser would not be sufficient to capture enough data for later analysis, that elements may be missed by the researcher, and that it would stop the researcher from paying full attention to the participant's answers during interview. This is less of a problem here than in many interviews, due to the usage of Instant Messaging Protocols for interviewing participants — meaning that transcripts were automatically generated during interview. However, even if the interviews had been face-to-face or via Skype, transcription still would have taken place.

It was also felt that the more direct, clear and abstract methods of the Classic/Glaserian approach were more appropriate to this project. Whilst the author felt it obvious that a researcher cannot possibly enter a research position clear of pre-existing assumptions, views or intellectual baggage, and is not able to 'bracket this off' and treat it as 'simply as another variable for analysis' as Glaser contends, they agreed with not conducting a focused literature review and of not formulating a specific set of research questions prior to the work in chapter 6, so as to not force categories on the data and to retain maximum sensitivity to possible lines of enquiry during analysis. They entered the area with a broad area of interest ("What is emotional challenge?") but with an interview guide (as recommended by Charmaz [49]) to help guide and focus the interview on the broad area. On two occasions (chapters 5 and 6) this same approach produced very different outcomes which were beneficial to this project. The lack of pre-existing work in this area helped with delaying the literature review, and it is considered an advantage to have been able to post-pone even the broad literature review until the final stages of theoretical integration — especially in the case of chapter 6.

Ultimately, it was decided that the products of a Classic Grounded Theory (the Glaserian approach) — that of a novel, abstract and powerful explanatory theory, was more in keeping with the aims of the broader project of this thesis.

In summary, as the author became more experienced with the methods of

grounded theory and more educated on the details of the history and debates around its use and development, they moved from an unquestioned Straussian position, to a more informed Constructivist position, ending finally at a deliberately chosen combination of aspects from the Classic and Constructivist viewpoints.

3.5 Interview Procedure

3.5.1 Interview Structure

With the exception of the first two interviews for the work in chapter 5, all interviews in chapters 5 and 6 were carried out over instant messenger. Participants were interviewed (using ‘intensive interview’ style methods [49]) over instant-messenger using semi-structured interviews where an ‘interview guide’ was prepared but not followed strictly. The IM protocol used was either Discord or Facebook Messenger, at the preference of the participant.

An intensive interview is one where the interviewer is seeking to say as little as possible outside of general probes and well-aimed questions. In intensive interviews (the type which GTM often recommends), an interview guide is prepared to help the researcher clarify the questions they’d like to ask the participant, pre-empt any issues with questions, and generally support the interviewer in staying focused and keeping the pace of the interview flowing. The point, as far as possible, is to encourage the participant to speak as much as possible and for the interviewer to speak as little as possible. In essence, the interviewer is encouraging as close as they can get to a monologue from the participant. The interview guide is a set of ‘guidelines’ rather than rules per se. Interviews can veer off on interesting and unexpected tangents and the interviewer should allow these to occur and to pursue them if it serves the purpose of the research and produces valuable data. These decisions are taken spontaneously by the interviewer and participant. Interview guides change and adapt to the investigation as it proceeds, as further data is analysed and as the emergent theory goes through its various stages of evolution, but it is important to realise that the interview guide is mainly for preparation, for the researcher to clarify for themselves what they are interested in asking, and is not a series of

questions that must be strictly adhered to.

3.5.2 Usage of Instant Messenger Protocols

The use of IM is unusual for grounded theory work, and therefore requires an explanation and rationale.

The usage of instant messenger protocols (IM) affords a few disadvantages, but also a considerable number of advantages which outweigh these shortcomings. When compared with the data from the first two interviews, there was no discernable difference in the quality of data being collected, and resultant transcripts were far shorter (on average about one-third of the length).

Disadvantages:

- Impossible to read body language, which makes up a large part of human communication. Delays in response are not entirely accurate to read either — they could be the result of something happening in the space where the participant is sitting such as a person talking to them, an issue with their computer etc.
- Rhythm and flow of discussion can take a few minutes to establish. The interviewer in particular must learn to read the typing progress indicator (often represented by blinking or bouncing dots just above the text entry area), so as to not interject, cut-off the participant's answer, and to allow them to answer as fully as possible.
- Participants typing speed will be slower than they can speak, and so this led to longer interviews of two to three hours to allow proper in-depth discussion to occur.
- It is difficult for the participant to see that they have the full attention of the interviewer due to the lack of physical presence in the same space (in intensive interviews [182], the interviewer focuses intently on what the participant is saying, speaks as little as possible, attempting to reach as one-sided a conversation as can be achieved). Steps were taken to assure the participant that they had the full attention of the interviewer, that no other windows were open aside from the chat window being used for the

interview and a text editor window to make notes on the interview as it progressed.

Advantages:

- videogames players tend to be confident technology users. Combined with the modern pervasiveness of IM, it is a reasonable assumption that the majority of people eligible for the study would be familiar and comfortable with extended conversations over IM.
- Easier participation from all over the world — especially participants whose first language isn't English, who may feel more comfortable with the extra thinking time afforded by writing/reading rather than speaking/listening. This gives IM an extra advantage over the use of VOIP services, which would still have allowed participation outside of the interviewers immediate locality.
- The extra thinking time was not only advantageous for those whose first language was not English. Despite the loss of body language, it is felt that the use of written language and the slower, more ponderous pace of an IM conversation (as compared to a spoken conversation) made it easier for *all* participants to be reflective when questioned about their experiences. It is felt that with IM there is less urgent pressure to perform and think of words in the moment, and these few extra seconds allow people time to think and to express themselves more authentically and accurately.
- Easier recruitment. Many participants appreciated the anonymity and convenience of using IM rather than spoken conversation, and it is felt that this helped with recruitment.
- Ethics. The enhanced anonymity of using IM meant that the identity of participants can be easily hidden and therefore reflect good ethical research practice and post-study treatment of participants.
- Data was of equal if not higher quality than that derived from transcription of face-to-face interviews. Not only this, but transcripts were shorter

and denser with information due to fewer filler words, phrases and general speech dysfluency. The shorter length and denser information made managing and analysing source transcripts much easier.

- It is felt that the use of a keyboard and screen between interviewer and participant was in fact a great 'leveller' from a social point of view. Some participants stated they were the quiet type, and not so confident with speaking, especially about new or seldom-thought about topics such as those covered during this project. Even if interviews were conducted over VOIP rather than physically face-to-face, there could be all sorts of unconscious social interactions associated with personality, gender roles, class, status, accent etc. that could adversely affect the conversation between the interviewer and participant. The use of IM allows most of these factors to fade into the background and be 'less present' in the conversation between interviewer and participant. Birks and Mills speak of taking steps to 'reduce power differentials' between researcher and participant [22, 23], and the use of IM greatly assists with this.
- The use of IM meant that transcripts were automatically generated as the conversation proceeded. This saved a vast amount of research time that would have otherwise be taken up with transcription. After a short period of time (approximately 15 minutes) spent anonymising and reformatting the chat logs, transcripts were ready for import and coding/analysis in software. This facilitated a much faster analysis stage between interviews, meaning that the study could proceed more rapidly without compromising the iterative collection and analysis cycle, constant comparison and rigorous route to theoretical saturation required for GTM.

Protocol for Chapters 5 and 6

Participants were recruited online or in person. If online then this was by posting calls for participation on videogame interest groups on Facebook, Reddit, or Itch.io. In person was through personal acquaintance or via referral from previous interviewees. A protocol was chosen (all participants chose Facebook or Discord), and a date and time was set. After connecting over the chosen

service, greetings were made and participants were sent a consent form to meet ethical standards for the study. They were asked to read, initial, sign and return it before we continued the conversation.

Upon receipt of the form, the interviewer briefed them again on the purpose of the interview, the advantages and disadvantages of using instant messaging protocols, and the rough structure of the interview and what they could expect. All participants were reminded that they were under no pressure to answer questions they didn't want to, and that they could withdraw from the interview at any time. They were also asked to not edit their typed responses in to perfect sentences and/or paragraphs, and to send fragments, typos included as and when they were typed. It was made clear that their raw, unedited thoughts were the item of interest, not a finely-crafted answer. They were assured of total anonymity post-interview.

At the end of the interview the participant was asked a series of closing questions. These were:

- How have you found today?
- Do you think you've learned anything from our discussion?
- Do you have any final thoughts that you'd like to say but didn't have chance to disclose earlier?
- Do you know anyone who you think might also be interested in taking part?
- Would you be willing to do a follow up interview if asked?
- Do you have any questions for me?

After this they were advised as to what would be done with the data from the interview, and that they would be sent a copy of any publication that resulted from their participation. To date this has been done with P1-9 with the work in chapter 5. Upon separate publication of the work from chapter 6, P1-24 will all receive a copy of this work.

Having established the methodology and protocols followed both generally and more specifically for chapters 5 and 6, the next chapter describes a grounded theory on a selection of online games reviews (cf. interviews) that were harvested from the web, resulting in novel theory on the nature of challenge in videogames.

Chapter 4

Emotional and Functional Challenge in Core and Avant-garde Videogames

‘What is the difference between games like Call of Duty, Gears of War and Grand Theft Auto, as opposed to games like Dear Esther, Journey or To The Moon? in terms of the emotional experience?’

How does one group ‘feel’ different to the other?

4.1 Introduction

As discussed in chapter 2, digital games are a wide, diverse and fast developing art form, and it is important to analyse games that are pushing the medium forward to see what design lessons can be learned. When beginning this research however, there were no established criteria to determine which games show these more progressive qualities. In order to establish what some of these criteria might be, research first focused on how players had previously experienced a range of games that were felt to represent a variety of experiences — including those of the mixed-affect emotional experience that was of interest.

Grounded theory methodology was used to analyse language used in games reviews by critics of both ‘core gamer’ titles and those titles with more avant-garde properties. This showed there were two kinds of challenge being discussed — emotional and functional which appear to be, at least partially, mutually exclusive. Reviews of ‘core’ and ‘avant-garde’ games had different measures of purchase value, primary emotions, and modalities of language used to discuss the role of audiovisual qualities. Emotional challenge, ambiguity and solitude are suggested as useful devices for eliciting emotion from the player and for use in developing more ‘avant-garde’ games, as well as providing a basis for further lines of inquiry.

4.2 Background

*“Our expectations of what a game should be have changed a lot over the years, and at this point, a game where you are not near-constantly killing or at least physically fighting things has become **weird or unconventional.**”*

(Jeff Buckland[37])

Largely thanks to the advent of digital distribution and new mobile platforms, the range of digital games available has never been greater or so diverse and the appeal of games has broadened to the extent that some popular critics have declared the stereotypical ‘core gamer’ identity (the market segment defined by video game publishers as being historically the most committed to the hobby and therefore the most profitable) as outmoded and defunct [5]. Games are at a point where many (from both academia [128] and journalism [206]) are calling for them to be taken seriously and come under greater aesthetic scrutiny. However, despite the significant skill and craft involved in creating games, a number of commentators have also concluded that not all games show artistic merit [4, 202] on the basis that many are developed and marketed primarily as entertainment products (rather than art) to the traditional ‘core gamer’ market. Which titles then, in the words of the quote above, are non-core and therefore ‘weird and unconventional’? Definitions of avant-garde works in other media, such as film [29, 167] are useful in part, but are unable to account for all the possibilities afforded by the interactive qualities of video-games. There are recent attempts to define avant-garde videogames [198, 199], but little work is available on what criteria should be used to identify a title that is more avant-garde and how it would feel to play one. Are there any patterns to be discerned in how these more avant-garde titles differ to those for more the traditional core gamer demographic?

The popular games press sometimes tends to cast this as a difference between the ‘triple-A’ sector (where budgets and production values are very high) and the ‘indie’ sector (where budgets are lower and financial risk much less, often resulting in more creative and novel designs). However, many indie games still follow established conventions in the medium and are no more avant-garde than triple-A titles. It is suggested here it would be more productive to focus on

the kind of **experience** that a game attempts to offer and examine first-hand accounts of the gameplay experience — in this case, video game reviews. If common motifs across core and/or avant-garde titles can be found they can be highlighted for further investigation for both game development and academic study. It should be noted that the designation of a game as ‘core’ in this investigation is not a quality judgement and does not infer that it lacks artistic merit or skill — just that it is less experimental in ideas, methods or subject matter and/or is aimed at the more ‘traditional’ game-playing audience.

There is a broad consensus that there is a difference between games such as *Grand Theft Auto*, *Call of Duty* and *Gears of War*, games such as *Journey*, *Papers, Please* and *Dear Esther*. The issue is in defining exactly *what* that difference is. It makes sense, then, to maybe look at the type of experience these two groups of games offer.

With this focus on the ‘type of experience’ in mind, three categories were created to help guide the selection of videogames for this study — avant-garde, ‘triple-A’, and ‘experimental triple-A’. There is a distinct lack of academic discourse around what notions of avant-garde means with regards to videogames, and how this would be experienced by a player.

Avant-garde is used in the mainstream sense of artistic products that display innovative techniques or ideas for the field. Games in this category are commonly understood by games media and press to those that are innovating in terms of ideas, themes and encouraging a more thoughtful and reflective experience.

Triple A here means games that approximate to the Hollywood term ‘blockbuster’. These games tend to involve large budgets, large teams, lots of special effects and provide plenty of technologically-driven spectacle and wonder for the player (i.e. from graphics, sound, scale etc.). They are also marketed to a ‘core-gamer’ audience — being those players who devote a significant amount of time and money to player the latest games available, with a tendency towards technologically superior presentation. They are also more conservative with regards to themes, subject matter and game play innovation. The sheer volume of money involved in producing these titles means they cannot afford to take any risks and fail to sell well — they are therefore aimed at the ‘safe bet’

market of core gamers.

Experimental Triple-A refers to games with the higher budget and/or high production values typical of a triple-A title, but which are known as a landmark in innovation in some way or which elicit a different experience to that which is typical of most *triple-A* titles. In the context of this study, these games are situated somewhere on the scale between *avant-garde* and *triple-A* titles.

4.3 Method

The approach taken was to analyse what videogames critics had written about a selection of titles. Previous analysis of videogames reviews has focused on elucidating the core user experience of playing video-games [46], but doesn't offer any clues as to *how* core and avant-garde games may be identified. Using Grounded Theory as initially described by Strauss and Corbin [205] and further refined by Adams, Lunt and Cairns [3], the aim was to investigate what differentiated core games from avant-garde games by looking at how reviewers reported their gaming experiences. Analysis focused on the style of language used, what aspects of the gaming experience were mentioned and how much was written about those aspects.

Reviews of a range of 14 games (from three categories — avant-garde, 'triple-A', 'experimental triple-A') were selected for analysis. Due to lack of academic discourse this selection is based upon general understanding in the popular press and media discussion around these games.

- **Avant-garde:** *To The Moon (TTM)*[277], *Gone Home*[254], *Dear Esther*[244], *The Vanishing of Ethan Carter (VoEC)*[279] and *Papers, Please*[264] are all critically acclaimed for pushing the boundaries of the medium and having more avant-garde aspirations.
- **'Triple-A':** *Gears of War 3 (GOW3)*[253], *Call of Duty: Modern Warfare 2 (COD:MW2)*[240], *Grand Theft Auto V (GTAV)*[255], *Far Cry 4* [251] and *Destiny* [245] are all highly successful blockbuster or 'triple-A' titles known to appeal mainly to a 'core gamer' audience.
- **'Experimental Triple-A':** *Bioshock* [238], *Journey*[259], *Spec Ops: The*

Line (SO:TL)[270] and *The Last of Us (TLoU)*[260] are all innovative triple-A titles which, each in their own way, attempt to challenge what is expected of big-budget games and experiment with the what they can achieve.

Games within each category were chosen to represent a diversity of formal features and production styles.

Although all of the games in the *avant-garde* category are made by independent developers (i.e. not published and owned by a major publisher or platform holder), there is a range of budgets there from higher budgets (e.g. *VoEC*) to very small budgets (e.g. *TTM*). A range of different types of games were also selected so that analysis wouldn't be skewed by the over-representation of a particular genre/game type in each category. For example, *TTM* is a top-down role-player game reminiscent of the Super Nintendo era, *Gone Home*, *Dear Esther* and *VoEC* are first-person exploration games and *Papers, Please* is a 2D low-resolution game, with presentation reminiscent of 90s PC games.

Similarly, although first-person shooters are a very popular genre for the core gamer demographic, *GOW3* is third-person shooter and *GTAV* is an open-world action adventure game that can be played from first or third-person perspectives (at the time of research, all the reviews consulted were for the early third-person only versions that were released for PS3 and Xbox360).

For *experimental triple-A*, three of the games were traditional triple-A titles which attempted to innovate within the restrictions of triple-A productions values and size (i.e. *Bioshock* with environmental story-telling and exploration of the Objectivist philosophy of Ayn Rand, *TLOU* with digital acting, character development, and subject matter such as the father-daughter relationship and personal redemption, *SO:TL* with the moral ambiguity of war and of how it is represented in videogames). *Journey* was selected since it was a game that specifically aimed to be *avant-garde* and was developed by a small team, but which was developed with a large budget and massive marketing spend — therefore placing it more with higher budget productions than those of 'indies'.

The reviews were gathered from www.metacritic.com (a website that aggregates user and critic media reviews) filtering for critics reviews and ranked in order of 'most active' (the number of reviews submitted by the contributing website/magazine). Critics' reviews (rather than user reviews) were selected

on the basis that, since they are writing in a professional capacity, they are more likely to have played the game for longer before passing judgement, show greater care and accountability for the words they write and therefore be more likely to deliver a higher quality critique. Whilst problems with preference bias could potentially be found — e.g. some critics writing on certain types of games only, non-professional review writers would show the same bias and so this is not important in the context of the current investigation. Reviews were accessed and catalogued as long as they were written in English and available on-line. Using this process at least 10 reviews for each game were read and analysed — resulting in 162 reviews in total. Analysis was conducted using open coding for style of language used, expressions of what aspects were important about the game, topics covered and how long was spent talking about the different features of the game-playing experience. Subsequent axial coding and re-analysis was performed which allowed clusters of meaning to be grouped via selective coding into core and sub-categories for discussion.

Work began by selecting two games from the avant-garde category (*Gone Home* and *TTM*) two games from the 'triple-A' category (*COD:MW2*, *GOW3*) and one game from the 'experimental triple-A' category (*Journey*). 10 reviews per game were collected and analysed. After coding and analysis, one or two more games from across the three categories were selected and 10 reviews each were collected, analysed, and the findings integrated and related to the developing theory. This continued until 10 reviews had been collected for each game (for a total of 140 reviews). At this point, some extra reviews for previously selected games were collected to test for theoretical saturation. This brought the total to 162 reviews analysed, from 27 different websites/outlets, written by 98 reviewers.

4.4 Results

Contrary to what many commentators (or major industry figures[136]) may think, the premise, background story and description of the player character(s) for each game occupied large sections of each review across all three categories. Story seemed to be very important to players, if only to establish context for

the actions taken in game — even if it not highlighted as a primary feature of the experience. Reviewers also wrote at length about the quality, depth and complexity of the world the game took place in. Across all titles story and world-building were important features of the gaming experience (as observed from long passages spent describing them) — even though the quality and centrality of the narrative to the gameplay experience varied. Despite its universal importance here, the complexities of storytelling in interactive games is both well discussed elsewhere (e.g. [145], [171], [143]) and is outside the scope of this chapter.

Beyond this it became clear that two distinct sets of standards and style of language were being used to describe the gaming experience of the reviewer. The clearest trend seen was the difference between aspects linked to the ‘functional challenge’ offered by some titles and those linked to the ‘emotional challenge’ offered by others. These aspects included differing notions of what constitutes value in a game purchase, the primary emotion(s) experienced and the way the audiovisual components were described. Quotes are representative of data and are not intended to be comprehensive.

4.4.1 Challenge: Emotional vs. Functional

Challenge, in some form, is central to the gaming experience, but not all games need to be difficult in order to be challenging. In this study we observed two types of challenge being presented to the player — emotional and functional challenge.

Many challenges presented by games to their players are of the *functional* type — where dexterity and skill with the controls or strategy is used to overcome challenges thrown at the player (e.g. environmental traversal, combat, logical puzzles etc.) and to resolve emotions of frustration to *fiero* (an Italian word that literally translates as ‘proud’, here used to mean personal triumph as per Lazarro’s usage [142]).

When faced with games with a majority functional challenge component, reviewers are more concerned with technical and mechanical considerations such as how the character moves, what powers they have, what actions they perform, what weapons they can wield and, often, how powerful the game

makes the player feel. The reviewers' focus is, "*What can I do?*", and the core pleasures obtained are that of power and 'hard fun' [142].

"...feels fantastic to play, with pitch-perfect controls, including the brilliant under-steer of the roadie run, and a satisfying heft to its weaponry...the active reload mechanic is unchanged and remains magnificent."

(Martin Gaston, on *Gears of War 3* [93])

"...the ability to sprint and slide in addition to each class' mobility skills, which include gliding, double jumping, and even short-range teleportation. Combined with how powerful grenades and melee attacks feel, thanks again to class skills that modify them, this extra mobility allows you to engage foes in a wider variety of ways."

(Vince Ingenito, on *Destiny* [122])

Above, the reviewers are enthusiastic about how satisfying the controls and gun mechanics feel in *GOW3*, and the exciting range of combat mechanics and weapon options in *Destiny*.

It is this concept of functional challenge that is often presented to, and desired by, players of traditional core games such as *Destiny*[245] and *Call of Duty: Modern Warfare 2*[240]. Core mechanics are covered with enthusiasm and in great detail. The quality of enemy and friendly AI are also frequently discussed.

This contrasts strongly with accounts of playing avant-garde games, where mechanics were mentioned but seldom dwelt upon for long. Here the focus is more on the narrative, story and themes of the piece. Here, the reviewer's primary focus is, "*How do I feel?*" The data suggests that this is achieved by leaving parts of the experience ambiguous, confronting them with difficult material or by use of strong characters, story and good writing. This seems to present the player with an *emotional* challenge that is overcome not with skill and dexterity, but with a cognitive effort not dissimilar to Schopenhauer's notion of the aesthetic experience of the sublime [196]. The core pleasure here for the player is the resolution of tension within the narrative, emotional exploration of ambiguities within the diegesis, or identification with characters.

"Gone Home requires you to use your own empathy to solve the puzzle of each family member's internal struggle"

(Logan Decker on *Gone Home* [66])

“Journey is a game purposefully designed to create argument and discussion. Most obviously people will argue over what exactly the games eponymous journey is all about. Who is the strange, robed figure you control and what is the significance of the shimmering mountain that seems to be his goal?”

(David Jenkins on *Journey* [126])

The reviewers in these two quotes do not focus on mechanics, combat, or how the player moves through the world, but on how other skills (such as empathy) are needed to engage with the gaming experience, and on finding pleasure in the ambiguity of the diegesis and attempting to solve its riddles.

It is suggested here that these two types of challenge may be antagonistic to each other. If the player is called upon to navigate a complex task involving dexterity (such as in *Gears of War 3* or *Call of Duty: Modern Warfare 2*) the player is left with limited regard for, or capacity to engage with, anything other than the frustration/fiero cycle of hard fun. Conversely, the more avant-garde games examined here have simple controls and gameplay mechanics, making fewer demands in terms of functional challenge and therefore leaving the players mind freer to contemplate other areas of the game’s possibility space [24]. Reviews of *Spec Ops: The Line* often pointed out how they found the combat repetitive and uninspiring but fully compensated for by the challenging narrative and character development.

“This could well be one of the most subversive shooters yet made. . . your appetite for the emerging plot isn’t stimulated by the standard stop-and-pop fare, which lacks a distinctive flavour of its own.”

(Edge Review Team on *Spec Ops: The Line* [77])

The quote above suggests that, had the combat been more intricate and challenging, the ‘subversive’ story and narrative may not have been experienced as fully.

Papers, Please is unusual in this regard in that it is the very conflict *between* functional challenge and emotional challenge that provides the basis for the emotional experience. At several points in *Papers, Please* the player is faced with a choice between taking the morally right action — which is damaging to your progress in-game, and the morally dubious action — which is rewarded by the games mechanics. Whilst the mechanics are simple (as a passport con-

trol official you check papers at the border and accept or reject entrance), the choices presented in the game are not.

“There are moral decisions, like whether to separate a husband and wife whose paperwork doesn’t match, or play white knight and turn a pimp away before he can get his hands on a girl who claims he tricked her over the border. The right answer may seem obvious, but every penalty that costs money means less food, heat, and medicine for the family back home — a family that has to stay alive. . .”

(Dan Whitehead on *Papers, Please* [225])

“The only way to avoid failure is to remove emotion from the equation, and only look at the hard facts rather than the human realities. This job breeds hard men.”

(Jonas Jurgens on *Papers, Please* [130])

For example, the first quote above refers to a specific situation where a woman will be forced into sexual slavery if you allow a man behind her in the queue across the border. However, he has all the correct papers. Rejecting him means losing money for the day (where wages are already meagre and must support a large family) due to your deliberate mistake, but allow the woman to continue to safety. Accepting him means you will not lose money, but may have condemned that woman to a life of sexual exploitation. The second quote affirms that this situation is not an isolated one, and to succeed you must disregard the ‘moral’ viewpoint entirely.

Although a large degree of functional challenge may well hinder the capacity for emotional challenge, there isn’t enough data here to say that they are *exclusive* to one another. Whilst less common, it’s possible for functional and emotional challenge to co-exist. For example — some games experiment with a player’s sense of agency and ‘being the hero’ by forcing them to do objectionable things. The infamous ‘No Russian’ level from *COD:MW2* has players gun down defenceless civilians whilst also having to navigate the environment and deal with other enemies on a time limit. Though not conventionally taxing for most core gamers, there is still a non-trivial amount of functional challenge, and many players found the actions they were forced to complete highly objectionable.

However, these examples are the exception rather than the rule. Theoretically, functional and emotional challenge do not need to be exclusive to one

another. Practically, it is suggested here that increased functional challenge will reduce capacity for emotional challenge. If a player is too busy avoiding enemies, engaging with environmental puzzles in real-time, or making complex fine-motor movements with a controller etc., then there is no space for the player to reflect upon the diegesis and their presence and/or actions in it — which is necessary to experience emotional challenge.

4.4.2 Value: Quality vs. Quantity

Reviews of core games placed great importance on quantity of options and variations (or ‘modes’) of gameplay. Long passages were written on differing modes of gameplay (often with detailed descriptions), the number of weapons or abilities, maps, playable characters or the range of customisation options available. The length and/or variety of levels in the single player campaign in particular is a significant factor in judging how valuable a purchase may be, as well as the depth and variety of any multi-player options available. ‘Replayability’ is a major concern. In summary — the number of hours of play that a game will provide is a key factor when deciding whether to make a purchase for a core game.

“... classic modes like Team Deathmatch and Gears favorites like Wingman on brilliant, varied maps... Overwhelming the human defenses as the Locust Horde is a wonderful Gears take on being the bad guys... This new Beast mode is as compelling to me as Horde mode...”

(Adam Biessener on *Gears of War 3* [21])

Here the range of multi-player game modes on offer in *GOW3* is extolled.

This stands in contrast to the comments made about the more avant-garde games examined here. None of them offer much functional challenge and most are short in length with debatable or limited replay value (with the potential exception of *Papers, Please*). However, this is frequently glossed over and forgotten in many reviews due to the emotional range, impact and depth shown by these games. What matters here is the intensity, novelty and quality of the emotional experience on offer, rather than length or replayability.

“... it’s a triumphantly successful demonstration that narrative doesn’t need to be funnelled down the barrel of a gun, balanced on the edge

of a blade or relegated to a background cut scene for the sake of game-play.”

(Matt Sawrey on *Gone Home* [192])

“However, in a mere hour and a half, Journey made more of an impact on my psyche than any game I have ever played.”

(Jonathan Deesing on *Journey* [67])

In the above quotes, reviewers highlight how novel the absence of weapons feels in the high quality narrative of *Gone Home*, and how the relative brevity of *Journey* was of no concern due to the novelty and intensity of the experience.

4.4.3 Primary Emotion

The emotions experienced by reviewers were strongly linked to the type of challenge that the game presented to the player.

Core games, with their reliance on hard fun to keep the player entertained, elicited emotions often associated with action film and ‘Hollywood blockbuster’ tropes — with most reviewers also having broadly similar emotional experiences. This was mainly as a result of the intense action and functional challenge that these games require the player to engage in, as well as a dramatic narrative involving a large threat of some kind (e.g. the end of the world, the death of a loved one etc.) that the player must help avert.

“The story plays out like a Michael Bay film on steroids, filling the screen with explosions, military jargon, weapons of mass destruction... expect sweeping musical scores and pyrotechnics galore.”

(Angus Deacon on *Call of Duty: Modern Warfare 2* [64])

It is interesting to note, as the reviewer above does, that the quality of the narrative isn’t expected to necessarily be very high in order to evoke these ‘blockbuster drama’ feelings.

Emotions experienced by reviewers when playing the avant-garde games showed a greater range and were not the same for all players (cf. comparable emotional experiences between different reviews of core titles). Generally these involved a more reflective state of mind, contemplation and dealing with themes uncommon in core games.

“...but more intriguing is its depiction of a family unit quietly tearing itself apart.”

(Chris Schilling on *Gone Home* [195])

“Journey is an unforgettable experience. Even when the details fade, the emotions that it evoked will stay with us for years.”

(Sterling McGarvey on *Journey* [155])

The quotes above show how more emotive and intimate/personal language tended to be used to describe the depth and impact of the emotional experience of avant-garde games.

4.4.4 Ambiguity and Solitude

Reviewers mention how curiosity is invoked by the lack of deliberate signposting or explicit communication of identity, plot or goals and objectives. These comments only occurred during reviews of avant-garde games.

“...it’s uncommonly enthralling. Its deliberate ambiguity brings on the urge to speculate on deeper meanings, but meaning here is bound to be personal, and best discovered for yourself.”

(Jane Douglas on *Journey* [73])

The above illustrates how the ambiguity of *Journey* might encourage a deeper, more personalised, more nuanced emotional engagement with the game.

Some reviewers seem to suggest that feelings of loneliness and isolation in several of the avant-garde games examined here is conducive to emotional engagement.

“The perfect isolation of the island communicates a loneliness and sense of suspense that’s far beyond what traditional games attempt.”

(Keza MacDonald on *Dear Esther* [147])

The film scholar Ed Tan has written about how an increased emotional investment by film viewers results in an increased emotional payback to the viewer [212] and Perron has explained how Tan’s theory may be applied to games players [178]. Other work has suggested that allowing a player to explore an emotional connection with an environment gives opportunity for a player’s emotional intelligence to be stretched and strengthened [109], and that lack of

definition for character motives and open-ended narratives are a unifying component of Art Cinema [29]. It is suggested here that ambiguity may well play a major role in the emotional impact of the avant-garde games studied in this chapter. By leaving space for the player to think and contemplate — unburdened by the requirements of completing functional challenges, the player is better able to emotionally invest, and subsequently receive a greater emotional return, in the diegesis.

4.4.5 Graphics and Sound

Both visual and aural components are acknowledged by reviewers as being an important part of the game play experience, but different types of language are used to describe them across our two categories. Core games have their graphics described in terms of technical descriptions such as the detail of character and environmental models, lighting effects, realism and the quality of the textures. Sounds are described briefly, if mentioned at all, with statements usually referring to how the music underscores the intense action taking place and sounds grandiose and ‘epic’.

“The environments feature some eye-popping visuals. . . The lighting engine has received a massive overhaul, the animations in the game are vastly improved, and the overall level of detail has jumped an order of magnitude.”

(Ron Burke on *Gears of War 3* [39])

This is in contrast to the avant-garde games examined here, where emotive language is frequently employed. Graphics are more likely to be described in terms of how they make the reviewer feel, rather than in terms of technological achievement. Sound equally is described in terms used to illustrate how the reviewer has been emotionally moved in ways other than raising levels of excitement.

“. . . set in one of those permanently autumnal corners of America where the late afternoon sun paints everything with a mixture of warmth and sorrow, and the game’s artists wield this evocative palette like the old masters.”

(Tom Bramwell on *The Vanishing of Ethan Carter* [31])

“... thanks to a soundtrack by Jessica Curry that ebbs and flows brilliantly, overwhelming the senses with an atmosphere of unsettling, unseen dread.”

(Nathan Grayson on *Dear Esther* [104])

4.5 Discussion

“As a medium defined by the word ‘interactive’ and shackled to the word ‘entertainment’, videogames have long struggled with detaching themselves from violence and mechanical action in order to satisfy the latter of those terms.”

(Matt Sawrey [192])

It is commonly assumed that for a game to be engaging it must provide some sort of challenge to the player and that games excel when they are about struggle.[128] However, conclusions drawn from this investigation suggest that challenge need not always take the form of logical puzzles to solve, obstacles to overcome or enemies to kill. The ‘non-trivial traversal of the text’ [2] can be done with purely cognitive effort instead of, or in addition to, completing challenges of dexterity and skill. The analysis carried out here illustrates how challenges can fall along a spectrum ranging from functional challenge at one end (requiring skill, dexterity or strategy to overcome environmental or AI obstacles using controls and mechanics) to emotional challenge at the other (requiring cognitive effort to deal with challenging material or comprehend ambiguous elements of the diegesis). This challenge spectrum has other attributes linked with the defining poles such as differing notions on what makes a game worthy of purchase, the role of graphics and sound in a game’s appraisal and the role and type of emotion(s) experienced during gameplay. Ambiguity and solitude also appear to be commonly used devices to engineer a more emotive and reflective gameplay experience (as seen in *Vanishing of Ethan Carter*, *Gone Home*, *Dear Esther* and in some cases *Journey* and *Papers, Please*).

This analysis suggested that players of core games with a focus on functional challenge have a high regard for the length of time that can be ‘sunk’ into a title, rather than just the quality of the gameplay experience therein. This hints at the use of games as a ‘time-filling’ device, and suggests *self-suppressive* escapism as a major motivation for play here [204]. Conversely,

players of avant-garde games (or those that focus more on emotional challenge) were less concerned with how long those games were (avant-garde games have a tendency to be relatively short) and more on how that game made them *feel*, the intensity of that experience and what they *learned* by playing it. This suggests a mindset and motivation more in line with the *self-expansion* focus outlined in section 2.6.3. Hartmann has written on a similar division — between media consumption for recreation, versus that for psychological growth [106]. This also resonates with views and findings on the Hedonistic and Eudaimonic Entertainment Experience [13, 173], as discussed in sections 2.6.4 and 2.6.5.

This study was an attempt to elucidate whether successful avant-garde digital games have features in common to differentiate them from more traditional core games. The resultant findings, and particularly the notion of emotional and functional challenge, have important implications for the design and investigation of digital games in the future. If digital games are to continue to work towards engaging with a broader range of affect and a deeper resonance with the player's emotions, similar to those enjoyed by readers of other art forms such as literature and film, then the functional and emotional challenge paradigm seems to be fertile ground for exploration.

It may also provide a potential avenue for solving our own 'sad game paradox' — similar to the 'sad film paradox' identified by Oliver (where viewers purposefully seek out negative/mixed-affect emotional experiences from film media)[172]. This 'sad game paradox' has been further investigated by Bopp et al. [25, 26] and Mekler et al. [156, 161], who have identified the mistaken conflation of negative affect with negative experience, of positive affect with positive experience, and the positive gameplay experiences that can arise from mixed-affect emotional experiences in videogames. Moreover, the idea of emotional challenge and some of its properties has already suggested some strategies for how these mixed-affect emotional experiences can be designed for (e.g. ambiguity, loneliness, and the reduction of skill-based functional challenge).

Whilst functional challenge is reasonably well-understood — being the 'standard' understanding of challenge in videogames historically, the notion of 'emotional challenge' or more novel and requires more detailed exploration. The next chapter began with an attempt to further investigate and clarify the nature of

emotional challenge. However, the work took a surprising turn in that it didn't examine emotional challenge itself, but instead focused on the point of view of how we give players the tools to overcome it. In games design this is commonly termed giving the player 'agency'. The nature of agency, its shortcomings (especially when discussed alongside emotional challenge) and a new theory of agency are presented in the next chapter.

Chapter 5

Thinking and Doing: Challenge, Agency and Emotional Engagement in Videogames

How can we describe emotional challenge with more accuracy?

What else can we learn about emotional challenge?

Has this concept been fully explored yet?

5.1 Introduction

The work presented in the previous chapter, plus other recent work on videogames has looked at more complex mixed-affect experiences (satisfying combinations of positive and negative affect) than is commonly seen in the medium at present ([26, 119, 161]).

Theories from other fields such as literature, film etc. (e.g. [75, 180]) provide a starting point but do not encompass the unique interactive nature of digital games. This notion of interactivity (as used here) renders our understanding of emotional experience and affect from other fields incomplete [82, 178]. Much work has been done on how hedonistic emotional experiences of game play are structured — in both ‘fun’ and ‘serious’ modes, leading to various discussions of how players come to feel emotion in games, and what kind of pleasures they might derive from play ([91, 138, 141, 144] etc.). Yet there remains little focus on how we can design for the more complex ‘mixed-affect’ eudaimonic experience [158, 173, 227].

This chapter presents a Constructivist Grounded Theory Methodology [49] investigation that explored these more reflective, complex emotional experiences using interviews with a range of players about emotional moments from their game playing experience. The author interviewed players with an interest in playing avant-garde games who may have leanings towards this kind of complex emotional experience. Transcripts were analysed and coded. Following on

from the work in chapter 4 the initial intention was to investigate the nature of emotional challenge. However, the emergent categories clustered around the concept of agency, and further analysis resulted in a new framework for describing four different types of agency. This can be used by designers and researchers to help research, shape and facilitate a broader range of emotional play experiences by equipping players with tools to meet a wider variety of challenges within games — ones which require emotions and imagination as well as strategy and skills.

5.2 Background

Following on from the work of chapter 4, the initial research questions were, “What is emotional challenge, and how is it constituted in digital play?” and, “How are the emotional experiences in avant-garde games different to those (if at all) to those of mainstream games?”. In this context, we use the term ‘avant-garde’ to denote games which explore new possibilities in form or content and aim to do more than entertain, or which aim to evoke a complex, reflective emotional experience in the player. This term is less problematic than ‘artistic’, ‘indie’, or any other available term.

This investigation started by asking questions about players’ reflective emotional experiences in digital games. As is the case with GTM, the direction of the investigation changed during analysis, and our work re-focused on the topic of agency. The work presented below reflects the endpoint of this investigation with a focus on agency, challenge in digital games and the eudaimonic entertainment experience (see chapter 2.6.5).

5.3 Methodology

Previous research has indicated that strong emotional experiences have been shown to often be those that have long-lasting impact [119, 150, 156]. In this project we were interested in strong emotional experiences players had felt during gameplay. Therefore interviews on *memories* of playing, as opposed to real-time measures of affect during gameplay are more appropriate given the focus of this chapter.

5.3.1 Participants

Recruitment focused on players of avant-garde games that are known for encouraging or stimulating the kind of complex emotional experience that produces a sense of ‘appreciation’ [173] or psychological growth [106]. Based on the work of chapter 4 we knew this was the type of experience we were interested in understanding. Participants were recruited via general interest gaming-related Facebook groups (the IGDA London group, a videogame conference volunteers networking group), from personal acquaintance and Steam and Reddit forums for *That Dragon, Cancer (TDC)*[271] and *Everybody’s Gone to the Rapture (EGTTR)*[248]. *TDC* and *EGTTR* are games that are well-known amongst the industry and press for eliciting a reflective and ‘moving’ experience.

Nine participants were interviewed — five men and four women, representing a range of nationalities (American, British, German, Greek, Norwegian, Pakistani). All participants were aged 22-38 and fluent in English. All were experienced games players (having a minimum of 10 years gaming experience), two were also developers. Interviews were semi-structured and carried out by the primary author in English — two in person and seven via instant text-messaging services such as Facebook Messenger. Interviews lasted between 2.5 and 3.5 hours. Resultant transcripts were over eighty-thousand words long in total.

Participants volunteered their time out of interest for the project rather than for fiscal compensation, which research has suggested leads to higher quality data [228].

5.3.2 Procedure

Recruitment posts were made using the channels listed above and readers were invited to email the primary author to express interest. Consent forms were circulated and completed prior to interview. A question prompt sheet was prepared beforehand by the interviewer to maintain focus in the conversation, but not restrict it too much so as to allow interesting conversations to emerge.

Early interviews would begin with questions about play habits e.g. ‘How

much do you play?', 'What formats do you use?' 'What kind of games do you play?' etc. In later interviews, these kinds of questions were asked in the first few minutes to establish rapport, but it became clear that it was more important to quickly identify a deep and moving emotional moment from their gaming experience, why it happened, and to discuss it in as much detail as was possible. e.g. 'Why do you like playing <x>? What draws you to it?', 'What do you find attractive about playing videogames?', 'Do you think you have changed as a person as a result of your gaming?' etc.

Early coding and memoing began after the first interview and continued to take place after each subsequent interview (see Appendix A). Later codes and categories (see Appendix B) were triangulated with the interviewer's knowledge and analysis of the videogames discussed by participants.

5.4 Results and Discussion

When asked to choose a gameplay experience to discuss, almost all participants chose emotional experiences resulting in a sense of 'appreciation' to speak about during interviews. Language generally described a reflective state of mind and a mix of positive and negative affect.

All coding and analysis was done by the author. Participants played a variety of games (avant-garde to triple-A, on mobile, console, PC etc.) but most of the time in interview was spent discussing games with more avant-garde intentions played on console or PC.

In early analysis (see Appendix A), five categories appeared considerably more than others: world building, environmental narrative, social activity, ambiguity and immersion. The two most prominent of these early themes were 'immersion' and ambiguity (as illustrated in the first and second quotes below respectively):

*"I really enjoyed that you could just wander around this **immersive** environment, you could control which quest to take on next. Yeah, I just found it extremely atmospheric."*

(P2, on *Skyrim*)

*"I love **the sense of ambiguity that pervades the world**...I love that it's never made explicit who these people are or what their war was*

about...”

(P3, on *Brothers: Tale of Two Sons*)

‘Immersion’ was not used by participants in the more accurate sense that it can be (e.g. [34, 45, 129]). It also seemed that different participants had very different ideas of what immersion meant for them. It was therefore discounted as part of this study, in favour of recoding the data for what interviewees *meant* by their use of the term ‘immersion’. Seeking the meaning behind the words spoken by participants (or the lack of words in some cases) is important to the Grounded Theory process.

At this point further insights were not arising from the earlier interviews and theoretical development had stalled. Before progressing to further interviews, and as recommended by Charmaz, Corbin and Glaser [49, 57, 101], detailed line-by-line coding (cf. ad-hoc multi-line coding) was used to engage with the data from a different viewpoint. Codes were given to every line (see Appendix B).

This new approach to analysis suggested a focus on environmental/embedded narrative (story conveyed through the objects/scenery of the virtual world, [127]), and how this helped players to actively involve themselves in building their own understanding of the diegesis.

*“I was pretty blown away by how interesting the storytelling style was the **environmental narrative**, ephemera, embodiment stuff I was super excited to discover all of that.”*

(P8, on *Gone Home*)

*“The fact that it was all told through **environmental storytelling made the game feel very personal.**”*

(P4, on *Gone Home*)

These quotes illustrate how these participants became more emotionally involved in the gameplay experience due to the lack of exposition or cut-scenes/dialogue, and the need to piece together the narrative themselves from clues in the environment.

Further analysis showed that exploration of the world, as well as having ample time to appreciate it, was a major part of the experience for those games

mentioned by participants. This opportunity to explore the *narrative* of the diegesis through environmental cues — in a way that’s similar to how we explore the *physics* of the diegesis with mechanics — may afford the player increased opportunity to construct their own personalised and reflective emotional response to their gameplay experience — analogous to that of appreciation or the eudaimonic entertainment experience.

*“But of course, that is **my interpretation**, which **made it feel personal and like I was connecting on a deep level** with not just the narrator but the creators of the game.”*

(P9, on *Dear Esther*)

It was almost as if players were ‘rising to the challenge’ of mastering the *content* or narrative of the game, rather than mastering the mechanics. A challenge of *understanding*, rather than *doing*.

In addition to the description of different kinds of challenges (similar to that described in chapter 4 and further investigated by Denisova et al. [69, 71]), the requirement for *time to appreciate* this embedded narrative, plus the extensive talk about ambiguity hints at different ways for players to meet these challenges and take control of how their own gameplay experience is constituted. These obstacles are not just set by the mechanics (i.e. functional challenge), but also by trying to piece together what is happening in the diegesis or deal with difficult decisions (i.e. emotional challenge).

*“... like, i think that *Gone Home* has challenge...**but it unfolds in the players head...the challenge is to piece together the story...to draw conclusions based on all the things that you find in the game.**”*

(P4, on *Gone Home*)

Here the participant specifically speaks to the possibility of there being more than one kind of challenge — that does not need to arise from a mechanics or performance-based difficulty.

The responses to emotional challenge in games such as *Gone Home* [254], *Dear Esther* [244], *Journey* [259] etc. bear an interesting similarity to the eudaimonic/mixed affect experience of consuming media for appreciation or psychological growth [106, 173]. Therefore, understanding how the player’s agency

was involved in overcoming these emotional challenges was important. If different kinds of challenges are being set, then it's possible that different types of agency need to be afforded the player in order to overcome those challenges.

The author conducted further interviews with new subjects and recategorised codes using experimental notions of agency related to functional and emotional challenge. These terms were 'mechanical agency' (to do with character action and movement) and 'narrative agency' (the freedom with which the player can interpret the story). 'Narrative agency' seemed an important part of the experience for our participants, and yet did not fit into the commonly understood meaning of 'agency'.

*"...Gone Home does that by providing a narrative context through which **you're unravelling the story** as the character in an active way."*

(P8, on *Gone Home*)

After much consideration by the researcher, it appeared that these early notions of mechanical and narrative agency had several issues and exceptions:

- What about games where you actually *can* significantly affect the diegesis and the narrative, and not just an *interpretation* of it?
- What about those games (however unusual they may be) which make you question the logic or morality of your actions, without explicitly dictating how you should feel?
- What about those games where you do not really have much choice but to use the mechanics in a prescriptive and predetermined fashion?

Neither these terms ('narrative' and 'mechanical'), nor established definitions of agency accounted for what our data suggested. Conventional notions of agency relate to how players overcome *functional* challenge, but do not speak to how they might be enabled to overcome *emotional* challenge.

We felt a new language for agency was needed. One that accounts for what the player can think (*interpretive*) versus what the player can do (*actual*), and for whether an action affects the narrative and characters of the game (*fictional*) versus the actions of the player themselves (*mechanical*). This new framework

resulted from combining the analysis so far with previous knowledge and analysis of a broad range of videogames, some of which were discussed by participants.

5.4.1 Definitions of terms

These terms are used in context of the new theory described in this chapter, and so require definition.

Actual

This is similar to the pre-established understanding of agency. 'Actual' agency describes the meaningfulness of the player's actions and how much effect those actions have.

This is different to the range of *options* given to the player. If a player has a wide variety of actions to choose from but this choice is of no consequence then they still have no actual agency [146, 164].

Interpretive

Refers to the ability for the player to construct their own cognitive and emotional understanding. In a sense it is the extent to which they can take action with their own thoughts and build their *own interpretation* of the data given them. Scant or conflicting data means a player may need to make more effort in order to 'fill the gaps' or make connections between pieces of information [95]. It gives players the ability to enter into an ambiguous and interpretive space, even if it's not necessary for progress within the game. There is a minimum grounding or foundation needed for players to build their interpretation [24, 95].

Fictional

Fictional agency is that pertaining to the world, story, narrative or NPCs of the game.

Mechanical

Mechanical agency describes the player's range of actions within the diegesis. For instance, avatar movement and control is a common element of mechanical

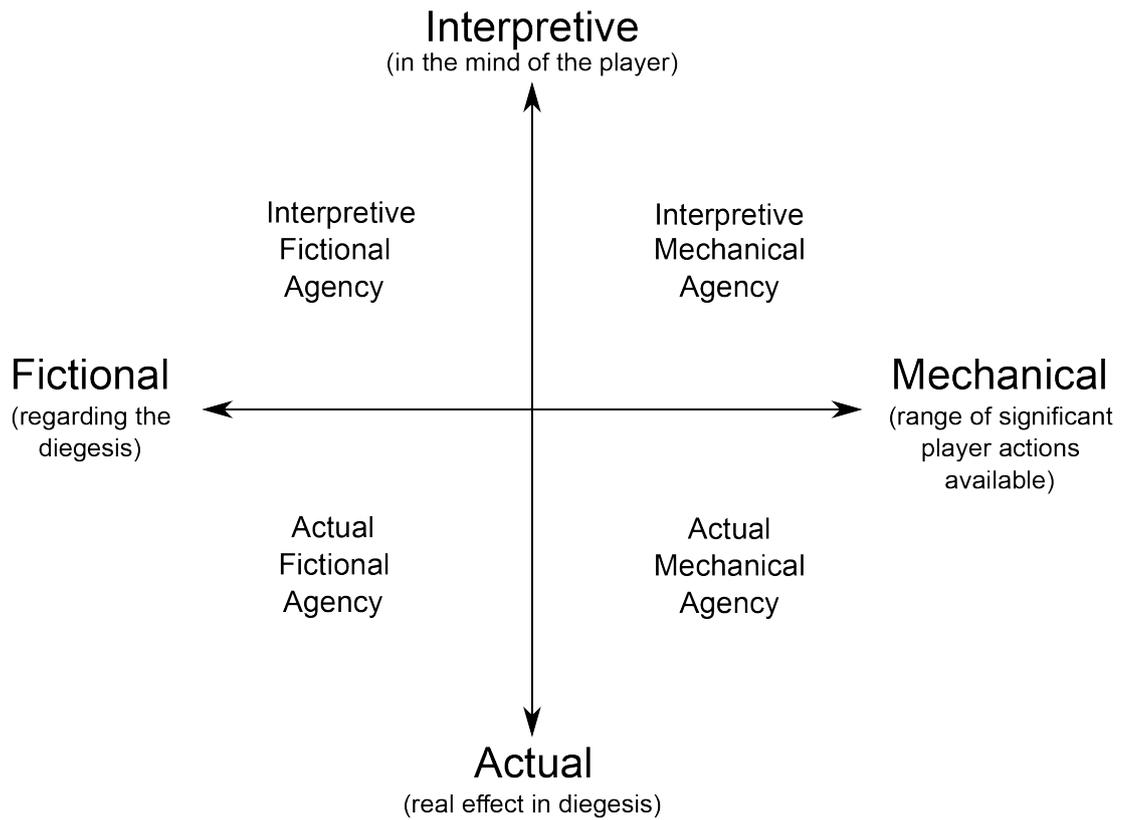


Figure 5.1: Agency Grid.

agency. A higher level of mechanical agency would add combat, then abilities to manipulate elements of the environment etc.

5.4.2 Agency Grid

These four new terms can be combined to form 4 new concepts of agency. Figure 5.1 shows a visual representation of this. These categories are **not** mutually exclusive, and so any or all of these forms of agency can be present, and often are, in differing degrees.

Actual Mechanical (AMA)

Actual mechanical agency is the genuine effect of the players actions and mechanics within the game and is analogous to the common understanding of the word 'agency'. The majority of videogames have a reasonably high level of AMA. For a player to have actual mechanical agency, their actions and decisions would need to lead to a significantly different outcome in terms of systems and mechanics, though not in the narrative.

For instance, if you had a choice of three weapons, all with the same properties and usage, the player doesn't have any agency — the choice is *mechanically* insignificant. Upgrading some character traits in a way that clearly affects how the game is played (e.g. stamina, health, magic points etc.), or using various combat options to gain victory over enemies, or solving puzzles are clear examples of actual mechanical agency because the choices involved have a significant effect on the outcomes and possibilities for the player.

Actual Fictional (AFA)

Actual fictional agency is when the player can change the course of the story of the game via their actions, or affect the development and story of other characters in the diegesis (cf. extra-diegetic 'player-generated story', see [44]). Most games aim to make the player feel like the driving force behind the game and the story, but the reality is that the player is being led or pulled along the 'main story line' by the developers of the game and can often only affect a few unimportant details.

It's especially difficult for triple-A games to have much AFA. The high quality assets expected (and time and money required to produce them) mean it's uneconomical and undesirable for them to be left unseen or unused, should the player choose a different route through the game and leave areas unexplored. Higher levels of AFA is seen more in interactive fiction and text-heavy games, where the production of assets (mainly text) is relatively cheap. For example, the hit mobile interactive fiction game *80 Days* by Inkle [234] contains approximately 750,000 words, yet the average player on a single playthrough will see about 3% of that number. There are over 10,000 decisions to be made in the game, with several of them highly significant [207] — affording the player a high level of actual fictional agency. In *Papers, Please* [264] — a low-resolution 2D game made by a single developer, the player is presented with several choices which, combined with their performance in the game, allows them to experience a total of 20 different endings. Several choices have knock-on effects on the availability of other decisions later in the game.

Compare this to *Heavy Rain* — marketed as allowing the player 'real choice' and actual fictional agency. However, choices (and success/failure during most

of the games action sequences) affect a few lines of a conversation at most or a cut-scene or two ,with little to no change to the central storyline. It is a similar case with other triple-A games promising the same such as *Until Dawn* [278], or the *Mass Effect* series [262].

“..once we finished our playthrough I restarted to see how making different choices would have an effect on how the story plays out...so I replayed the prologue entirely differently and everything pretty much ended up the same.”

(P6, on *Until Dawn*)

The quote above illustrates the disappointment felt by this participant on discovering that a game that claimed it gave the player AFA, in fact did not give much agency at all (in this case, *Until Dawn*). Player feelings over unmet expectations regarding the ending of the *Mass Effect* series has been widely documented [1, 226].

Role-playing games (such as *The Elder Scrolls* [273] or *The Witcher* series [276]) create an appearance of AFA with an abundance of ‘side quests’ (optional tasks offering variable rewards). The results sometimes affect details in the main quest, but there are still few ways to significantly affect the story or central outcomes of the game.

Interpretive Mechanical (IMA)

Encourages the player to examine their actions in the game and what they mean when the answers are not made clear to them. This is not the same as the diegetic or mechanical effects of those actions themselves — it is the moral value/judgement, or significance of those actions, that the player is left to consider. It is not about what the player intended, or about their ‘commitment to meaning’ [214], it is ‘*How does the player feel about their actions, in the absence of feedback (or presence of conflicting feedback) telling them how they **should** feel?*’. It is far less common than the other forms of agency defined here.

*“So yes I think the challenge is more about **the meaning behind your actions**/the experience you have.”*

(P5, on *The Beginners Guide* [272], *Dear Esther* [244], *Dr. Langeskov* [246])

The above quote shows the participant attempting to find meaning in the actions they take in the first-person exploration games mentioned.

A good example is the interpretation of the player's actions in *Papers, Please* [264]. The player's sole responsibility is check a person's documents against a set of rules and stamp an NPC's passport with 'ACCEPT' or 'REJECT'. The player is faced with dilemmas (e.g. a woman asking you to refuse entry to a man who is behind her in the queue, since he is going to force her into sexual slavery), and the player can choose what to do. However, there is usually no feedback as to what happened next — the game takes place in the confines of your booth at the border, meaning you will never know the effect of your actions. You do not know if the woman was telling the truth, and you do not know if it is worth making a deliberate mistake (the game's equivalent of 'lives'). In this instance, the player is left to think about their actions, how much they meant, whether they could have acted otherwise, and whether they were right to act as they did. The game gives no clear information on any of these things.

Conflicting feedback can achieve a similar effect. The players' 'success' when killing the colossi of *Shadow of the Colossus* [267] is met with positive feedback in the form of progress in the game. Yet the music is mournful and the player appears to be 'killed' by black tentacles emanating from the colossi's corpse, only to reappear mysteriously back at the centre of the game world [55]. The conflicting feedback in this case leaves the player guessing as to what diegetic and moral value their actions were.

Interpretive Fictional (IFA)

A game with a significant level of interpretive fictional agency gives the player a minimal narrative framework and encourages them to build their own understanding of the fiction, story and characters. Players are encouraged to conceptually explore the representative and historical elements of the diegesis and construct their own personally nuanced interpretation. The greater effort made by the player to understand what is going on in the diegesis leads to a nuanced and more personalised engagement with the game and therefore a higher chance of significant emotional payback and a deeper emotional experience [212].

“So I have to explore in order to find out details of what happened, slowly building the bigger picture. **I’m more invested** because I am finding out about the character’s positions on things myself. And that shapes my conclusions on what I think happened.”

(P4, re: *Gone Home*)

This participant claims they are more invested in the gameplay experience because they have to make a deliberate effort to explore the details of the world, examine objects, and piece together the clues that they find. The story is not *given to* them, it is *constructed by* them.

Many of the games participants spoke of have a heavy element of exploration woven into them, with the environment and/or ephemera conveying components of the narrative. The player can choose which bits of information they are exposed to, and they will often have an incomplete set of information to work with. This encourages the player to work out what they can with the information they *do* have.

Many ‘first-person experiences’ such as *Everybody’s Gone to the Rapture* [248], *Gone Home* [254] or *Firewatch* [252] make extensive use of IFA as a central part of their gameplay experience. In *Gone Home* the player explores an abandoned house looking on desks, in drawers, waste paper baskets etc. for fragments of information about what has happened to their family. The extent of the player’s search of the house, and what order they search the house in, has a major effect on how much they understand what has happened and why, and subsequently plays a major part in the player’s interpretation and in meeting the emotional challenge of the game.

IFA vs. Player-Generated Narrative

IFA is different from the ‘player-generated story’ that is constructed by the player from emergent mechanics, as found in games like *Minecraft* [263] or *DayZ* [243]. Calleja’s work on ‘alterbiography’ [44] provides a good discussion of this, where he defines the moment-to-moment narrative that is generated when the mind of the player, the rules of the game and the game’s audio-visual elements meet and combine during gameplay (a process he refers to as ‘synthesis’).

IFA is about giving players the tools to *conceptually* explore the diegesis as

predetermined by the developers (usually in a single-player experience), rather than mechanically explore a set of systems such as is done in *Eve Online* [247] and other multi-player experiences. IFA is an *ability* rather than the result of a *process*, such as alterbiography [44, 45]. The result of greater IFA is the player's increased ability or freedom to interpret and construct their own understanding of a pre-existing diegesis, rather than create any new narrative in and of itself. To play *The Sims* [274] or *SimCity* [268] is to create a player narrative that arises from interactions within the games rule set (experiential narrative [44]). To play *Dear Esther* [244] or *Firewatch* [252] is to explore a diegesis that is pre-built by the developers and which affords a large degree of freedom in its interpretation (IFA).

Agency Framework

Agency is usually framed in terms of how the player can act, or intend to act, within the diegesis. A case was made here to broaden the discussion to include how the player uses their imagination and interpretation, in addition to how they use a control interface to engage with a diegesis. The new vocabulary and definitions suggested here will hopefully aid future discussions amongst designers and researchers as the medium diversifies and grows.

Use of IFA (and, to a lesser extent, IMA) could encourage complex, mixed-affect emotional experiences such as those described in other media by Bartsch, Oliver and Hartmann [13, 106, 173] or in games by Mekler, Iacovides and Bopp [25, 119, 159].

The experiences related by participants suggest that the use of IFA is important in enabling the player to experience emotional challenge. It's possible that IFA is the kind of agency that the player *requires* to both experience emotional challenge *and* to overcome it.

A challenge cannot exist without the means to complete it. By the very nature of challenge, it must be surmountable and have some chance of success (however small), and so the tools to do so must exist. Otherwise it is not a challenge — it is a futile impossibility. The agency/tools can exist without the challenge, but the challenge cannot exist without the agency/tools. A possibility space must be created — one where it's possible the challenge can be

overcome.

It may help to illustrate this with a more tangible example using actual mechanical agency (AMA). Let us use a regular 2D platformer for illustration. If the player is not given the ability to avoid an enemy running towards them, then this is not a challenge that can be surmounted by the player — it is simply something that happens (rather than a challenge), and the player will make no attempt to avoid it once they realise they cannot act. Indeed, it is arguable whether they are even a ‘player’ in this situation. However, if the player is given the agency to jump, a possibility space has been created. Whereas the enemy was unavoidable before, the player now realises they have the ability to jump and avoid the enemy, maybe even land on top of the enemy and defeat it — removing it from play. The AMA of being able to jump is a requirement for the player to experience functional or mechanical challenge.

In the same way, for the player to experience *emotional* challenge, we must provide them with the tools to overcome it. The results of this study suggest that emotional challenge can be experienced and potentially overcome if the player is afforded imaginary fictional agency (IFA) — a *mental* possibility space (cf. a mechanical possibility space).

By using ambiguity, conflicting or juxtaposed material [95], giving time and space for reflection and requiring the player to *form their own* interpretation of the world and their place in it, players could be more likely to construct an individualised and powerful mixed-affect emotional experience. This sits with the findings in chapter 4, where the primary emotion(s) for players of avant-garde games showed more variety than the emotional experiences of players of core games (see section 4.4.3, pg.92).

Emotional challenge has been further researched by Bopp et al. and Mekler et al. [26, 27, 158, 161]. A combination of their work with the agency framework presented here could provide interesting routes for further exploration of how to broaden and deepen emotional engagement within digital games, with a focus on how negative affect can lead to positive experiences. In particular it would be of interest to see if any of the four agency types presented here showed a linkage with the seven differentiated challenge types Bopp et al. propose in [27] or the four types of challenge proposed by Denisova et al.. It’s also not clear

at this point whether the PX focus really should be on emotions and affect per se, or whether it would be more appropriate to focus on the meta-emotions (or emotional reflection upon our emotions)[13]. This is discussed in more detail in Chapter 8.

It may also be possible to use these findings to better explore ways in which videogames can offer ‘meaningful’ or ‘eudaimonic’ entertainment experiences [119, 157, 175, 227]. Further work could explore how different combinations and relative levels of agency (i.e. IFA, IMA, AFA, AMA) affect the emotional experience for the player, whether it results in positive, negative or mixed affect and how that is received and interpreted by the player.

5.4.3 Summary of Results and Discussion

Challenge is a core element of the gameplay experience. Players experience a range of challenges in games and must overcome *emotional* challenges as they do functional challenges. The widely-accepted definition of agency is useful for describing the tools used to provide and overcome functional challenge, but does not deal with tools for facing emotional challenge.

Four new types of agency have been detailed here — interpretive fictional, interpretive mechanical, actual fictional and actual mechanical. It is hoped that this new categorisation of different types of agency might serve to move the conversation on agency forward — from attempting to find one all-encompassing definition to acknowledging that different types of agency co-exist and can be investigated and discussed separately.

The data suggests that IFA is prevalent in many of the games discussed here and we suggest here that a higher level of this kind of agency contributes to the very different emotional experience those games offer when compared to more mainstream titles. The work in chapter 4 found that interpretations and emotional responses to avant-garde titles were far more varied when compared to those arising from playing mainstream games — suggesting that in avant-garde games the player may have a greater role in constructing their gameplay experience than they might do in mainstream games (where emotional responses were broadly the same). This increased effort in engaging with the diegesis can potentially result in a more personal experience, a bigger emotional pay-off and

greater emotional satisfaction [212].

The suggestion made here is that games with higher levels of interpretive fictional agency — those which allow players more room to build their own individualised interpretation of the diegesis and their actions within it, raise the probability of a reflective eudaimonic emotional experience. Some work has found that games are not as particularly suited to provoking reflection as some might like to think [159]. However, this work doesn't contradict the findings presented here or in chapter 6 as much as it might first appear. We shall return to this discussion in chapter 7, section 7.2.2.

5.5 Conclusion

This chapter presented a Grounded Theory Methodology investigation into complex emotional experiences in digital games which led to an emerging theme of agency, and how this is used to meet the emotional (cf. functional) challenges of the games discussed.

We found that pre-existing discussions of agency did not suit what we were observing in the data, and so four new categories of agency were constructed. These categories of agency allow greater accuracy in conversations amongst designers and researchers, and how design choices affect the play experience. Of particular interest to us here was that games with a higher level of interpretive fictional agency (IFA) seemed to lead to a more reflective and/or mixed affect emotional experience. In the same way that a more mainstream game provides the actual mechanical agency for players to overcome the functional challenges presented, the avant-garde games discussed here provided the interpretive fictional agency for players to overcome the emotional challenges presented and respond with a eudaimonic emotional response.

This analysis provides suggestions for designing games for complex emotional experiences, vocabulary with which to discuss agency with more clarity and nuance, and several avenues for further investigation into how the eudaimonic emotional experience of gameplay is constituted. However, the *initial* aim of work presented in this chapter — which was to investigate and clarify the nature of emotional challenge, has still not been met. Work returned to

attempting to answer these questions in the next chapter.

Chapter 6

“More Than Just Fun”: Emotional Exploration in Videogames

A return to the questions that arose between chapters 4 and 5:

How can we describe emotional challenge with more accuracy?

What else can we learn about emotional challenge?

Has this concept been fully explored yet?

“Maybe bleak is the wrong word, but I want games to be able to be more than just fun. Fun is great and I love fun games, but I want them to be more.”

(P15, on games in general.)

6.1 Introduction

The results of the work described in chapter 4 suggested that the concept of ‘emotional challenge’ needed further work and definition. ‘Functional challenge’ was relatively easy to understand since it was effectively “challenge as is commonly understood in videogames” — using dexterity and skill with the controls or strategy to overcome challenges thrown at the player (e.g. environmental traversal, combat, logical puzzles etc.) and to resolve emotions of frustration to victory and relief. However, the definition of emotional challenge was not as complete and merited further investigation.

Emotional challenge is described in chapter 4 as challenge where the core pleasure for the player is the resolution of tension within the narrative, emotional exploration of ambiguities within the diegesis, or identification with characters, that is not achieved through skill or dexterity, but with cognitive and affective effort which was reminiscent of Schopenhauer’s notion of the aesthetic experience of the sublime [196]. This definition does not provide an account for *why* players would seek emotional challenge, *how* they experienced that

challenge, and does not make any real suggestions as to *how to design for* this kind of mixed-affect experience.

The initial follow-up research work to chapter 4, seen in the previous chapter, started with this question in mind but, as is often the case for grounded theory, ended up taking a different path. At that time the data suggested a focus on the concept of agency and how it lacked enough definition to be used in a discussion of how players could be equipped to overcome emotional challenges. This resulted in the work of chapter 5.

The initial goal of exploring and clarifying the concept of ‘emotional challenge’ had still not been achieved. Work returned to the same starting point as before — interviewing people about emotionally significant moments from their gameplay history, and analysing interview transcripts with grounded theory methodology methods.

This was a qualitative piece of research into players gaming experiences. Grounded theory methodology was used to conduct and analyse 26 interviews with 24 participants about significant or memorable emotional experiences from their game playing. Codes and categories emerged around the core concept of ‘emotional exploration’. This is put into context and expanded upon using extant theory such as self-determination theory, positive psychology, psychological work on escapism and the results of work shown in chapters 4 and 5.

6.2 Methodology

For a more detailed overview of the methodology see chapter 3, in particular section 3.4.

6.2.1 Procedure

Interviews took place at times convenient to the participants and which were possible given the multiple time zones involved, and generally lasted between two and three hours. Interviews 1-9 were carried out as part of the work in chapter 5, whilst interviews 10-26 were new for this study. 2 participants were willing and able to give a second interview, meaning that 26 interviews

were conducted with 24 participants. 15 were male, 8 female, 1 non-binary. Participants represented 7 ethnicities and 11 nationalities, a range of ages from 18 to 39, and a range of occupations.

Interviews began with a discussion of how the interview was going to work, moved onto some basic demographic questions, some questions on their gameplay habits and how they engaged with videogames as a medium, and then focused in on some key moments of gameplay that were significant to them. The interview would end with a series of questions and discussion on how they found the interview experience.

After the first nine interviews (interviews 10-18) were analysed and core categories were starting to be established, previous data from the work in chapter 5 (interviews 1-9) was used to test and further develop the emerging theory and categories. After this, further interviews (P19-26) were conducted and analysed before reaching theoretical saturation.

A total of 145,000 words were analysed, with each interview transcript averaging 5500 words. Transcripts were exported as raw-text, anonymised and formatted in word-processing software. Coding, analysis, memo-writing etc. was done with the support of Computer-Aided Qualitative Data Analysis software (CAQDAS).

Analysis took place between most interviews. Only a few interviews were scheduled close to one another in time, without full analysis and integration into developing theory, due to interviewer and/or participant availability issues. In these circumstances interviews would be analysed and integrated into the on-going project two or three at a time, as soon as was possible. During the early stages of the investigation line-by-line coding was used to drive deep engagement with the data and what lay underneath (as strongly recommended by both Charmaz, Corbin and Glaser [50, 57, 101], and as described in chapter 3). These early codes were sorted, grouped, compared, categorised and analysed. Early theory was tested against new data and the interview guide was modified at each step to reflect areas of increased focus and deprecate those areas that were not so interesting/did not get good data. This developing theory and areas of potential interest would be reflected in recruitment of future participants as analysis moved from initial coding, through to focused coding,

theoretical coding and theoretical saturation.

6.2.2 Recruitment

Recruitment began with personal acquaintances who were available and willing to speak about emotional experiences from their gameplay. Participants were recruited from the internet by posting on gaming-related Facebook groups and on the itch.io forums. These were a range of general games players with no particular focus on any certain games, groups of games or specific kinds of experiences. Four were or had been games developers themselves, three were games academics, the rest had no involvement in the games industry. Work started with a general and unfocused group to avoid pre-empting the analysis of the data. Focusing on certain games or genres of games without a clear rationale could lead to forcing of the data to fit pre-defined conclusions rather than allowing codes and categories to emerge from and fit the data.

The first few participants were recruited to discuss *'gaming moments that have changed you'*. Despite posts in well-frequented forums and social media groups for games, this elicited very little response. Gaming lifestyle products are numerous, gaming community events are prolific and in some cases very large, 'Let's Plays' and Twitch streaming are multi-million dollar industries and many adherents of the supposed 'gaming lifestyle' devote vast lengths of time to their hobby in a myriad of ways. Yet our experience with recruitment, along with some participants responses, suggests that relatively few want to *admit* that a game has changed them significantly in some way. The phrase 'gaming moments that have changed you' seemed to be too high a standard to be reached, and so engagement at this point was minimal. Whilst this cannot be substantiated with data from the current study, this trouble with recruitment seems to speak to the view of games as being the products of 'low culture', and of a 'social shame' that's been unconsciously internalised by fans and professionals alike [82, 202]. The following two quotes are from games development professionals:

"This is going to sound cheesy, especially as it's such an over the top meathead-muscle-tastic game (like) Gears of War. . . I actually cried when he shoots her and cried when he sacrificed himself."

“Interviewer: Can you think of any gaming moments/games that taught you anything, made you think differently about a topic/person, or changed you in some way?”

P13: As for a gaming moment that changed me... hm. Sorry i'm having trouble thinking of one! I know there must be something, just can't dredge up any specific examples”

(P13 on not being able to recall a reflective gaming moment)

To encourage more participation, the next few participants were recruited using a broader and less defined statement — “*a gaming experience that has affected you in some way - maybe it made you ponder, or made you realise or understand something*”. Although this did encourage greater engagement, participants *still* struggled to engage with this central question.

Of the first 9 participants, 6 were from personal acquaintance and 3 were respondents to requests for participation on the web. During these interviews certain games were repeatedly mentioned such as *Journey*[259], *Night in the Woods*[121], *Detroit: Become Human*[183] and *Papers, Please*[264]. An online community for the game *Journey* was used for recruitment since the data so far suggested that players of this game were more likely than others to be interested in a more eudaimonic/mixed-affect gameplay experience.

A post was made on /r/JourneyPS3 (the subReddit forum for fans of the game *Journey* for both PS3 or PS4) seeking participants to talk about “*significant or memorable moments from your games playing*.” This was an intentionally broad and vague recruitment topic, but rather than screening pre-interview for certain experiences, participants were encouraged to come to the interview with a broad set of topics. Once the participant had been able to name some significant moments from a range of games, the interviewer could choose some to focus on. Once one kind of mixed-affect experience had been discussed, it would bring to mind other moments that the participant had not thought about at first. This proved to be a far more productive recruitment strategy — a far stronger response was obtained, with several people making contact to volunteer their time.

See Table 6.1 for an overview of participant details. Ages of participants have been removed to ensure anonymity, but the age range was from 17 to 42.

Participant No.	Gender	Nationality	Ethnicity	Occupation
1	M	British	White	Designer
2	M	German	White	Postgraduate Student
3	M	British	White	Teacher
4	F	Spanish	White	Designer
5	F	Pakistani	Pakistani	Undergraduate Student
6	F	Greek	White	Posgraduate Student
7	M	British	White	IT Manager
8	F	American	White	Developer
9	M	Norwegian	White	Journalist
10	M	British	White	Undergraduate Student
11	M	British	White	Brand Manager
12	F	German	Vietnamese	Postgraduate Student
13	M	American	White	Developer
14	NB	British	White	Postgraduate Student
15	M	British	White	Lecturer
16	M	British	Asian	Producer
17	M	British	White	Developer
18	M	Australian	White	Undergraduate Student
19	M	German	White	Undergraduate Student
20	M	Austrian	White	Undergraduate Student
21	M	American	White	High School Student
22	F	French	White	Researcher/Writer
23	F	American	White	Unemployed
24	F	Chinese	Chinese	Internet Worker

Table 6.1: Table of participants

6.3 Results

For reasons of readability and conciseness, all participants are referred to as 'P(*x*)' where (*x*) is the number of the participant (see Table 6.1).

In earlier interviews questions of identity and what the term 'gamer' meant to them were covered. Whilst this yielded some interesting answers, the data did not fit meaningfully into any emerging theory, and so these questions were dropped in later interviews. Focus moved to finding the key 'emotional moments' as soon as possible for a full and detailed discussion - dispensing with some detailed questions on how and when participants played games. In later interviews additional questions that encouraged participants to compare their experiences with those of viewing non-interactive media such as film or literature, in response to the developing theory. In interviews near the end of the study the developing theory was discussed with participants to test for fit, explanatory power and usefulness.

6.3.1 Development of Theory

Initial line-by-line coding (open coding) resulted in over 600 codes (at this early point, from approximately 33,500 words of transcript from the first 9 new interviews carried out for this study (denoted as P10-18 — P1-P9 were previous interviews from work for chapter 5 brought in later to add data for analysis)). These codes were compared with each other and organised into several thematically-related categories/groups. These codes can be seen in the appendix (see section D.1). ‘Other media’ did not immediately seem of particular relevance to the study, but re-gained importance in later stages.

Further comparison between codes from the remaining groups led to a focus on certain subsets of codes that related to the initial research question. These were the ‘emotional codes’ sub-category from the Experiences category, ‘exploration’ sub-category from the Preferences category, and ‘mixed affect’ and ‘escapism/expansion of self’ sub-categories from the Motivations category (see the Appendix for figures D.1, D.2, D.3). These codes were compared and re-sorted in relation to each other (see Figures D.4 and D.6) to produce a set of focused codes. See Table 6.2 for summary of what these codes were, their relation to each other and the number of codes associated with each category. This is a tabular version of figure D.4

Memo writing continued throughout, and were sorted and compared with each other and codes and categories to test for emergent patterns and prominent features. Codes and categories emerged around related concepts such as exploring self, practice for future, understanding self, understanding the world, understanding others, needing to be understood and a drive for meaning.

Having cross-compared codes and memos from the first nine interviews, and raised several of them to categories, I returned to earlier interviews (P1-P9) from work in chapter 5 and focus-coded them using this smaller set of codes (see figure D.4 and Table 6.2). These codes were used to analyse the remaining interviews for this study (interviews 19-26), as the work moved towards theoretical saturation. For the sake of clarity, the participants for interviews in chapter 5 are designated P1-P9, whilst the *new* participants for the study in this chapter are designated P10-P24.

Core Concept	Category	Subcategory	Sub-sub-category	No. of Codes
Emotional Exploration	Features	Requirements		7
		Writing		8
		Characteristics		8
	Emotional Power	Story		6
		Interactive Vulnerability	Personal Unique Stronger	9
				9
	Challenge	Moral		5
		Emotional		6
		Intellectual		9
	Mastery			6
		Interpretation		15
		Reflection		3
	Ambiguity	Imagination		2
	Mixed Affect	Catharsis		6
		Revelation		6
		Negative affect		11
		Rollercoaster of feelings		7
Relatedness		Communicating with others		16
		Understanding others		11
		Needing to be understood		6
		Understanding world		10
		Drive for meaning		6
		Explore self		7
		Understanding self		8
		Safe space		10
		Embodiment as other learning about self		4
		practice for future dealing with present		15
				9
		6		

Table 6.2: Focused codes

6.3.2 Theoretical Saturation

The core concept of *emotional exploration* was constructed between interviews eight and nine as a result of constant comparison, memoing and application of categories and codes described in Table 6.2. Further participant sampling and interview questions were focused on expanding upon this concept. After this eight new interviews (19-26) were conducted — bringing the total of new interviews for this study to 17. The core concept was tested with later stage participants, and was found to have strong utility and explanatory power (key features of a good grounded theory [101]):

“Interviewer: Is it fair to say that you’re exploring those difficult concepts emotionally? Which wouldn’t be possible in a film/tv. . .

P3: Yes, I think you explore things more emotionally in the game because of the actions you take - i.e. all the choices you make. It might be less emotional in a TV show where the actions/responsibility is taken out of your hands.”

(P3 (second interview), on *Soma*)

“Interviewer: It sounds as though..maybe to explore a bit, emotionally? To explore a part of you that you do not usually get a chance to?

P20: This could be it. These emotionally extremes packed in a story which itself is still "plausible". Being extreme happy/sad is something I haven't got so many times in my daily/weekly routine. But being "a bit sad" (like a depression way) isn't a nice feeling as well. . . sometimes the feeling after the "sad part" ... makes me feel better/happier.”

(P20, on emotional games such as *Journey*[259], *The Walking Dead*[275], *Heavy Rain*[256] and *Life is Strange* [261].)

At this point the theory was deemed to have reached theoretical saturation.

6.4 Discussion

6.4.1 Emotional Exploration

The core concept that explains the data on emotional challenge experienced by these players is *emotional exploration*. By exploring the emotional landscape of the game, players are also exploring themselves, others and aspects of the real world through the situations presented (and sometimes resolved) in the game. This emotional landscape is a reflective space for self-expansive

escapism, where players aim to grow and develop. This is a predominantly eudaimonic experience — one where ‘appreciation’ of life and meaning-seeking is realised, and self-development and reflection encouraged afterwards. A prominent aspect of this is that players who value the mixed-affect experience feel they are satisfying a need to feel related to other people, the world around them, and themselves.

‘Emotional Exploration’ is a powerful analogy which is useful for suggesting answers to a number of questions. It helps explain *how* to design for an emotionally challenging eudaimonic experience, *what* is happening in this experience and how it is constituted, and helps explain *why* players would be interested in the mixed-affect emotional experience, as opposed to a more functional-challenge derived experience of ‘fun’ or enjoyment.

Properties

The core category of ‘Emotional Exploration’ has six properties. They are summarised here and discussed below.

- Firstly, it requires *expectations* to be appropriately set.
- The emotional landscape needs some level of *challenge* to be understood or ‘traversed’ (as we would a ‘mechanical’ landscape).
- One of the key tools for this is *ambiguity*.
- Emotional exploration results in a *mixed affect* emotional experience.
- The data here suggests that this emotional experience is *potentially more powerful* than that experienced in other media due to the player’s participation in the diegesis and a certain level of *interactive vulnerability*.
- Emotional Exploration satisfies a need for *relatedness* in the player.

Setting expectations Participants needed preparation for emotional exploration in the same way they needed to be prepared for (virtual) physical exploration. The player is far less likely to have a strong and/or mixed-affect experience if they have not been suitably prepared, in the same way that a player will not navigate an environmental obstacle if they haven’t been taught

how the avatar can move and the affordances of the environment (e.g. in Assassin's Creed [236], the jump, run and climb mechanics and the handholds that are visibly present on buildings and walls to allow the player to plan and find a path to a destination).

"I think part of what made it so amazing were all the smaller, (easier?) moral choices that came before which seemed more clear cut. . . the game throws increasingly nuanced choices at you - and by the time you get to the one I described a moment ago, it totally stops you in your tracks and makes you retroactively consider all the choices you made so far. . . Were you right to take the actions you did earlier?"

(P3, on Soma[269])

Here the participant tells of how the impact of a major decision was maximised by a series of smaller, but similar decisions involving the players empathy and moral judgment. This prepares the player to fully realise the gravity of major moral decisions later on.

Participants also felt it important that they were given chance to reflect and absorb what is going on in the game. This mirrors the findings of earlier research which found that functional and emotional challenge are often antagonistic to each other (see chapter 4).

*"**Having time to process the narrative and ruminate over the meanings** behind the decisions taken by the characters allows you to become more involved with the story."*

(P7, on Everybody's Gone To the Rapture[248])

Challenge One component of emotional challenge is the strong emotions that the player is encouraged to feel or is exposed to, either through the mechanics or through the narrative.

*"To me emotionally challenging games and content is important. To me that would be games that **challenge you to feel strong emotions or deal with situations and experiences that are emotionally significant** to us as human beings."*

(P4, on defining emotional challenge.)

Related but not quite the same is moral challenge (where the player is feeling conflicted over their in-game decisions, and produces challenging emotions in and of itself) and intellectual challenge (piecing together disparate elements of

the narrative (from the environment or through exposition) to form a coherent story or account, encouraging extensive reflection and pondering of all the elements of the gameplay experience).

*"I think these are the challenges I most enjoy, the **challenge comes not from gameplay but from morality**. What choice feels right to you? The walking dead achieves this by putting you in situations similar to the classic "trolley problem" — two bad choices and the player must decide which one is least morally wrong"*

(P18 on the moral challenges in *The Walking Dead*)

*"P21: It stood out because of the sheer amount of thought that went into it. k7 lasted its whole runtime for me because the gameplay/story were so out-there. But were **well thought through. It had a soul**, which most games do not seem to have in my opinion"*

(P21 on the intellectual challenge of *Killer 7*)

In moral challenge the player's main question is, "What's the right thing to do here?". The above quote from P18 illustrates the moral conflict that is often experienced in *The Walking Dead* series. In this game the player is often faced with a decision where the result doesn't really affect the game system in any way (i.e. there is no advantage or disadvantage in either choice), but presents a moral conundrum to the player e.g. 'Who will live and die in this situation?'. In *Papers, Please* the player is often asked to make decisions where they stand to lose earnings for the day if they let a certain person through their immigration checkpoint (a disadvantage in the system), but if they do not allow them to pass then it's intimated that a terrible fate will befall them (e.g. separating husband and wife, allowing a woman to be sold into the sex trade by a gangster etc.).

In intellectual challenge, their main question is "What is going on?". This can often be as a result of piecing together disparate and disconnected pieces of information about a diegesis. In the quote above P21 speaks of how, although the story and fiction was 'out-there', they enjoyed working out what it all meant and what the subject of allegory was. In a game like *Dear Esther* or *Shadow of the Colossus*, much of the game is left open to interpretation. 'What happened here?' 'Why is this happening?' 'Who made this?' etc. are the kind of questions that a player would ask whilst engaging in the intellectual challenge of a game.

None of these three challenges need to co-exist with another. Emotional challenge need not require the player to make a moral decision or hypothesise

about the diegesis — it could arise from strongly emotional material in a clear setting. Intellectual challenge need not require a decision to be made and need not have an emotional component per se — the player is simply being asked to ‘join the dots’/‘solve the puzzle’ of the fiction. Moral challenge need not require intellectual challenge, but it’s unlikely that there wouldn’t be some element of emotional challenge involved in making a moral decision. In this way, these types of challenge are inter-related and overlap at many points, but are distinct from one another.

Ambiguity A key tool is the controlled use of ambiguity. This is what gives the space for the player’s mind and emotions to move and explore. The use of ambiguity allows for greater use of *imagination*, enhanced opportunity for *reflection*, and therefore offers the player enough material to build their own *interpretation* [84]. It is key in giving the player interpretive fictional agency (see section 5.4.2)) to build their own personalised understanding of the game and their experience in it.

*“so it’s very, like a sort of emotional jigsaw puzzle. You like investigate these scenes, walk around looking and the room and picking things up and exploring, taking in what information you think matters. . . **very cinematic and interpretive**. . . and I loved that, I loved not being told anything and just. . . using what I had, and the tone they were setting and everything to just. . . **experience it in a way i thought was meaningful** and obviously that’s like heavily directed, but it’s all directions and no script.”*

(P14 on interpretation in *Virginia*)

*“Journey is in turns mysterious, calming, serene and feels profoundly symbolic and spiritual. . . I think **the sense of purpose combined with vague and open symbolism** helped”*

(P10, on reflection in *Journey*)

*“Wordless understanding is very important, even very precious. Language is often not only useless, but also leads to misunderstanding. . . Wordless understanding represents a very focused empathy. **Just by feeling with heart, understanding will happen**. . . Sometimes thinking only creates more misunderstandings and noises. . . **Understanding requires a quiet gaze by mind**”*

(P24, on reflection in *Journey*)

“I think there’s a lot to be said for retro graphics and the way they can enhance a game’s atmosphere by forcing a player to use their

*imagination more. I thought this when playing 'System Shock 2' for the first time, recently. I think I preferred that the graphics were a little blocky and simple. **It allowed me to imagine the horror of the Von Braun all the more vividly.***

(P3, on imagination in *System Shock*)

Mixed Affect The role of mixed affect emotional experiences in film, TV and literature is well-documented [13, 14, 29, 105, 106, 173, 180]. Participants described emotional experiences that were cathartic, involving negative affect, a contrast of positive and negative feelings and, in some cases, as revelatory.

*"It also depends upon my mood as well. Having suffered from depression after [incident in personal life]. . . **I find that I seek more cathartic experiences**"*

(P7 on their game playing preferences.)

*"I remember **feeling horrible** during the scene. **I kind of resented the game** for making me do it. :) But it was a great character moment for Tommy (the player character) because was a real point of no return moment. It ends with a mountain of dead bodies all over a church, and him realizing that he's basically a damned soul now."*

(P13 on *Mafia*.)

*"Yeah, entertainment or whatever you might call it. The other day I was playing *Papers, Please*. . .and, **I do not know, if you could really say entertainment. It was a really nice experience.** It was a really good experience I do not want to miss."*

(P2, on the mixed-affect experience of *Papers, Please*)

*"But I guess this also was **one of those light bulb moments** that can be so enervating, that probably **opened me up to the notion** above of games as their own crit engines. The game spoke about its self, was conscious of player choice and overtly reacted to and subverted it. It was the first time I had experienced a game fully own the medium rather than rely on impressive smoke and mirrors as we spoke about. It kind of felt like you were truly lost in it."*

(P17, on *The Stanley Parable*)

Participants sought out mixed-affect games in order to grow as a person and feel challenged in how they think, feel exist and relate to others and the world around them.

"Yeah, and I generally do not seek out bleak films, but with games, I sort of want it. . . maybe bleak is the wrong word, but I want games to

*be able to be more than just fun. Fun is great and I love fun games, but I want them to be more. . . I want games to exist that provide **moments that you want to talk about.***

(P15 on media preferences.)

“ . . . it’s very human to want to reach out and see other human experiences, to want to test out all the weird little nooks and crannies of your emotional spectrum. . . I just have a desire to play in ways that make me feel a Bunch of Stuff. Sometimes you want to put your hand into the river, or look at the stars, or listen to a sad song over and over.”

(P14 on seeking out diverse emotional experiences in games)

This shows strong links with Stenseng’s notion of self-expansive escapism [204] (see section 2.6.3). Players are seeking out gameplay experiences that they are aware are not easy to decipher or deal with emotionally. However, they regard this experience as ultimately gratifying — leading to self-improvement, and in improvement in how they understand the world, themselves and others around them.

Emotional Power and Interactive Vulnerability As encountered during recruitment for this study (see 6.2.2) even amongst dedicated gamers and members of the development industry there is a reticence to acknowledge how strong the emotions elicited by a game can be. However, it should not be surprising that videogames have the potential to be more emotionally engaging than other media such as film, TV and literature. The data here suggests that the increased involvement of a participant due to their choices in the diegesis of a game, as compared to that of a viewer of a film or reader of literature, means that there is a certain kind of **‘interactive vulnerability’** — that a strong emotional experience is *more likely* in videogames than in other media, and will feel more unique and personal to them and their participation in the world of the game.

“Interviewer: So, what would you say your main reasons for playing games were?

*To be moved? It’s the same reasons I would watch a movie, see a play or read a particular novel but **videogames have that added element of interactivity that makes me feel even more invested and therefore more vulnerable to the possibility of being moved by them.***

(P4, on why they play videogames.)

Relatedness Self-determination theory states that three needs must be satisfied to have optimum psychological wellness — competence, autonomy and relatedness (see section 2.6.2, pg.43). Often studies have focused on the clear potential for videogames to realise competence and autonomy [190, 219] and for relatedness to be studied in multiplayer games [190, 220].

Whilst not engaging in the specifics of Tyack and Werth's work on relatedness [220], our results also suggest that certain gameplay experiences, even though they are played in single-player, do indeed give players a sense of connection with others either directly, via the world around them, or through understanding themselves better and therefore feeling connected to others in a different way post-play. The data here shows that, in engaging in *emotional exploration* and dealing with emotional challenge, participants felt a stronger sense of connection with life, the world, and the people around them. They described being motivated to play games in order to derive meaning and find their place in the world — whether the real one or the world of the game, and then bringing what they've experienced into their real world existence, as well as seeking to understand others and to understand the world in general.

*"I personally see [the term 'gamer'] as a person who seeks to explore different storytelling mediums, to personally journey to unimaginable places and to get swept up in something grander than one's self. . . **Making you feel like a part of something**"*

(P11, on gaming)

"Interviewer: So you gained perspective on life, you think?
*Maybe not on life as a whole, **but on how I felt about people? For sure. Everything about how I connect with, understand, and feel about people in general has a little Journey influence in it now. . . It taught me a lot about friendship. I hadn't had a super good experience with other people in general before Journey.**"*

(P23, on Journey)

*"I guess I once again arrive at **appreciating the good parts in life and enjoying them while you can** . Because I replayed the game a few times always anticipating those moments. Also making the best of dire times."*

(P19, on *The Last of Us*)

'Know Thyself'

Participants showed a strong interest in exploring and understanding themselves through gameplay. They displayed a *need* to be understood, and then set about exploring parts of their personality which either do not have an outlet in society or needed reaffirmation.

"It makes you think a lot about the "grey areas" of morality

Interviewer: What do you find interesting about those 'grey areas' of morality?

*I suppose those are **the questions we've been asking ourselves since the inception of psychology**, when it comes to these grey areas nobody really knows the answer and it's interesting to think about **what we might do if humanity was faced with such a situation** as nuclear annihilation"*

(P18 on *Fallout 4*[250])

"Interviewer: Do you think that was speaking to the carer/protector aspect of being a dad?

*Certainly... You are essentially acting as her 'mother' for want of a better phrase, rescuing not just yourself but also a helpless child from a bad situation. . . **It spoke to parts of my life** that, as someone dealing with depression, I was very judgemental and self critical of. Namely, am I a good dad? Am I able to be empathetic or feel satisfaction? **By undertaking the actions in the game successfully, I felt able to self affirm that I could. That meant a lot to me"***

(P7, on *Detroit: Becoming Human*[183])

*"The game sort of centres around, among other things, having to come back to your parents after a sort of breakdown at college, and trying to find out who you are and how you fit into your old spaces. . . university was sort of terrible for me. I didn't drop out in the end, but I spent a lot of time thinking about the same sort of things, having the same sort of breakdown, and then I had to go home to small town of my own, to my own weird family situation and changed friends and abandoned houses and stuff, and so **a lot of it just felt very like being seen, in some ways, like "oh, yeah, that IS how that feels"***

(P14, on *Night in the Woods*[121])

They also used games to engage with present issues in their lives (but not in a self-suppressive way) and as a form of practice for future situations.

*"It's the most joyful moment of the game and ends with that slow walk into light. **It felt like... coming to terms with death?"***

(P4, on *Journey*)

*“I like to be taken away by these emotions. **I had a longer time were I was not able to feel sad, because of depression. Such games opened a window for me to feel this way. I felt better afterwards.** Doesn’t matter if it was a happy or sad ride”*

(P20, on emotional game experiences.)

*“So I think the purpose was simply to show Lee’s “goodness” but **to me he’s a sort of role model, I think I would like to be the person who would make those sacrifices for someone who needs it.**”*

(P18, on *The Walking Dead*)

A significant component of emotional exploration is exploration of self through gameplay.

*“Whether this game makes me confused or happy, **it makes me know myself better.** I would like to say that this game is a **very self-examination promoting game.** Of course, this may only be for me. I often observe my emotional response after experiencing some things. **These observations let me understand myself,** especially in this game”*

(P24, on *Journey*)

6.4.2 Summary of Discussion

These games are providing an ‘emotional possibility space’. This can be thought of in a similar fashion to how we think of virtual environments and gameplay systems. Designers and developers provide a virtual environment and/or gameplay systems (a ‘mechanical possibility space’) for players to traverse, experiment with and interrogate using systems and mechanics (actual mechanical agency, see section 5.4.2) gameplay. If we wish players to engage in a strong mixed-affect emotional experience there should be a similar amount of freedom to explore, interrogate and interpret *emotionally*, building their own ‘nexus of meaning’ [84] about the diegesis. The player requires Interpretive Fictional Agency (IFA — section 5.4.2, pg. 109) to explore an *emotional* landscape that’s been constructed by the developer.

An analogy may be of assistance here — if a game had no significant narrative or environmental features to engage the player, and otherwise consisted of a long corridor to simply walk down, with nothing unexpected or hidden, provided no surprises, no opportunity for plan-making or improvisation by the

player, and little choice to exert any agency of any kind. It would be considered boring and uninspiring to move along, and players are unlikely to have an engaging experience.

If we construct the *emotional* landscape of our games in the same way, there will be little depth and variety to be had in the emotional experience of games — there is a low degree of Interpretive Fictional Agency. For many players this is not an issue, but it *is* an issue if we wish to see videogames continue to develop and diversify in the range of experiences they offer players.

Most games consist of a well-developed mechanical possibility space, but a relatively undeveloped emotional one. A game could be exciting, it could be thoroughly engaging and exhilarating from a functional challenge point-of-view (e.g. the Call of Duty franchise [239], *Grand Theft Auto V* [255] or indeed most ‘core’ releases), but data from all three studies in this thesis, particularly this one, suggest it is unlikely to yield a compelling mixed-affect or reflective emotional experience. Conversely, a game can have a very restrictive mechanical possibility space, and yet the emotional possibility space is large and heightens the chances of the player having a mixed-affect emotional experience (e.g. *Dear Esther*[244], *Journey*[259], *Night in the Woods* [121] etc.).

We need to build an emotional landscape that encourages players to explore and learn more. One that gives them an anchor in that space and yet affords them freedom to move emotively, intellectually and cognitively, as opposed to a game where all the narrative is explained, where there are no gaps, where there is no space for the player to involve themselves and ‘join the dots’ themselves, and where they have little chance to think and reflect on what is happening.

Games are an effective vehicle for *emotional exploration* in ways that other non-interactive media cannot be — the player chooses what, when and how they move through the experience. The presence of interaction and (albeit often limited) agency means that exploration is a real possibility here.

6.5 Conclusion

This grounded theory study sought to further investigate and define the notion of emotional challenge that was put forth in chapter 4. Through analysis

of several intensive interviews with games players the concept of ‘emotional exploration’ emerged as the key concept which helped explain how emotional challenge is experienced, how it can be designed for, and why players would be interested in this kind of gameplay experience.

This work also built upon the work of chapter 5 which investigated the concept of agency, and suggested that interpretive fictional agency would be of great importance in creating mixed affect emotional gameplay experiences. This study identifies key properties of emotional exploration and how this concept can also be leveraged in conjunction with IFA to build an affective and cognitive landscape for emotional exploration, helping to facilitate a eudaimonic experience.

When speaking of film and TV media consumption, the mixed-affect emotional experience has been termed the Eudaimonic Entertainment Experience (*EEE*) [13, 173]. Given the qualitative differences between the mixed-affect experience arising from the viewing of films etc. and that of engaging in gameplay, it is proposed that this experience is differentiated from the *EEE*. This research has shown that the gameplay experience described by writers and participants is different to and enhances the *EEE* experienced in other non-interactive media, and that the games discussed here are different from other games because they offer a mixed-affect, reflective and emotionally challenging experience rather than a more mainstream and ‘fun’-orientated hedonistic experience.

The next chapter will set forth how the theories in chapters 4, 5 and 6 are linked. In particular, it will explain how the work of this chapter complements that of the other two, and helps define the final contribution of this thesis — the ‘Eudaimonic Gameplay Experience’.

Chapter 7

Integration of Theory and

The Eudaimonic Gameplay Experience (*EGE*)

This work began with an interest in how to broaden and deepen emotional engagement in videogames with an emphasis on the interactive and game-specific qualities of videogames.

The first question that arose was, “What is the emotional experience of many games *now*, and what exactly is the ‘emotional experience’ of *interest*?” If the aim was to ‘broaden and deepen emotional engagement’, it was important to define the mainstream emotional experience as it stands, and how the emotional experience *being aimed for* was different. Furthermore — how could this ‘other’ experience be identified? How was it constituted?

Prior to the publication of the work in chapter 4, there was very little work in games research to draw on when investigating and describing the mixed-affect experience in videogames. Grounded Theory was chosen as the methodological framework of choice, in great part because it is effective at generating theory and insight in areas where little prior work exists (see chapter 3). In attempting to discern what separated one group of games from another — those with a ‘conventional’ emotional experience and those with the ‘other’ kind of emotional experience, the work in chapter 4 produced the theory of functional and emotional challenge. This was used to help explain the difference between ‘core’ and ‘avant-garde’ games — with core games mainly presenting functional challenge, and many avant-garde games presenting significantly more emotional challenge to the player.

The follow-up work to chapter 4 did not engage with the concept of emotional challenge directly. Instead, it explored how the player can be given tools to both experience and, at the same time, overcome emotional challenge. The theory of different types of agency in chapter 5 enables a more nuanced conversation

to take place about the range of options and affordances offered to the player during gameplay. It opened up the conversation to consider how agency could be considered as not just what *actual* actions take place between *controller and the game*, but also what *interpretive* actions are possible between the *game and mind of the player* and how players build their own understanding of the diegesis and the role of their actions within it. It was suggested that giving the player a greater amount of interpretive fictional agency (see pg.109) was more important than the other three types in facilitating and encouraging a mixed-affect or emotionally-challenging gameplay experience.

This notion of emotional challenge was still not fully developed as yet, and raised a number of questions for us to return to in chapter 6:

- *What* is going on during this type of challenge?
- *Why* would players engage in this kind of challenge?
- *How* can this type of challenge be designed for?

Work in chapter 6 yielded the core concept of ‘emotional exploration’. This explained what was going on during the *process* of emotional challenge, helped us understand *why* emotional challenge was attractive to players, as well as suggest some strategies for *how* designers could develop games to elicit the mixed-affect and reflective emotional game experience.

7.1 Related Work

Due to the lack of concepts available in the field of HCI, researchers (e.g. Bopp et al. [26]) began to look to other areas such as the intersection between positive psychology and media/film studies. Work cited throughout this thesis makes reference to the Eudaimonic Entertainment Experience (EEE) [173, 227] (extended discussion in this thesis in section 2.6.5). The EEE refers to the mixed-affect emotional experience for viewers of sad or ‘difficult’ films. This experience is often deliberately sought out by viewers, and shows interesting parallels with Hartmann’s notion of as ‘media consumption for psychological growth’ [106] and Stenseng’s concept of self-expansive escapism [204].

As discussed earlier in Chapter 2 (see section 2.5) and noted at the end of chapter 6, the emotional experience from playing a game is qualitatively different to that of partaking in non-interactive media such as film. As suggested by Leino [144], those writing on agency (such as Matteas [154], Murray [164], Tanenbaum and Tanenbaum [213]), researchers on gameplay emotions (such as Perron [178], Frome [91, 92], Bopp et al. [27], Mekler et al. [157]) and several participants in these studies, the quality of *interactivity* that lies at the very heart of the gaming experience makes games fundamentally different and means that theories from non-interactive media have limited value in explaining how we feel when playing a videogame.

Oliver, in collaboration with many others, conceived of the idea and has further investigated the idea of the Eudaimonic Entertainment Experience — which revolves around gratifications related to ‘appreciation’ as opposed to those of ‘enjoyment’ associated with the Hedonic Entertainment Experience [172–174]. Her recent related work has seen her explore the concept of meaningfulness in videogames [175]. Similar to the results in chapter 6 (and discussed in section 6.4.1, specifically on page 130) she agrees that videogames are not only capable of being meaningful, but may be particularly suited to providing meaningful experiences — more so than cinema and television. In particular she states that videogames provide an enhanced opportunity for appreciation. A further interesting parallel between Oliver et al.’s work and the work shown here is her proposal that ‘insight’ be added as a potential fourth psychological need to well-known triad of competence, autonomy and relatedness of self-determination theory [189]. Work in chapter 6 discussed how one of the properties of the core concept of emotional exploration was relatedness — in particular relatedness to self. This shows strong overlap with Oliver et al.’s concept of ‘insight’, and future work could investigate this relationship more closely.

Unfortunately there are issues with Oliver et al.’s core results in this study [175]. In their results they suggest that gratifications of enjoyment are linked to gameplay and mechanics, and gratifications relating to appreciation are strongly linked to story and narrative. In the earlier days of videogames, it was more common than it is now for narrative and gameplay to be kept separate

through the heavy use of cut-scenes. It can also be appreciated that this was an analysis of participants' self-reported accounts of gameplay, rather than an examination of any actual games alongside participant responses. However, they show some short-comings in their understanding of videogames as a medium — chief of which, that you cannot divorce gameplay from narrative entirely, ever. Even in the most cut-scene heavy videogames, the gameplay provides context for the emotional impact of cut-scenes and vice-versa.

There are several easily chosen examples that can act as further evidence against this erroneous delineation between story/appreciation and gameplay/enjoyment. As previously discussed in section 4.4.1, the actual mechanics and gameplay of the 'No Russian' section of *COD:MW2* is what causes the non-hedonic experience. Again, in *Heavy Rain*, when the killer is revealed to be someone who the player has spent a large amount of time controlling during gameplay. It is the fact that the player, thinking they were playing the hero(es), has actually spent a large portion of the game embodying the murderous villain, which leads to the complex emotional experience — not a simple reveal in the narrative. In *Papers, Please*, as discussed in section 4.4.1, the gameplay and narrative are completely intertwined — as is the functional and emotional challenge.

Oliver et al. also fail to consider allegorical games such as *Papo and Yo* [265], where mechanics tell the story and directly convey the narrative, rather than cutscenes. In *Papo and Yo*, the player is a small boy (Quico) who at the start of the game runs into a closet to escape the drunken rage of his alcoholic father. Once hidden, he escapes into a dreamland in his thoughts where the rest of the game takes place. Quico befriends a giant pink creature (Monster), who is docile and playful at first, but when Monster eats a frog hopping around the game world, it becomes enraged — taking out its anger on structures and Quico. Quico spends much of the game guiding Monster to eat fruit to calm him down. The game models the relationship between the Lead Designer of the game and his alcoholic father, where his father would easily fly into a drunken rage and he would have to avoid him and find ways to calm him to survive. The mechanics of the game directly convey the message of the game — the line between story and gameplay is invisible.

Recent work in HCI has examined how a non-hedonic experience can manifest through interaction. The Eudaimonic User Experience as defined by Mekkler and Hornbæk [158] focuses on the difference between momentary pleasure that arises from use of technology (hedonic) and that which arises from fulfilment of long-term needs (eudaimonic). In particular, with the eudaimonic user experience there is a focus on the ‘future importance’ of the experience as opposed to fleeting enjoyment. This model seems to be focused on the *utility* of a task — “How does this help me develop?”, “How can this affect my future goals and aspirations?”. This is an important distinction versus that of the hedonic experience, but it does not capture the sense or process of reflection and increased understanding about world and self that the eudaimonic entertainment experience details, or that is shown in the work of this thesis. Their later work on meaningful interaction in HCI [157] is valuable in increasing our understanding of what meaning *actually* is. Till very recently, not only has HCI research focused almost exclusively on positive affect and usability, but there had also been little work done on what a ‘meaningful’ (or, potentially, eudaimonic) interaction would look like or how it would be experienced by a user. From a review of the psychological literature, they determined five aspects of meaning that could be clearly understood and applied to an HCI context — connectedness, purpose, coherence, resonance and significance. Their categories of ‘resonance’, ‘coherence’ and ‘connectedness’ share particularly significant overlap with many of the ideas presented in this thesis. However, as they themselves elaborate, that framework is focused on *moment-to-moment* sensations of meaning, and only comments on the *experience itself*, not on the *content* that brings that experience about.

The Eudaimonic Entertainment Experience does not account for the interactive elements that lie at the core of the videogame playing experience, and whilst frameworks arising from the field of HCI align well and account for interactivity, they only apply to *part* of what has been observed during the research for this thesis. Therefore, a new way of viewing the mixed-affect emotional response in videogames is necessary.

7.2 Definition of the Eudaimonic Gameplay Experience

The three theories described in chapters 4, 5 and 6 relate to the same area of interest and so this chapter seeks to explain how they integrate and complement each other to create the ‘*Eudaimonic Gameplay Experience*’ (EGE). A diagram summarising the EGE can be seen in Figure 7.1.

The EGE begins with emotional challenge and ends with emotional exploration. Emotional Exploration itself brings together and explains how interpretive fictional agency (IFA) and emotional challenge are related, and is the core concept of the EGE.

As previously discussed in section 5.4.2, IFA is required by the player both to realise emotional challenge and to overcome it. If the player is not given space and the tools to explore an emotional landscape (using IFA), then that emotional landscape cannot be seen and experienced, and there is nowhere for emotional challenge to exist and be overcome. Emotional exploration describes what the player is doing and why they would engage with the EGE, but it requires interpretive fictional agency to build the emotional challenge for that exploration to be realised. In this sense, it is similar to how a player cannot mechanically/‘physically’ explore a diegesis unless there is actual mechanical agency in place to provide a functional challenge for them to engage with and overcome (even if this is just basic moving and looking).

The Eudaimonic Gameplay Experience therefore, is when the player uses emotional exploration and (primarily ‘interpretive fictional’) agency to overcome emotional challenge in a videogame, resulting in a reflective mixed-affect emotional experience.

It’s important to note that this only applies to single-player games where the intent of the designer/developer is to elicit a reflective mixed-affect experience, and therefore must involve emotional challenge. A player may well play a videogame with high-functional challenge such as *Dark Souls* [242] or *Robotron: 2084* [266], and argue that they gain a eudaimonic experience from improving at the game and completing it or attaining a high score. Similarly, many

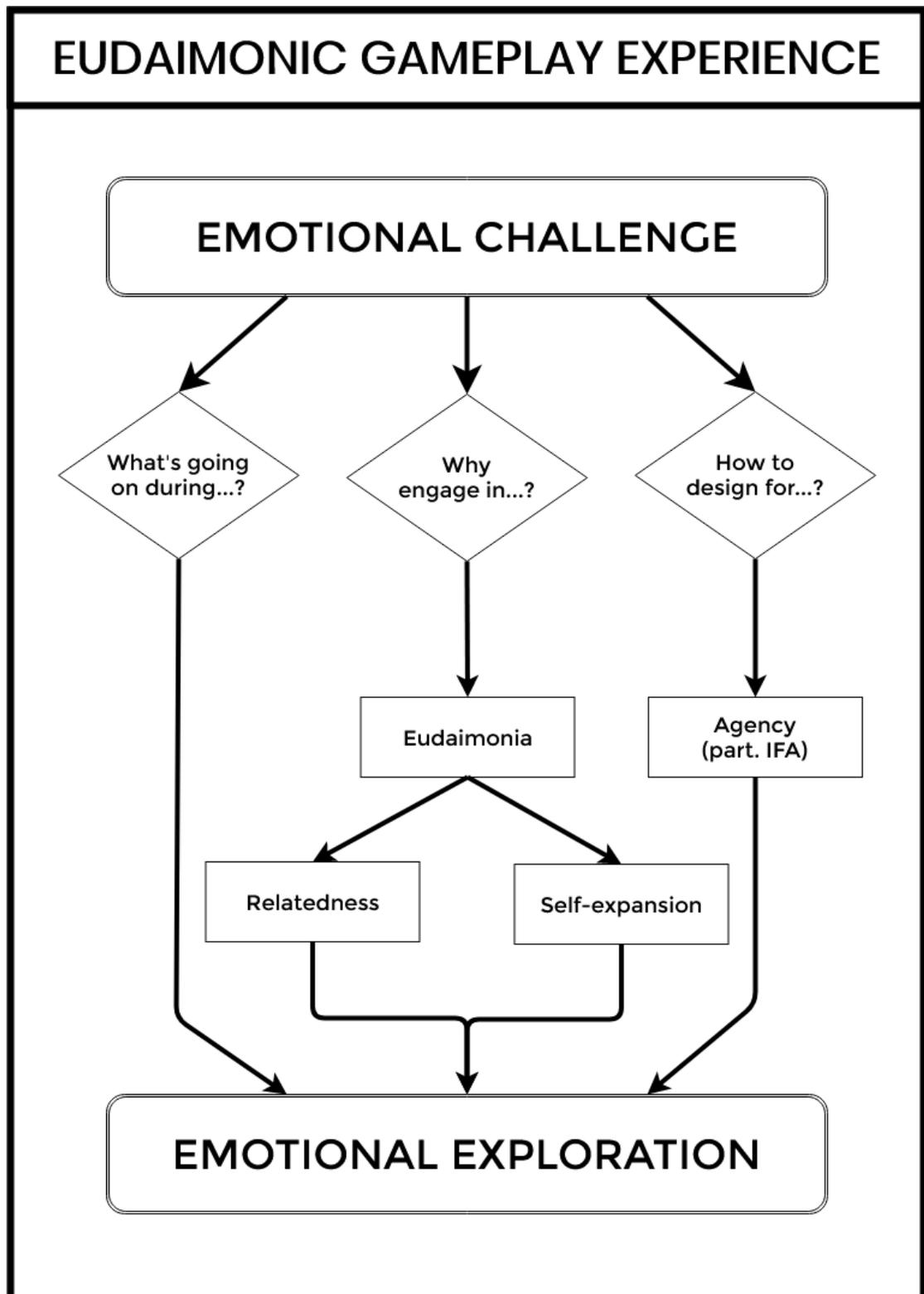


Figure 7.1: The Eudaimonic Gameplay Experience (EGE).

might argue that they gain a eudaimonic and reflective mixed-affect experience through extensive play of a sandbox title such as *Minecraft* [263]. But these are external meanings and intentions injected into gameplay from outside of the artifact of the game itself by the player. In this sense, *any* game could elicit a eudaimonic experience due to the context of the players life and situation, the same as *any* film or book might elicit a eudaimonic entertainment experience because of the the manner in which it is encountered and engaged with at that point in the viewers/readers life. But it is difficult to see anyone convincingly argue that films such as *Transformers 3* [18] offer anything other than hedonic entertainment, even if a few people may experience it otherwise due to who they viewed the film with, the point in their life when they saw it and what it represents to them.

In the same way, regardless of how they may meet the psychological needs of the player, games that lack emotional challenge in and of themselves and which originates from their own design, do not offer a eudaimonic gameplay experience as it is defined and used here.

The sections below elaborate on the three branches of Figure 7.1, from left to right.

7.2.1 What is going on during emotional challenge?

In the midst of emotional challenge the player is *exploring* a cognitive and affective space defined by the designer/developer. This space can only be mapped out, it cannot be defined exactly. This encourages the player to build their own understanding of the gameplay, an interpretation that is unique to themselves. By the same token, this understanding will be varied and nuanced between players and varying in intensity. The Eudaimonic Gameplay Experience can only be designed for, given space to, and encouraged — *it cannot be guaranteed*. This is supported by the properties of emotional challenge discussed in chapter 4, where the emotional experience amongst reviewers of the game was more varied than that of games of predominantly functional challenge, and further supported by the anecdotes and experiences of participants in chapters 5 and 6 who often engaged with the same games in very different ways.

As players explore and traverse the emotional landscape of the game, they

are exploring themselves, others and aspects of the real world through the situations presented in the game. This is a reflective space for self-expansive escapism, where they aim to grow and develop. This is a predominantly eudaimonic experience — one where ‘appreciation’ of life and meaning-seeking is realised, and self-development and reflection encouraged afterwards. A prominent aspect of this is that players who value the mixed-affect experience feel they are satisfying a need to feel related to other people, the world around them, and themselves.

Emotional challenge need not come just from narrative material presented by the game. The work of Bopp et al. [27] and Denisova et al. [71] both further differentiate the concept of emotional challenge (see chapter 4) into emotional challenge (dealing with strong emotions elicited by the game) and decision-making challenge (arising from having to make choices that were difficult or could lead to regrettable outcomes). Strong and potentially overpowering emotions (see section 2.6.7) can arise either from material presented by the game, **or** from the actions of the player within the diegesis. In the process of making difficult gameplay decisions (such as those detailed by participants in chapter 6 whilst playing titles such as *The Walking Dead* or *Detroit, Become Human* see section 6.4.1), the player is emotionally exploring themselves, their identity, and sometimes their aspirational identity. So, often, it is the decision-making aspect of emotional challenge that leads to emotional exploration — for example at the major decision points in *Life is Strange*, deciding the future of non-player characters in the diegesis. i.e. “*What does this decision say about me?*”. This also shows links to the ‘coherence’ component of Mekler and Hornbæk’s framework for meaning in HCI — contributing to the need to maintain a coherent and stable identity.

It is this decision-making component, and the very nature of interaction itself, in emotional challenge in videogames that differentiates it from the cognitive and affective challenge of cinema as described by Bartsch and Hartmann [14]. However, in the same way that the lack of their notion of ‘affective challenge’ in film leans towards an experience of ‘fun’, we have already discussed the potential interplay of functional and emotional challenge in videogames. Except it is the reverse — the absence of emotional challenge does not nec-

essarily lead to an experience of ‘fun’ and enjoyment or functional challenge, but the presence of functional challenge leads to a hedonic experience, and its absence tends towards emotional challenge and a eudaimonic experience.

7.2.2 Why engage in emotional challenge?

Several participants stated they play games to feel different emotions, to become someone else, be part of something else, to learn more about what it means to be human. They *emotionally explore* to feel more connected with, and understanding of, themselves and the world/people around them.

Players seek this mixed-affect experience to give opportunity for self-reflection, personal growth, and ultimately increase their sense of meaning and life satisfaction — a pattern of motivation and behaviour associated with a desire for eudaimonic living. Eudaimonia itself is strongly related to a desire for self-expansion and satisfying the need for relatedness, which is why these aspects are explicitly highlighted in Figure 7.1.

These types of gamers were specifically recruited for the study in chapter 5. Although not as clear at this stage in the thesis, there was *some* understanding of the type of challenge and emotional experience that was of interest (see section 2.4.3 for the background discussion of this also). The games *Everybody’s Gone to the Rapture* and *That Dragon, Cancer* were selected on the basis that they were well established within the press and media conversation surrounding games as ‘avant-garde’ games (see rationale for category of ‘avant-garde’ in section 4.2), in the belief that players of these games may select others games that elicit a similar emotional experience, and therefore have more experiences of interest to speak of. This was born out in the course of the research reported in chapters 5 and 6, where players stated they played in order to be challenged emotionally, to feel, and seek gratifications of ‘appreciation’, even if they didn’t use those specific terms (see sections 5.4, 6.1, 6.3.2, 6.4.1 etc.).

The reader may remember the discussion in section 2.3.1 of Mekler et al.s’ work using Fleck’s framework for reflection [88] to code and classify transcripts of interviews with players [159]. They found that there was very very little ‘transformative reflection’ (that which alters one’s assumptions and/or behaviour) and no ‘critical reflection’ (which happens when one relates an ex-

perience to wider social and ethical implications). At first glance, this would appear to contradict the findings of the research behind this thesis — particularly that of chapters 5 and 6. Several quotes in this thesis clearly illustrate that players *do* engage in reflection, and sometimes at a high-level.

However, the participants in Mekler et al.s' study responded to a general call for participation, and they were selected to represent a "*mix of more regular, as well as casual players to ensure we captured a wide range of gameplay experiences*"[159]. This is not comparable to the studies conducted here in this thesis. For the work in chapter 5 there was a focus on players of avant-garde games that were known to foster a sense of appreciation or psychological growth (see section 5.3.1), and in chapter 6 participants were explicitly recruited to speak about emotional gaming experiences (see section 6.2.2). Moreover, whereas the work of Mekler et al. [159] (as well as and Bopp et al. [26]) use an approach informed by thematic analysis, all the research conducted here was done using grounded theory methodology. Most important to remember in this instance is the concept of *theoretical sampling* (see section 3.2.2) — where participants were recruited according to gaps in the data, to further explore theoretical questions or to test prototypical concepts, rather than to represent a balance of play styles or play preferences etc.

It is only to be expected, then, that the interviews from this focused approach would produce more data on reflective experiences than if the sampling of participants were more general. It is clear from the studies here which games were frequently discussed. However, this information is not present in Mekler et al.s study. It is understandable — it was arguably not important within the scope of that paper, but it further challenges the notion that the results of that work and this thesis are contrary to one another.

Additionally, most of the interviews conducted as part of this thesis were conducted over instant messenger, which is believed to have provided more opportunity for reflection (see section 3.5.2 for discussion), and the interviews in this study were far longer — 2-3 hours on average, cf. 25-60 minutes for interviews in Mekler et al.s paper. Again, this would allow more time for probing for reflection.

Finally, as noted in the section on recruitment in chapter 6 , there was a

distinct reticence, even amongst those passionate about the gaming medium, to acknowledge that a videogame had had a strong effect on them, which was linked to a social shame about the perceived low culture status of gaming (see section 6.2.2). It is therefore not surprising that participants in other studies, such as Mekler et al.s, where participants had *not* been recruited specifically to talk about emotional experiences, find it hard to acknowledge and name higher-level reflective experiences.

Returning then, to the difference in recruitment for these studies — it points towards the wide range of motives for playing games, similar to the range of motives viewers have for different types of non-interactive screen media. Not only that, but the multiple motives that change and modulate according to environmental or internal factors such as time, energy levels, mood, relationships with other people etc. Participants in the research for this thesis had one set of motives (at least for playing *those* games discussed), and those in other studies most likely had others (and possibly several differing ones). Motivation was not investigated as part of Mekler et al.s work, and so it's impossible to compare. Indeed, one of the key contributions of this work is that it was able to focus in on the gameplay that yields gratifications associated with 'appreciation' so effectively by recruiting players who showed a strong preference for this, without sacrificing methodological rigour.

Future work could explore a link between motives for playing games and the type of experience that results. Specifically, comparing the approach of this thesis (recruiting gamers specifically seeking the EGE) to that of other works (recruiting a broad range of gamers where the EGE may occur, but was not directly sought).

7.2.3 How to design for emotional challenge?

In the same way that we think, describe and implement a space for the player to explore 'physically' (in the context of a virtual world) using mechanics via buttons on the controller, the same can be done to define an emotional/affective space for *emotional* exploration by the mind and heart of the player. As described in section 6.4.2 if we built these affective spaces as more than straight forward corridors — with ambiguity, gaps or 'spaces to think', challenging con-

tent, potentially contradictory information etc. and gave the player time to reflect on what's (not)presented (i.e. interpretive fictional agency), then this raises the possibility for emotional exploration and the Eudaimonic Gameplay Experience.

It is worth noting that it is *not* just IFA that is involved in building emotional challenge. As mentioned recently in section 7.1 and earlier in section 4.4.1, actual mechanical agency (AMA) can play a part in setting up an emotional challenge. Players can be very emotionally attached to the fate of particular characters in a diegesis (as shown by Bopp et al. [28]) and so actual fictional agency (AFA) also plays a part. Imaginary mechanical agency (IMA) can also contribute to emotional challenge. However, as discussed in chapter 5, IMA is rarely done intentionally and well, and AFA can be prohibitive due to budget and time constraints during game production (except where the main asset is text — which is cheap to produce and manipulate). This means that whilst IFA is not the only type of agency that can be used to create the Eudaimonic Gaming Experience, it is the most readily available and the most useful.

Although AMA can be used to pose emotional challenge, this must be done with care and attention. As discussed in chapter 4, section 4.4.1, too much AMA would lead to high functional challenge, which has been suggested to interfere with the formation and engagement in emotional challenge. Essentially, if a player is too preoccupied with reading where the next bullet or melee attack is coming from, or with trying to make the correct button presses to navigate a complicated obstacle course, they do not have the time, opportunity, or capacity to reflect and engage emotionally with other elements of the games design and diegesis.

This is fertile ground for further work. Work such as Bopp et al. [27, 28] and Mekler et al. [157–159] speak to how elements of the EGE is constituted, but not how to design for it. Work by Khaled [134] and Cole [55], and the work of this thesis make suggestions for how to open up the emotional landscape for reflection, and the EGE.

Both Khaled and Cole suggest subversion of assumptions about a games design as a way to induce reflection. Khaled uses Pippin Barr's *Art Game*[235] and Die Gute Fabriks's *Johann Sebastian Joust* [258] to show this. In the case

of *Art Game* the game mechanics are used to *create* art rather than simply partake in the vision of the game's creator — there is an encouragement to use the mechanics playfully and creatively, which is unusual. *Johann Sebastian Joust* challenges what it means to make a motion controlled game (there are no graphics involved) and makes players think about the value of 'house rules' and performance and spectatorship [134]. In Cole's work on *SoTC* [267] and *Ico* [257], they speak of how the player's expectations from defeating the enemies in *SoTC* are played with, as they experience music, sound and visuals that do not confirm victory, but rather a creeping dread that they have done something wrong [55]. Subversion of assumptions forces a player to stop and think about what they were expecting, why they would expect that, and why what they are instead faced with feels problematic to them. It interrupts their expected 'flow', and forces them to reflect.

Another strategy that has been suggested is ambiguity — which has already been discussed as a tool for emotional challenge in sections 4.4.4, 5.4.2, 6.3.1 and 6.4.1. Ambiguity is not the absence of information per se, it is the confirmation that there are a number of equally plausible interpretations to be had. This is what prompts the player to reflect and build their own interpretation of the diegesis — one which resonates with *them*.

Gaver et al. [95] has investigated ambiguity as a strategy in the context of HCI design in general, Khaled has advocated for the use of ambiguity as a resource for reflective games design [134] and Cole has written on how ambiguity is specifically used to elicit emotion in the games *SoTC* and *Ico* [55].

For example, in *Ico*, little is known of the player character (*Ico*) and the companion character (*Yorda*, who the player must escort through danger, for most of the game). There is also little information on how they came to be in the situation they're in — trapped in a mostly empty castle, seeking to escape. The player knows little about the castle, where it is, why they are there. It is similar in *SoTC*. Limited information is given about the player character (*Wanda*), the maiden that he is seeking to bring back to life (*Mono*), the disembodied entity that *Wanda* enlists to help him (*Dormin*), or the titular *Colossi* that the player must defeat to progress through the game. The player is left to fill the gaps left by the game on the origins and purpose of the world they inhabit, and the

characters they encounter.

In chapter 4, section 4.4.4, it was suggested that solitude is often used in conjunction with ambiguity to support the production of emotional challenge. Cole also found this in *SoTC* and *Ico*. In *Ico* the player rarely encounters another person other than Yorda and most of the game is spent listening to the howling wind whistle through the deserted castle they are seeking to escape. Similarly, in *SoTC* the player spends large sections of the game traversing a large open landscape on the back of their horse (Agro). It is notable that both games feature little in the way of background music (in *SoTC* music is only played during encounters with colossi). This gives the player plenty of time and space to think about what has been presented in the diegesis and what their actions mean. This is a good example of a player being given interpretive fictional agency, and ambiguity being used to arouse curiosity and encourage reflection, in order to create and overcome emotional challenge.

7.3 Summary

The Eudaimonic Gameplay Experience occurs when the player, seeking emotional exploration, seeks out and wrestles with emotional challenge. The player uses different types of agency, but particular interpretive fictional agency, to overcome these challenges. The core process at the heart of the Eudaimonic Gameplay Experience is the emotional exploration of the affective landscape of the diegesis, leading to a reflective, mixed-affect experience that promotes self-expansion, a sense of meaning, relatedness and eudaimonia, and enhances life satisfaction.

Chapter 8

Future Work

Media research concepts of appreciation, mixed-affect, and eudaimonic entertainment resonate strongly with the observations made during this project and are only just beginning to be recognised in HCI research around digital games and player experience.

The relationship between the concept of emotional challenge and Oliver's concept of 'appreciation' provides many avenues for further research. (Appreciation was defined as "*an experiential state that is characterised by the perception of deeper meaning, the feeling of being moved, and the motivation to elaborate on thoughts and feelings inspired by the experience.*" [173] See section 2.6.5) The origins of appreciation-related gratifications has been further investigated by Bartsch and Hartmann, who have proposed cognitive and affective challenge [14] and how they relate to the appreciation-focused experience. Bopp et al. have investigated emotional challenge in videogames and differentiated challenge into six defined types of challenge (with one additional 'other' category), of which four were related to emotional challenge (decision and actions, difficult themes, intense emotion, social challenge). Denisova et al. have operationalised emotional challenge as presented here as 'emotional challenge' and 'decision-making challenge' in the CORGIS questionnaire [71].

Quantitative work into player experiences of games, using any of these three frameworks would be of great value and benefit. First, to see if Bartsch and Hartmann's notions map well to the mixed-affect response when tested against specific games, whether they are useful within the realm of HCI and games studies. Second, to test if Bopp et al.'s challenges can be operationalised and measured against different games and players' experiences of them. Third, to see if the challenge types described in this work, Bopp et al.'s work or Denisova et al.'s work can be aligned with specific formal features and design choices in games development — thus providing design suggestions that are specifically

and empirically grounded.

In the same fashion, the purported antagonism between functional and emotional challenge (first discussed in chapter 4) remains just that, for now. Further work using the CORGIS questionnaire would help to see if there is an inverse correlation between levels of functional challenge and emotional challenge (in Denisova et al.s words — cognitive/performative challenge and emotional/decision-making challenge), or as some suggest, an intensification of both by co-usage [177].

Chapter 5 proposed four new categories of agency. In the same way that developers already spend much time and effort analysing the cognitive models behind actual mechanical agency (AMA), more work on the cognitive models that may underpin interpretive fictional agency (IFA) would further help researchers and designers understand the more reflective kind of gameplay experience. Future work could aim to find a way to quantify the different levels of agency present within a game. After this a cross-genre analysis of digital games and how they are experienced by the player using this quantified agency framework would help reveal what makes up the gameplay experience and elucidate the cognitive models behind different types of agency. Further triangulation of this with an analysis of the formal features of the videogames involved could yield powerful and important insights on the emotional effects of certain design features and development choices.

At present there is, at best, a 'gut sense' of what might be useful in creating emotional challenge, the eudaimonic gameplay experience, and the reflective mixed-affect emotional experience. The notions of ambiguity and solitude have been discussed several times in this thesis, for example. But these ideas would benefit from grounding in quantitative data to confirm their validity and provide the most benefit for researchers and practitioners of games design.

A combination of a test of the agency framework in this thesis with one of the existing tests for challenge (such as CORGIS [71] or the operationalising of Bopp et al. [27]) would make for important work that could prove a link between emotional challenge and interpretive fictional agency, as is proposed in this thesis. Additionally, how do the four agency types relate to the four manifestations of emotional challenge in Bopp et al.s work, or the two 'non-functional' types of

challenge in Denisova et al.'s CORGIS framework? It is hoped that the results and conclusions of such work would allow recommendations to be made to design practitioners, and help guide their decisions when targeting a eudaimonic gameplay experience.

Mekler et al.'s work [157] on meaning as connectedness, purpose, coherence, resonance and significance shows strong overlaps with parts of the concept of emotional exploration in this thesis and of the core need of 'relatedness' from Self-determination theory. Also seemingly related is Oliver et al.'s proposed 'fourth psychological need' — insight [175]. Is 'insight' analogous to the relatedness-to-self component of emotional exploration? What is required in a videogame to provide the player with the opportunity for insight? Is emotional challenge required?

The relationships between these concepts could be investigated first with an exploratory qualitative study — potentially a top-down thematic analysis of interviews with players of games that are associated with the eudaimonic gameplay experience. Conclusions from this could then be further investigated using quantitative work that investigates the levels of 'insight' or meaning to be gained from a variety of videogames, with further cross-referencing between the formal features of the games in question, as well as the motivations of players for playing them in the first place.

At present there seems to be little work on the motivations of players for playing games and how this might affect the emotional experience. How important is motivation to the eudaimonic gameplay experience? Is the EGE enhanced if the player is purposefully seeking it? In what way does a player's motivation change how they select which games to play, how they engage with them, and therefore how they experience them? These questions were touched on by the discussion in section 7.2.2 regarding the supposed discrepancy between findings in this thesis versus those by Bopp et al. [26] and Mekler et al. [159]. Additionally, how does this relate to industry assumptions that player gratifications revolve around hard, soft, social or serious fun [142]; not for self-expansion, self-knowledge, reflection or emotional exploration? Related to this, how does the player's self-perception, and that of games as a medium affect the gaming experience in general or the eudaimonic gameplay experience? Re-

call in section 6.2.2, there was a distinct sense of ‘social shame’ encountered over the supposed ‘low culture’ status of games which hindered recruitment at points for the study.

Since the publication of the work in chapter 4 there has been a marked increase in research into mixed-affect and reflective experiences in games in the field of HCI. However, much of this work remains abstract and theoretical (including some of the work presented in this thesis). Even without questionnaires and a quantitative scale, it would be valuable to examine existing videogames/collections of games through the lens of theories presented here to see how these ideas can actually be applied in practice.

I propose that this would take place in two parts. First, an analysis of formal features using the concepts that are key to the eudaimonic gameplay experience such as emotional/functional experience, the new agency framework of chapter 5 or emotional exploration. Second, that these formal features be investigated in the context of how players experience these games. Qualitative methodologies such as deductive/top-down thematic analysis stand to be a better fit for this kind of work possibly than grounded theory methodology — the theory has already been formulated, it now needs to be applied. Additionally, established textual analysis techniques such as those already discussed in my previous work [55] or those of the Well-Played series of publications (e.g. [62, 63]) stand to provide great insight. Close textual analyses provide valuable foundations for other scholarship to build and draw upon for inspiration and grounding, and it is sorely needed in games studies across all disciplines.

There is also the question of what is more important — the emotion itself or the *appraisal* of the emotion? Bopp et al. [26] and Mekler et al. [156] explore this in some of their work and Bartsch et al. have written about the concept of meta-emotion (i.e. emotions about the appraisal of emotions) [15]. As pointed out previously [25, 119, 157, 160] the majority of research on user experience in HCI focuses on hedonic-related gratifications and the in-the-moment experience. There is a vast opportunity for exploring eudaimonic-related gratifications and reflections on historical experiences further at both the emotion and the meta-emotion-level. Work in this thesis specifically targeted reflections on historical experiences, and uncovered eudaimonic-related gratifica-

tions, but did not make any distinction between emotions-in-the-moment and meta-emotions-about-the-past. Further work could attempt to see which 'negative emotions' linked to which 'positive experiences' and then further analysis could be done to see how this maps to certain formal elements of the game being played and/or the context of gameplay.

There has been an increased interest in the role of reflection in videogames [119, 120, 134, 151, 159, 224] (see section 2.3.1 for more discussion). There is an opportunity for the concepts of agency produced here, particularly interpretive fictional agency, to be investigated alongside the levels of reflection used by Mekler et al. [159] or Whiby et al. [224]. Is IFA more prevalent or important in cases where there is a high-level of reflection occurring? In either 'transformative/critical reflection' [159] or in 'perspective changing moments' [224]? Are certain genres of game or certain categories of design more reflective than others? This could arise from the more detailed analysis of games as artifacts using close textual analyses, classification of formal features and a qualitative interview analysis (or quantitative analysis if an appropriate tool could be developed (see above)).

Emotional exploration, with its analogy of an emotional/affective landscape to be traversed, with its 'grab' (see section 3.2.3) makes it a concept that could be explored with the help of non-specialists using practice-led research. There is potential here for a workshop on emotional exploration with practitioners and/or non-specialist players. This is how Gaver et al. explores the characteristics of a group of people by using cultural probes [94], Hutchinson uses technology probes to investigate uses of technology and requirements of the potential user group [118], or Hudson and Cairns use experiential vignettes [116] to learn more about a concept or idea. In this manner, we could investigate ways of implementing, encouraging and facilitating emotional exploration.

Chapter 9

Conclusion

This PhD project began with a desire to investigate how emotional engagement in videogames could be broadened and deepened beyond those emotional experiences that are commonly experienced such as ‘fun’, challenge and ‘power-fantasies’. Over the course of this thesis, substantial contributions have been made to understanding how this can be achieved through the concepts of *emotional and functional challenge*, *interpretive fictional agency*, and *emotional exploration*.

Review of the literature began with a belief that it was necessary to be able to define what an emotion actually is before an emotional *experience* could be investigated. Early reading revealed that the definition of an emotion was far too contentious a topic to come to a conclusion on, and would not actually help to advance the work on this project.

Crucial to this endeavour was identifying what emotional experiences were common in gameplay, what experiences weren't, and subsequently which ones were of interest to this project. Qualitative research was deemed to be a better fit to investigate these questions, and so work proceeded using Grounded Theory Methodology (GTM) — a qualitative methodology that inductively generates theory from rigorous analysis of data. Strong results from the first investigation using magazine reviews as a data source (chapter 4) meant that Grounded Theory continued to be used throughout the project, but where further data collected and analysed came from transcripts of interviews with players.

Work to establish the difference between ‘core’ and ‘avant-garde’ games yielded the concept of emotional challenge. It was found that games of emotional challenge (where the player must resolve ambiguities and tensions in the diegesis or deal with difficult material presented to them in the narrative) produced the kind of emotional experience that this project was interested in. However, it was felt that the notion of emotional challenge required more in-

vestigation and definition.

Further research into the nature of emotional challenge led instead to an interrogation of the current understanding of agency and production of a new theory allowing a more nuanced conversation about agency to take place. The results shown in chapter 5 proposed four types of agency — actual fictional agency (AFA), actual mechanical agency (AMA), interpretive mechanical agency (IMA) and interpretive fictional agency (IFA). Of these, it was IFA that was identified as most important to facilitating the mixed-affect experience or ‘appreciation’ associated with eudaimonic entertainment preferences.

It was established that games needed to present an emotional challenge to encourage the eudaimonic mixed-affect experience that was of interest in this project, and that giving the player a larger degree of IFA was key in allowing for this experience to arise. However, the issues of what was going on in emotional challenge, why people would seek it out and how to design for it had yet to be fully answered. In chapter 6 analysis of the data yielded the concept of ‘emotional exploration’ — that the player explores an emotional landscape that is defined and built by the developer/designer with their emotions and mind, in the same way that a virtual physical landscape is explored by the player with skill, dexterity, problem-solving and a controller. Integration of these three theories is described in the previous chapter (chapter 7), and they are presented as components of the Eudaimonic Gameplay Experience.

This thesis offers a number of new concepts and theories that are powerful and practically useful to theoreticians and practitioners in discussing and creating videogames that encourage the mixed-affect response now identified as the *Eudaimonic Gameplay Experience*. In doing so, it is hoped that developers are left better equipped to take advantage of the latent expressive and artistic potential as yet little used and explored to date in videogames, and continue creating more emotionally-resonant “*moments to talk about*” in the near future.

It would appear we have barely scratched the surface of what emotional experiences games are capable of, and the future will be most interesting.

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Appendix A

Codes from First Pass (Open) Coding for

Chapter 5

The following codes, organised into categories resulted from initial coding of interviews.

Characters

characters and dialogue

concern for avatars

decent characters

Games lack nuanced and complex characters

motivated to help characters

protection of avatars

stronger stereotyping would have helped.

subverting of stereotypes

voice acting important

writing quality

real world setting is unusual

reference to TV quality

sell well for recognition

slow evolution of games

some games better as film

some games more like films

story can be bad in games

transmedia has to build using mediums strengths

or affordances

Current state of games

accessibility leads to diverging tastes

comparison to literature and film

conflict in actions game - moral dimensions

deep emotional experiences in games are rare

emotional depth in games increasing

emotional potential of games is higher

entertainment = needs less effort to engage in

games as product

games behind books and film

games do not cover serious topics

games rarely surprise

games underrated for storytelling

lack of interest in character stories

medium isn't recognised

more recognition leads to higher expectation

negative experiences are valuable

not entertaining doesn't mean not a good experience

Design

action conflicts with space to think about narrative

action packed

agency

agency not always needed

ambiguity

arcades - spectatorship

artistic process contrasted with game development

better without shooting

body language of characters

challenge not essential

choice of how to play

closer relationship with diegesis

colours used for other-worldly look

consistency

contrasting mechanics for emotional affect

control

curiosity

customisation of avatar unimportant

destroyed with shooting

didn't seem genuine (TDC)

different kinds of exploration
 difficult choices
 difficulty kills enjoyment
 effort made needs to be compensated
 emotional vs functional challenge
 experimental mechanics
 exploration - even in car games (Burnout Paradise)
 exploration challenge
 exploration of game mechanics
 exploration to boost skills
 fairness
 focus on relationship not enemy
 FPE - exploration
 freedom of movement
 Game doesn't meet expectations (TDC)
 Game gets in way of story
 gentle pace
 Good user experience
 immersion important
 interactions must be meaningful
 intimacy through environment
 investment through action
 Journey too short
 juxtaposition between world and mechanics
 lack of action in FPEs not strange
 lack of competition is good
 lack of context for mechanics
 lack of context to understand subject (TDC)
 lack of danger encouraged exploration
 lack of shooting led to more exploration
 leaving player to decide
 less representation = more interpretation
 lost skills during interrupted play
 mainstream games
 mechanic meshed story (Nodes)
 mechanic meshed with overall story arc
 mechanics encourage role play
 mechanics to convey loss
 mundane
 music to guide emotions
 narratively contextualised mechanic
 no agency - still control pace
 no spoken narrative a plus
 not all games work without functional challenge -
 some need it
 not traditional game
 novel use of controller to reduce abstraction
 object description altered with interaction
 overly literal
 performing as a character
 physical exploration vs. story exploration
 player character blank slate
 player character defined
 players tell own story
 progress is important
 quality of animation
 reminder of end goal
 shooting is boring
 short game
 shorter games better for emotion
 shouldn't be too slow!
 spontaneity
 stories and world over mechanics
 story exploration
 subverting expectations
 synchronous use of all game aspects
 telling defined story
 time to process
 trouble with someone's beliefs (TDC)
 use of metaphor
 work in games can be rewarded in different ways

Emotions

abstraction more than control
 agency leads to higher engagement
 appeal through nostalgia
 authentic emotion
 challenge = strategy or skills
 controls change for emotional impact
 Creepiness and exploration
 cut scenes helped character bonding
 cut scenes reduce potential for emotional affect
 difference in emotional insights
 disappointed by game
 dread
 emotion in games more personal
 emotional challenge
 empathy
 enjoyed opportunity to reflect
 escapism
 exploration of communication satisfying
 feel responsible for events

feeling protective of avatar(s)
heavy emotion as part of a whole or in context
interactivity = stronger emotions
joy of discovery
life events
longer time = more emotion
lower graphical fidelity can enhance engagement
major emotional choices
Many FPE games creepy
misdirection
modern gaming evokes childhood memories
more control = more relatable
more effort = more reward
more time = increased involvement
not just one experience
personal resonance - similar story
prior knowledge affects experience
restrictions of communication a joy
romantic vs. familial
shared background
social structures for emotional experiences
teamwork - emotionally resonant
Formats
console at home
dedicated handheld
mainly PC games
mobile
mobile = casual, not deep
PC - Itch.io
PC - Steam
PS Vita
PS3 sometimes
PS4
retro games
XBone

Genres

survival horror
visual novels

Misc.

GOOD QUOTES
Intellectual challenge too much due to language

lack of support for Mac
scared to replay - disappointment

Multiplayer play

dislikes obligation of multiplayer
exploration of communication with other player
likes local co-op
local multiplayer
MMO played alone sometimes
MMO played socially
multiplayer - emotional depth
multiplayer is repetitive
passive involvement in multiplayer
plays with friends
Pokemon Go with friends
shared experiences + creating own stories
social interaction overcomes genre dislike
some games only with others
story through multiplayer performance
will watch others play narrative games locally.

Participant data

18-30
30+
challenging nature of games
childhood - educational games
childhood - gaming access controlled
Female
High school
male
needs a reason to play
Norwegian
playing can be work
postgraduate
relationship break up
student
undergraduate
white
White British

Play habits

brand loyalty can get you through difficulty
Can't play creepy games alone
certain level of investment will help motivate to end
dedicated handheld during long-haul travelling
early adopter of technology
gaming = social activity
gaming requires too much energy sometimes
lifestyle dictates game preferences
mobile - rarely
mobile = casual timefillers
mobile whilst travelling
Only played others consoles
plays alone at home
plays games when they're new
plays little because partner dislikes games
plays single player with others
some games need more focus than others
some PC gaming
sometimes mobile (tablet phone)
Tends to play games in short bursts
time commitment and organisation a barrier

Preferences

adventure games for longer time periods
avoids too much conflict in games
casual games for boredom
casual games to kill time (waiting)
casual mobile games - no sense of achievement
conflict - anything with quick reactions
dislikes being rushed or stressed
dislikes casual mobile games
dislikes fighters
dislikes FPSs usually
dislikes gore
dislikes grinding
dislikes gun-only interaction
dislikes guns
dislikes hard games
dislikes having to repeat sections.
dislikes long tutorials
dislikes obvious story telling or sign-posting
dislikes PvP
dislikes responsibility in MMOs

dislikes sports games
dislikes stealth games
dislikes strategy
dislikes too much action
dislikes weapons
doesn't like being spoonfed
doesn't like combat brawlers
doesn't like 'heavy' experiences
doesn't like multiplayer
doesn't like not being in control
doesn't like transmedia
exception to local multiplayer
fast action in multi
FPE lover - hates conflict
freedom of choice
games give chance for empathy
JRPGs
lack of empowerment affected enjoyment
lack of variety of actions a negative
length 20 hours max
likes 3rd person action-adventure
likes adventure games
likes arcades
likes being surprised
likes casual mobile games
likes character details
likes character-driven stories
likes control
likes driving games
likes emotional games
likes exploration
likes fighters
Likes FPEs
likes FPSs
likes FPSs with good multiplayer
likes FPSs with good story
likes games hard
likes longer play sessions
likes open world games
likes post-apocalyptic scenarios
likes racing
likes sci-fi
likes sim driving games rather than arcade
likes some creativity within game
likes something that's 'sophisticated'
likes story-based games
likes thinking puzzles

likes to complete games
likes to learn a new skill
likes variety
likes variety of deaths!
likes walking simulators
main interest is story and exploration
mobile gaming less intense than PC
motivation was IP
multiplayer changes preferences
NOT completionist
PC tech too expensive - uses console instead
physical artefacts adds to experience
physical media heightens experience
prefers intellectual challenge over mechanical challenge
prefers physical media
prefers real world setting
prefers shorter games
prefers single player games
prefers slower paced games
prefers solo play to be slower
prefers strategic over action play
puzzle games for longer time periods
quality of graphics important.
replayability desirable
replayability important
size and time to install a barrier to play
story games for longer time periods
story important
tends to like triple-A
thought of horror games better than playing them!
tolerates difficulty for good story
unusual combat mechanics
visuals important
wants to be entertained
wants to be in control of progress in game (MMOs)
would like pacifist options

Purchases

attracted by art style
chooses for interesting design
concept is important
listens to videogames podcasts
mainstream media coverage
podcasts inform buying decisions

positive feedback important
price vs concept and interest
setting and story important for purchase
Sometimes uses Lets Plays to inform purchases
unique premise
uses personal recommendation to inform purchases.

Requirements

familiarity allowed engagement
Familiarity with game makes it less intense.
games do not need fancy graphics.
likes stealth games
more energy needed to play game
need to care about characters
Needs to have 'feeling' of being able to influence game
prefers to create than play others creations
skills needed just to play games

Storytelling

actively participating in story
aware of significance - storytelling
different relationships
facial close ups
games different type of storytelling
hardness choice is to support story narrative
humour contrast with tragedy
Interactivity covers up bad story-telling
motivated to fill narrative gaps
non-verbal communication
obvious story telling in games is not so bad
performance of vs being told story
player constructs story
players versus role story
relationship central to story
small details
story through performance
story told with mechanics
thinks most games have obvious plots
violence needs context

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999
Abzu
Alien Isolation
Assassin's Creed
Batman Arkam Asylum
Battlefront
Bioshock
Bioshock Infinite
Brothers
Call of Duty (COD)
Canabalt
Cart Life
code realize (game)
Dark Souls
Dead Space
Dear Esther
Destiny
Device 6
Devil May Cry
Dragon Age
dys4ia
EGTTR
Ethan Carter
Fallout 4
FIFA
Final Fantasy
Final Fantasy XIV
Firewatch
Gemini Rue
Gone Home
GTA
Halo
Heavy Rain
Her Story
Hohokum
Hotline Miami
Interested in That Dragon, Cancer
involved family (one-off)
Journey
Last of Us
Likes Her Story
Likes SOMA
Mass Effect
Minecraft

Monument Valley
Never Alone
No Man's Sky
Overcooked
overcooked (game)
Papers Please
Pixel Dungeon
Platinum Games
Pokemon Go
PoP SoT
Portal
Quantum Break
Red Dead Redemption
Republique
Rymdkapsel
ScummVM
Shivah
Slave of God (game)
Sonic The Hedgehog
Spider
STALKER
Stanley Parable
Super Meat Boy
Sworcery
System Shock 2
TF2
That Dragon, Cancer
The Beginner's Guide
The Path
The Wolf Among Us
To The Moon
Tomb Raider
Uncharted
Until Dawn
Waking Mars

World of the Game

abstraction of world makes it safe
environmental narrative
ambiguous environmental narrative
environmental narrative heightened affect
game worlds as safe space
Gone Home - setting
immersion in world
interactions needed to build world

real world = easier to connect
world building

Appendix B

Codes from Second Pass (Line-by-Line) Coding for Chapter 5

The following codes, organised into categories, resulted from second round of line-by-line coding of interviews.

ambiguity

appreciating selective and purposeful ambiguity
citing Hotline Miami as good ambiguous narrative
citing RDR as good use of narrative or character ambiguity
comparing ambiguity between Inside and EGTR
defining 'satisfying' vagueness or ambiguity
enjoying ambiguity
enjoying being deceived a little
finding it difficult to name ambiguous gameplay
struggling to describe FPE-type games

Characteristics or history of participant

accepting of anonymity
Age 30
associating game play with relationship break up
being more vulnerable to child related trauma after becoming a parent
challenged by need for quick decisions
claiming challenge can be thinking or reactions based.
connecting problems with crying to bullying in childhood
crying during podcast on loss of child (TDC)
dealing with negative perceptions about games from family.
differing religious viewpoint creating more emotional distance for player
discovering storytelling through games

distinguishing between competitive and non-competitive feeling games
donating to games they like (itch.io)
dwelling on nostalgia and childhood associations
empathising with others who've lost children (as a father)
explaining how childhood affects current preferences
family preference of strategy and educational games
feeling alienated by certain religious practices such as prayer meetings (TDC)
feeling guilty for disparaging TDC content
feeling that symbolism of experience was lazy and overly obvious
finding creepy games difficult to play alone
finding that parental link add emotional dimension to Fallout 4
having restricted access as child
identifying team work as very emotionally resonant for them.
interested in asking me questions
linking games to life events
living seperately from parents.
making friends with alumni of master programme.
parental concern over effect of videogames
picking up videogaming later in life
playing strategy games as a child
playing videogames as a family
presenting self as a 'hipster'
puzzled over difference in emotional connection between game and podcast
recognition of potential value of videogames from family
relating to childhood experiences (nostalgia)

remembering environmental narrative from Portal 2
remembering games as looking better than they were
roleplaying using forums, based on trust
showing a history of having emotional connection to characters in RPGs
showing awareness of history of RPGs
showing preference for art games
switching setting for roleplay
thinking LOU as favourite game is unoriginal
using prior publicity to inform purchases
using web-shorthand
very interested in interview
waiting to purchase game (i.e. not on release)

Comparisons to other media

acknowledging quality in film
advocating games as an emotionally powerful medium
believing that commercial success is required for recognition
believing that recognition required before medium grows
believing videogames can be more evocative than other mediums
claiming implied narrative is particularly suitable for games
comparing characters in LIS to those of TV
comparing emotional connection with game and podcast (TDC)
comparing evolution of games to that of poetry
comparing narrative potential of arcades to that of sports
comparing variety of stories across different media
contrasting challenge in FPE games with other mainstream titles
defending games as underrated for storytelling
experiencing more intense and longer lasting emotions from games
experiencing stronger emotion in games than film
feeling closer to characters and environment than film or lit
feeling control over pace of game
feeling emotion from games more personally than from film
feeling responsibility for what happens in a game

finding playing a game more personal than watching a film
games have more dimensions to act on the emotions
increasing expectation of medium
inferring film and lit. usually more emotionally engaging
lacking confidence about rate of maturation of videogames
making a favourable comparison to film
making comparison to film and literature
making contrast between storytelling possible in games and other forms
reflecting that games get more exposure in media these days
stating games are not recognised as being capable of emotional engagement.
unfavourably comparing games to books and film
using lesson from other media in games
viewing evolution of mediums as iterative of others

Control

abstraction more important than control (overcoming phobia)
appreciating novel controls
citing choice and control of progression as plus points
enjoying control and variety
feeling control over experience
feeling control over how story unfolds
feeling restriction in movement
highlighting use of controls to convey loss (Brothers)
overcoming fear through increased control of avatar
personalising the experience
preferring to put own interpretation on events, rather than being told narrative
relishing opportunity to explore an area

Identification

caring for characters through familiarity with voices
contrasting 'being' and 'being told about' avatars
distinguishing between games set in real world and those in fantastical settings
distinguishing between small, quiet, mundance and

large, epic, loud events
empathising with need for community by parents and family (TDC)
identifying with protagonist and characters
lack of context may have hindered emotional engagement
not being able to relate to situations far from their own experience

Immersion

becoming immersed in world through small details
complaining about slow movement and intrusive mechanics
connecting because of 'authenticity'
expecting the diegesis to respond as if player is character
feeling grounded in another world
feeling of a space being 'real' through interactivity and env. storytelling
feeling that slow movement can be annoying in a game
feeling that small mechanical details give depth and reality to diegesis
finding obvious symbolism to be a barrier to engagement
finding that game stylings make emotional impact less
finding themselves distanced from subject through game's stylings
giving example of low-level but engaging style of interaction (Gone Home)
needing detailed interaction in environment
needing details of world to make it feel real
needing to be able to touch things in a game world for it to feel real
prioritising presence in games
seeing how details of diegesis ground the player
struggling with limitations of interactions in the environment
surprised at how immersion can be increased with lower fidelity graphics
using videogames to escape real world issues

Mechanical challenge and agency

accepting mechanical challenge in short bursts
appreciating use of mechanics to help players assume role
avoiding games of mechanical challenge
claiming challenge isn't integral to gaming experience
comparing nature of traversal in Fallout4 and EGTRR
confused by density of fighting games
contrasting games where you're against something with those where you're not
contrasting when your interactions are meaningful and when they're not.
distinguishing between hand-to-hand combat and guns
downplaying importance of mechanical challenge
enjoying focus on details and exploring details through mechanics
explaining how mechanics help unfold story
explaining that action sequences are a deterrent
explaining that guns are boring
exploring details through mechanics
finding difficulty a deterrent to play
identifying scrap collecting as key activity (No Man's Sky)
identifying shooting as a deterrent
struggling with controls and requirements of action game

Motivations and Desires

admitting that shooting can be satisfying.
anticipation of VR
appreciating unrestricted exploration
associating stealth games with heavy punishment
assuming they wouldn't like MMORPGs
attracted by distinct colours and art style
attracted by setting
attracted to a game by topic choice
avoiding being a completionist
avoiding FPSs due to lack of story
avoiding games with PvP

avoiding games that involve body horror	interested in story arc and progression
avoiding hardest levels of difficulty	inventing extra dynamics or rules in local group setting
avoiding more accurate representations of scary situations	irritated by less than 100% completion.
avoiding strategy games	lacking interest in sports to play sports videogames.
being scared of time commitment for larger games	liking 3rd person action-adventure games.
bored by lack of varied actions in FPSs	linking a place to certain feels or minds
choosing games dependant upon mood	mechanics not reflecting story arc
choosing games for design significance	motivated by freedom of movement and curiosity
choosing hard difficulties to support the diegesis	needing plot to pull them through game
choosing hard difficulties to support the narrative	needing time to examine narrative and characters to become fully involved
desiring more options to deal with situation	needing to care about characters to become engaged in story
disappointed at lack of games with good pacifist options	not enjoying psychic themes in games, generally
disliking multiplayer	not wanting constant tension in a game
disliking pressure or stress in early moments of game	not wanting to be cast in the role of 'saving the world'
dismissing non-violent options if they can't always be used	not wanting to spend too much time on one game
divining 'spirit of a place'	noting and disliking contrast between beauty and violence
empathising more due to higher difficulty	overcoming genre dislikes for story or social component
enjoying retrogames as well	perceiving mobile games to be casual time-fillers
enjoying visual novels (Code Realize)	preferring games that need less skill to progress in
experiencing disconnect between mechanics and narrative	preferring a strong story
expressing strong interest in open-world games	preferring emotional games
feeling concern and protection	preferring exploration with unusual combat mechanics
feeling curiosity at start of game	preferring FPE games
feeling surprise, especially in tutorial	preferring FPSs with story
feeling that mechanics lack context	preferring games that are played alone
feeling, happiness, excitement, ambition	preferring narrative-focused games
finding challenge in dialogue options	preferring short(er) games
finding long tutorials annoying	preferring shorter game with varied emotional arc
finding mobiles games too shallow or casual	preferring slower, more strategic games
finding real-world scenarios more emotionally engaging	preferring 'smaller stories' about specific people
finding real-world scenarios more interesting	preferring to complete games
finding that context can be more important than mechanics or genre	preferring to play actions games with others, rather than alone
giving measure of engagement in time (hours played)	prioritising setting and story for purchase value
gradual changing of preferences	prioritising world and characters over everything else.
having options for solo and multi-play in same session	realising that FPE players may not like shooting mechanics
highlighting importance of emotional challenge	recognising some games need shooting mechanic
hoping to play 'difficult narrative' game (TDC)	relating preferences to home situation (children)
identifying protagonist in Mass Effect as 'empty protagonist' for projection	relating to safe space through stylised art and music
interested by mystery and ambiguity	

resenting forced use of violence (Bioshock)
resenting sudden appearance of gore
responding to calls to 'help' more than calls to compete
reversing preferences in a social setting
roleplaying is important
seeing colours as indications of fantasy element
seeking range of emotions
sharing gaming experience changes preferences
showing greater interest in games that force you to play a role
showing preference for AAA
showing preference for fighting and racing games
showing preference for FPE games on Steam
showing preference for story-based games
showing preference for survival horror games
showing real (non-work related) preference for visual novels or JRPGs.
showing strong preference for character driven stories
suggesting the FPE players do not like conflict.
taking responsibility for mistakes in gameplay
tending to play games on 'harder' difficulties
touched by good writing and music
wanting others to share the same experience
wanting to feel threatened in game to support diegesis
wanting to get lost and immersed
wanting to get lost in a world
wanting to know everything about a story or world
wanting to replay a series of games to see different consequences
watching preferences different to those of active play

Narrative Agency

appreciating details to understand characters
appreciating story unique to medium of games
being interested by ephemera, narrative and embodiment
comparing environmental narrative of Fallout 4 and EGTR
constructing own story
constructing personal interpretations
disappointed by games not living up to promises (outcomes)

enjoying how different choices affect outcomes
enjoying use of narrative space to come to own conclusions
equating power of environmental narrative with that of imparted narrative
explaining challenge of interpretation of actions in game
explaining how difficult choices heighten engagement
exploring all possible outcomes to different decisions
exploring narrative as well as physical space
exploring to uncover more story
feeling excited by being allowed to piece together story
finding significance in small details of plot
finding storytelling in Gone Home to be new and interesting
grouping Bioshock with FPEs because of storytelling style
interpreting and personalising experience
making their own connections and associations
narrative agency (possibly)
noticed small details making a big difference
observing how people create their own stories in arcades
piecing together characters from objects in the world
preferring to work things out for themselves
providing narrative context to motivate player to construct story
recognising good story-telling needs to convey significance of parts
seeing challenge as something that can unfold in players head
seeing challenge from 'doing' or from 'understanding'
seeing universal human issues through mundane details
stating difficulty of using voice and digital acting to convey good implied narrative
unravelling story in active way

Play habits

avoiding distraction for longer more focused play
being frustrated with limited PC hardware
choosing games for deeper emotional engagement
enjoying co-op elements with friends

enjoying Witcher 3	playing mobile whilst commuting
exploring environment to gain advantage in game	playing mostly on PS4
feeling disappointment with casual mobile and browser games	playing NES
feeling disappointment with casual mobile games	playing occasionally on mobile or handheld
finding game through discussion	playing on Android
focusing only for short times due to stress	playing on console and mobile
frequently playing on dedicated handheld	playing on consoles
gaming habits differing depending on who's available	playing on PC only for special game or friend
lacking a sense of achievement with casual mobile or browser games	playing on PC sometimes.
linking strength of interest to price they'd pay for a title	playing on PS4
losing momentum whilst playing a game	playing on XboxOne
mainly playing alone	playing PS3 occasionally.
mainly playing on consoles	playing short games
mainly playing on PC	playing using Steam
mainly playing on PS4	playing with partner
mainly playing via Steam	plays deeper mobile games as well as casual
mobile as distraction when other devices unavailable	preferring physical media
NES sharing with younger relatives	rarely playing games alone
nostalgia affecting choice of format	rarely playing on mobile.
not using laptop much (under-powered)	recently bought a Vita
noting that older players have less time available to play all the games they'd like to	requiring release on PS4 to play
playing a range of iPhone games.	reserving longer periods of time for solo play
playing alone in the evening	sharing casual mobile gaming with extended family
playing at weekend	sharing controller or spectating
playing casual games most days and evenings on mobile	showing strong preference for FPE games.
playing casual games sometimes on mobile (android)	sometimes playing mobile or tablet games
playing console evenings and weekends	tending to avoid FPSs
playing content-rich titles on iPhone as well	trading copies of game with friends
playing for 4 hours a week during term-time(working) (Nodes)	transferable techniques from one casual game to another
playing for variable lengths of time	using handheld at home
playing FPE games	using handheld whilst travelling
playing games for work and play	using initial concept or buzz around game to inform purchases
playing handhelds during international travel	using mobile phone for casual games
playing in the evenings	using PS4 for main console gaming
playing indies on console rather than PC due to equipment issues.	using reddit or newsletters to find out about releases
playing mainstream and indie games	using Steam and Itch.io
playing mobile as distraction whilst travelling	usually playing with others (single player)
playing mobile games during commute	waiting for and loving Uncharted 4
playing mobile games on the toilet	wanting to pay less for games if possible

Pleasures

acknowledging graphical fidelity
 admiring personal story-telling of developer (TDC)

answering the questions games pose	feeling curiosity about world (EGTTR)
anticipating digital play through physical artefacts	feeling dread during exploration
appreciating having space to make interpretation	feeling freedom in movement
appreciating how high-res assets enhance gameplay	feeling freedom to examine narrative and environment when there's no combat.
appreciating light humour	feeling joy when discovering small details
appreciating more than just jump-scares.	feeling nostalgia for retro graphics
appreciating original gameplay	feeling rewarded for effort of learning
being impressed by moral complexity	feeling satisfied with helping someone
being impressed by voice acting	feeling that expression of grief was inauthentic
being interested by combination of horror and story (TTM)	finding cutscenes to be appropriately-used.
bored by slow pace	finding everyday settings refreshing change from fantastical environments
citing multiplayer games as sites of emotional depth	finding it unusual to play a game about 'ordinary people'
complementation of mechanics and narrative	finding satisfaction in completionist gameplay
contrasting cut-scenes with env. storytelling (passive vs. active)	finding the voice acting to be low quality
contrasting kinds of relationships in games	forming bond through shared experiences
critiquing developers attempts to be artistic	getting more value and satisfaction out of slower games
critiquing TDC expression of faith	learning a new skill and progressing
crying at points in game (TTM)	noticing changes in colour palette and music
describing different uses of perspective	opening up concept of what a game is.
enjoying characterisation of Life is Strange	perceiving TDC as trying too hard to be artful
enjoying exploring different world	perceiving that family is acting out their grief
enjoying feeling of presence in a place	playing Pokemon Go socially.
enjoying FPEs	processing grief
enjoying freedom, exploration and control	reflecting on the human condition
enjoying how much is communicated through combat (Dark Souls)	remembering funny memories from gaming together
enjoying listening, thinking and solving.	remembering printed maps for games
enjoying multiplayer games (arcades every weekend)	reminiscing about childhood using physical artefacts
enjoying seeing quick and dramatic effects of choices	savouring due to short length of game
enjoying some more 'indie' styled games	sharing experiences with another
enjoying spectatorship in arcades	starting conversations spontaneously when gaming together
enjoying the environmental narrative of TLOU	viewing challenge as varied
enjoying use of narrative space to come to own conclusions	viewing in 3rd person helps to distance from difficult situation
enthusing about SOMA	
experiencing joy of exploration of game world	
experiencing the designer's input as emotionally authentic	
explaining appeal of complex side-stories and subplots	
extolling story-telling and horror as good emotional experience	
feeling a sense of freedom	
feeling aesthetic wonder	
feeling bittersweet at surprise conclusion	

Specific Games

appearing to dislike vagueness in EGTTR
 Bioshock possibly stronger WITHOUT shooting
 Brothers
 Cart Life

characters of EGGTR and Firewatch good.
citing Fallout 4 as good example of how to control progress and engagement
citing Her Story as example of 'interesting' game.
classifying EGTR as a narrative vehicle rather than a game
comparing Abzu to Journey
comparing characterisation in LIS to EGTR
comparing EGTR open world narrative with linear narrative
comparing 'feels' in FP games (Bioshock and Gone Home)
comparing VEOC detective mechanic with other games that do it better
connecting with EGTR due to mysterious yet familiar setting
connecting with EGTR due to social-economic background
critiquing family's voice acting
disparaging writing in EGTR
enjoying challenge of finding everything in Gone Home
enjoying EGTR for music
enjoying EGTR for mysterious but familiar environment
feeling that EGTR exploration felt forced
feeling that VEOC detective mechanic was problematic and clumsy
feeling that VEOC had unnecessary game controls
feeling that VEOC mechanic was an artificial delay or spacer
finding game enjoyable but not the best
frustrated by inclusion of 'unnecessary' game elements (to FPEs)
Gone Home
Gone Home worse if it had shooting
highlighting story as main difference between EGTR and other FPEs
identifying pace as a barrier to enjoyment (EGTR - too slow)
Journey
likening Bioshock to games with strong narrative
naming games that do exploration well
playing EGTR, Firewatch and Bioshock Infinite
playing through Gone Home in one sitting
Pokemon Go
postulating that EGTR would be better with faster

pace
recommends walking sims to Bioshock lovers
remembering Dear Esther
selecting Gone Home as good character driven game
showing how Gone Home makes player take on a role that might be very different from their own
Slave of God
struggling to empathise with different religious beliefs
suggesting a faster pace would have helped EGTR feel better
Team Fortress 2
Threes (Game)
To The Moon
Until Dawn
War and Order

Strategies and sites for engagement

acknowledging how personal background affects judgment of game
acting out stages of grief on controls
appreciating having space to make interpretation
being interested in 'the mundane'
believing that crying isn't all there is to emotional games
claiming brotherly relationship unusual vs. romantic ones
claiming implied narrative is particularly suitable for games
comparing different stories that can be told in games (player vs. character)
contrasting artistic process and game development
describing how detailed graphics can convey implicit emotion
distinguishing between different kinds of emotional engagement in games
empathising and identifying with fictional character who hasn't been seen yet
empathising with character through good user experience
emphasising need to care for characters
encouraged to explore because of less action
encouraged to explore due to lack of threat.

engaging through inferences made from environmental narrative	engaging
evoking memories of childhood experiences	finds FPE games to be very emotionally evocative
experiencing a cohesive end to end experience	forming associations/allegories with RL situations
experiencing greater range of emotion is more realistic	having emotional connection through audio
experiencing grief through 'dead' controls	highlighting music as key for emotion
experiencing heightened emotion through control scheme	increased empathy through changing descriptions of objects
exploring nature of phobia within safe space	inserting self into diegesis
expressing interest through action	interested by different use of 'brothers' (children)
familiarity with diegesis	investing more emotion because of more control
feeling a conflict between pace and basic mechanics	kept engaged by strength of fictional world.
feeling able to experience emotion better through good user experience	kept engaged by strength of writing
feeling as though actions affected later events	noticing that brotherly relationship similar to other co-operative ones.
feeling concern and protection	overcoming fears through diegetical abstraction
feeling conflict between exploration and survival	overlooking non-game aspects due to good narrative
feeling conflicted about in-game moral choices	performing a story that is not your own
feeling emotional power through narrative contrast	performing AS an in-game character
feeling emotional resonance with topic	performing as character through contextualised mechanics
feeling intimate connection with developer through exploration of game world	positing subversion of stereotypes as a powerful device
feeling life-stage embodied in characters	potentially experiencing the characters' emotions
feeling responsible, even though they had no choice.	preferring lower fidelity assets as sites for emotional engagement
feeling safe with 'otherworldly look;	raising possibility that mundane could be source of strong emotional connection (Portal 2)
feeling stronger emotion because of mechanical changes	raising possibility that surprise would have increased emotional impact
feeling that game reflects own life events	relating to characters their own age
feeling that mechanics are set in context	seeing perspective of storyteller on events as important for emotional engagement
feeling that players are becoming more interested in 'others' stories	seeing potential for emotional experiences from social structures
feeling that small details have more emotional resonance than big allegorical events	sharing parental identity leading to emotional resonance
finding experiments with mechanics in small projects (itch.io)	showing that incidental environmental narrative can be very impactful
finding games about life experiences	spending time with good characters increases emotional connection with them
finding good use of controls that increases engagement	stating that use of mechanics for emotion is unusual
finding mundanity is important for emotional connection	suggesting stronger stereotyping as a device to help identify and care for characters
finding portrayal of mundane to be more emotionally engaging than large, epic fantasies.	surprised by need to disobey instructions in order to play (The Path)
finding portrayal of raw emotion unusual	surprised by use of controls to convey emotion
finding retro graphics useful for stimulating imagination	taking action personalises experience
finding use of letters and notes in game to be very	

taking on role of investigator
using detail and nuance to convey story different from ours (immigrant in Cart Life)
using details and mundane to communicate
using mechanics to tell story (cibele and dys4ia)

defining emotional challenge
denigrating the writing in Call of Duty
distinguishing between different storytellers
feeling that games are not about ordinary experience
identifying skill of company (Valve) over others in using silent protagonist
listening to podcasts
making distinction between story itself and portrayal in-game

UNCLASSIFIED

acknowledging difficult of emotion through mechanics
acknowledging history of emotional depth in games
admiring challenge of making a game that's fun for spectators
appreciating the design without liking it.
assuming bad rather than purposeful design
comparing action games versus slower-paced games
comparing attempts of premium asset games to connect with uncanny valley
comparing blank slate characters to 'formed' characters
defining conflict as needing quick reactions

observing diversification of games' subject matter
questioning use of word 'challenge'
remembering 'A Rape in CyberSpace'
seeing commercial considerations as encouraging use of content
stating most games allow you to create your own avatar
stating most player characters are blank slates for projection
thinking about meaning of challenge as new concept
unaware of resurgence in IF

Appendix C

Early codes from Chapter 6

List of all codes and categories produced during earlier rounds of open coding in chapter 6.

Other media

viewing all media as equally contemplative
unsure of how it would feel in different media
unable to think of film/TV fiction
seeing film as empowerment to escape disempowerment in RL
regarding films and literature and equally powerful
relating games/work interests to another medium
recognising double standards re: lit and games
rarely leaving book or film incomplete
reading sci-fi
quitting films less due to time taken to finish
observing that all media has lots of filler
learning more from documentaries rather than stories
hoping games will 'catch up' to media
having trouble seeing how media has affected them
having behaviour changed by video and film
finding mixed affect experiences in other media
finding games predictable
finding games less surprising
finding commitment to TV/Video series overwhelming
feeling happy that board games are more popular now
equating normal read time to short game time
denying games any special status
emphasising narrative in books
comparing with cinema
enjoying journey to solution to puzzle
being aware of wanting validation of games from outside
applying different values to games and books
acknowledging quality range in books
feeling that games can result in stronger experiences

than film

Play Habits

using PC for more complicated games
using mobile formats whilst travelling
using mobiles games to fill time
using console for solo play
using console games to connect with friends
sharing single player experiences with others
sharing play with partner
needing guidance to think about gaming
playing sporadically
playing on WiiU
playing PC games mostly
playing regularly, according to other commitments
playing on consoles mainly
playing on consoles socially
playing in comfort
playing in short slithers of time
playing in the evening mostly
playing mobile during travelling
playing mobile on the toilet
playing a few hours at a time
playing AAA titles in the past
playing as a family
playing at home
playing at home alone and with friends
playing consoles for social connection
playing for a few hours a day if interested
playing for medium lengths of time
playing for short lengths of time
playing frequently
playing games in various contexts
playing games is main hobby

only playing games on Nintendo Switch
mainly playing on handhelds
going without playing for long periods of time
finding occupation changes play habits
breaking up work time with play sessions

Self-perception

using hours as measure of enjoyment
understanding contradiction in preferences in play length
trying to understand how they game
showing embarrassment at emotion in game
replacing alcohol with board games
recognising limits of vocabulary
not being able to cry in the past (male gender roles?)
identifying with avatar
identifying with indie sub-culture of games
identifying as casual gamer
identifying with mage characters
identifying as an imaginative person and storyteller
highlighting two identities
finding it hard to understand cruelty
feeling guilty for incomplete games
crying at sad music
being emotional more easily as an adult
checking social media and online for games news
disliking idea of challenge of self
always had my head in the clouds

Preferences

viewing popular games as *needing* fun
wanting games to deal with 'issues' more
wanting games to have moments to talk about
wanting games to make him cry
wanting to feel full range of being human
wanting to figure out story for themselves
wanting to play socially if money allows
wanting to relate to diegesis
showing preference for mechanics over story
showing preference for story
showing aversion to shooters
seeing mixed affect as an aspiration for games
preferring a return to franchises after a break

preferring console to computer
preferring controller input
preferring less prescriptive experiences
preferring less serious films
preferring 'pull' narrative
preferring short games
preferring single function of hardware
preferring Treasure Action Games
not seeking power fantasy or clear story
appreciating likeable characters
liking emotional or cognitive challenge
liking multiplayer on- and off-line
liking space to interpret story and world
identifying PC games with work
engaging in story
appreciating space for interpretation in stories
appreciating strong visual style
appreciating varied and unpredictable gameplay
associating emotional variety with heightened existence
escaping into a story
Escaping into a video game
exploring being someone else
exploring games emotionally and existentially
exploring new worlds
exploring physical and cognitive spaces
fascinated at emotional moment from action game
feeling deterred by obvious attempts at emotion
feeling directed by controlled ambiguity
feeling fear
feeling immersed
feeling intimidated by size of AAA releases
feeling joy in achievement
feelling the need for new material
finding cinematic games emotionally engaging
being bored with action based challenge
becoming lost in a character
becoming lost in a story
avoiding mainstream releases
avoiding MOBA games
avoiding unhealthy emotional experiences
choosing games for mechanics over narrative
craving emotional variation
appreciating advanced graphics
appreciating an 'interesting story or premise'
appreciating being given chance to form own interpretation

appreciating clear sense of purpose
appreciating cohesive world
appreciating in jokes in games
assigning more value to games with a higher price
appreciating good writing
appreciating mechanics heavy games
appreciating novelty
appreciating novelty in multiplayer games
appreciating replayability
enjoying narrative exposition IF it's done well
enjoying narrative
enjoying meaningful narrative
enjoying exploration
enjoying environmental narrative
disliking use of cutscenes to tell story
disliking obvious exposition
disinterested in mastery
deprioritising fun

being challenged on what's possible with games
being inspired by videogames
being inspired to enter games industry
being invested in series over long period of time
being made aware of real world ideas
being moved by film scenes close to personal tragedy
being put off by long/big games
books and films just as imbalanced in content as games
associating problematic gamer identity with online competition
associating 'gamer' with fragile masculinity
associating gamers with certain titles
associating gamers with competitive e-sports
associating gamers with right wing politics
associating gamers with up-to-date purchases
associating games with longer play times
assuming many 'gamers' are angry children
counting viewers of streams as gamers

'Gamer' as identity

viewing 'gamer' as a 'broad church'
viewing 'gamers' as toxic
theorising anonymity as contributing factor
stereotyping gamers as interested in violence
stereotyping gamers as not interested in story
seeing gamers as lacking social skills
seeing 'gamers' as obsessive
seeing gamers as identifying with medium differently
seeing 'gamer' issues as product of age/longevity
seeing gamer identity as highly complex
reluctantly accepting how a game has affected their life
recognising popular view of games (wasting time)
owning some negative aspects of being a 'gamer'
not identifying as gamer
identifying as a gamer
feeling ashamed of the term 'gamer'
expecting others to have negative views of gaming
defining gamer as explorer
commenting on lack of public knowledge about games
citing examples of 'gamers' behaving badly
associating message with lack of popularity
being amused by grumpy characters' dialogue
being challenged emotionally

Other past times

videogaming is minor hobby
sharing gaming as main hobby with TV/media/video
enjoying analogue games
enjoying art as past time
enjoying film/tv media
enjoying playing music
enjoying reading
enjoying sports
enjoying board games
using board games to socialise safely
being frustrated when people talk more than play
enjoying new music (Spotify for discovery)
enjoying listening to music
watching TV shows
watching anime
reading on commute
developing own video game
enjoying cultural events
snowboarding

Motivations/Pleasures

viewing mass-market as bland and uninspiring
viewing games as hedonistic entertainment
using storytelling/imagination for transgression
using single player games to segment work time
unable to give motivation for playing
swept up in something grander than one's self
taking you out to a new experience
suspending disbelief
seeking out 'bleak games'
seeing violent gameplay as most important in popular games
seeing value in existing elsewhere temporarily
seeing games as safe space
recognising some people play for story
playing with random online players to achieve goals
prioritising own interpretation over 'right' interpretation
leaving games unfinished
playing to be playful
positing gaming as something bigger than play
preferring ambiguity
playing with back-seat co-op
playing on PC for 'mouse and keyboard' games
playing RPGs on PC
playing smaller indie titles
playing solo
playing narrative games
playing games socially
playing games to relax
playing games whole life
not needing a story to elicit emotion
not playing many RTS games
not playing on laptop
never playing for achievements
motivated by escapism
motivated by experiencing craftsmanship
motivated by intrigue
motivated by learning
motivated by problem-solving
finding low functional challenge as relaxing
finding interactivity leads to immersion
feeling acknowledged and validated
enjoying seeing results of effort
enjoying spiritual feel
eager to explore richness of life

acknowledging boundaries for positive mixed affect vary

surprised by move to teaching from competing

shifting values for WHY they play

replacing competition with teaching

Experiences

viewing writing and gameplay as same thing in games

using Mafia as benchmark for characters

using ambiguity and space to build own understanding

understanding the game 'subconsciously'

surprised by strength of feeling

sharing sadness

setting extra-diegetic challenges for repeated play

sharing avatar's experience

seeing love of developers in city design

seeing game experience as moment to moment

seeing emotional challenge as flavour of existence

re-engaging with forgotten personal issues through gameplay

relating old games to new

remembering novelty of story

reminiscing past gaming experiences

reminiscing about gateway to other genres of game

reminiscing how diegesis felt

relating to mundanity

relating to mundanity in the diegesis

relating to structure of experience

reliving past experiences through gameplay

reconnecting with familiar avatars and characters

recreating family as avatars

reducing games to short moments

realising breaking of link between difficulty and progression

realising systems and narrative can be complementary

recognising difference between fact and recall

realising an 'easy' game still has some skill challenge

reacting to emotional conflict of avatars

not knowing of impactful game

not functionally challenged

making distinction between RL and virtual shared space

making stronger connections to fewer characters	feeling guilty about in game actions
making weaker connections to more characters	experiencing loss
merging of systems with narrative	exploring reimagined real locations
mistaking immersion for agency	failing to finish
learning writing for games from literature	discovering different measurements of 'short'
learning through research of representation	distinguishing between plot and environmental narrative
losing option to see particular story ending	emotions are states not challenges
linking current titles to memories of past (nostalgia)	emphasising action in games
investing in a character	contrasting 'dumbness' of game tender moment
journey > destination in a story	describing game as puzzle
learning from 'slice of life' games	describing usual progression in games
identifying where systems complement narrative	differentiating play from gaming
having trouble thinking of significant games	discerning healthy and unhealthy mixed affect
having enough money to buy new games	comparing narrative with player agency
having expectations not met	constrasting challenge with experience
focusing on poor writing in games	constrasting functional and emotional challenge
frustration because of loss of progress	constrasting linear versus open
functional challenge	associating 'flow' with difficulty curves
feeling impacted by positive/negative contrast	completing game repeatedly
feeling intensity of relationship	buying console on first day launch
feeling less affected due to expectation	citing poor characterisation in games
feeling like choices matter	being impacted due to familiarity
feeling mixed affect	building own network of meaning
feeling mixed affect	changing play style when sharing
feeling moral conflict over ingame actions	changing playing style due to loss
feeling more strongly affected by realism	caring for complex characters
feeling nostalgia	enjoying nostalgia
feeling player emotions being strengthened by story	enjoying quirky mechanics
feeling pressure to finish games	enjoying realistic FPS
feeling relaxed	enjoying sandbox environment
feeling responsibility	enjoying stealth gameplay
feeling sad	enjoying subversion of expectations
feeling sadness as positive experience	enjoying symbolism
feeling sad from ambience	enjoying the discovery of back story to the world
feeling sorrow	enjoying the feeling of power
feeling spectacle and wonder in world	enjoying unpleasant emotions vicariously
feeling stronger emotional connection from gravitas	enjoying unpredictability of systems
feeling sympathy	enjoying moral ambiguity
feeling sympathy for NPCs pain	feeling lack of pressure
feeling awe	
feeling bored with pre-existing sci-fi	
feeling connection due to interactivity	
feeling contemplative	
feeling excitement	
feeling excluded by cost and variety of titles	
feeling frustrated due to lack of expectation	
feeling guilt	

Morality

understanding why desperate people might break law
understanding that not all criminal are bad people

questioning motivation of certain laws
enjoying gun design
enjoying beautiful visuals
enjoying atmosphere
enjoying ambiguity
connecting with interesting characters
connecting family situation with challenging game
diegesis
allowing plot necessity to resolve emotional challenge
choosing power and self-sufficiency

Relationships to others

using PC for social play
valueing richness of human experience
valuing connection with others
using games to connect with friends
using games to 'walk in other people's shoes
quantifying emotions
Making something for everyone is really making stuff
for no-one
putting game in context of current affairs
teaching and learning more often in board games
than videogames
feeling that local multiplayer overshadowed by inter-
net
feeling unease at rise of online play
observing massive inequality in developing countries
understanding range of choices in life not available
to all
feeling privileged in birthplace

GAMES

Red Orchestra OST Front
Lawrence Block
Papers Please
Soul Calibur
Dreamfall
Cribbage with Grampa

Florence
Baba is You
Slay the Spire
Celeste
Hollow Knight
Into the Breach
Virginia
Mutazione
A Short Hike
Her Story
Mario Kart
Night in the Woods
Spiderman
Bitsy Games
Final Fantasy Tactics Advance
Untitled Goose Game
Assassin's Creed Odyssey
Runaway Trilogy
Point and Click Adventures
Clash Royale
No Man's Sky
Division
League of Legends
Journey
Civilisation
STALKER
Metal Gear Solid
Spyfall
Fire Emblem
Pokemon
Professor Layton
Castle Quest (BBC)
Phoenix Wright: Ace Attorney
Fallout
Kings Quest
Ace Attorney
Mafia
One of Them
Nicky Case
A Series of Gunshots

Appendix D

Later Codes and Diagrams from Chapter 6

Initial line-by-line coding resulted in over 600 codes (at this early point, from approximately 33,500 words of transcript). These codes were compared with each other and organised into several thematically related categories/groups. These were:

- Other media: participant's views and experiences about film, literature, art, TV
- Play habits: Where and when participants played games, for how long, with whom on which formats. Often participants had several different 'modes' of play e.g. mobile for short stretches whilst travelling or on the toilet, console for long periods in the evening etc.
- Self-perception: participants views of themselves.
- Preferences: what participants looked for in a game. Certain genres, formats or characteristics that they (dis)liked.
- Gamer as identity: generated in response to questions such as 'What does 'gamer' mean to you?' or 'Would you consider yourself a gamer?' etc.
- Other past times: codes about ways to spend leisure time outside of consuming media (see 'Other media').
- Motivations/pleasures: Why they play games and what pleasures they derive from gaming.
- Experiences: codes about facets of the gameplay experience that doesn't fit into 'motivations/pleasures'.
- Relationships to others: How they relate to other people through games or in games.

'Play habits', 'other past times' and 'self-perception' contained codes that did not seem to compare well with other codes in the data. During multiple sorts of codes they were left disconnected with other groupings, and so were discounted as part of the developing theory and less focus was paid to related questions during interviews. 'Gamer as Identity', whilst of great interest by itself, also did not relate comfortably to other groups of codes, and so these were also discounted as part of the ongoing investigation and completely dropped from the interview guide. 'Other media' was of interest also, but for now did not immediately seem of particular relevance to the study. It did, however, re-gain importance in later stages of theory development.

D.1 Code diagrams from Emotional Exploration chapter

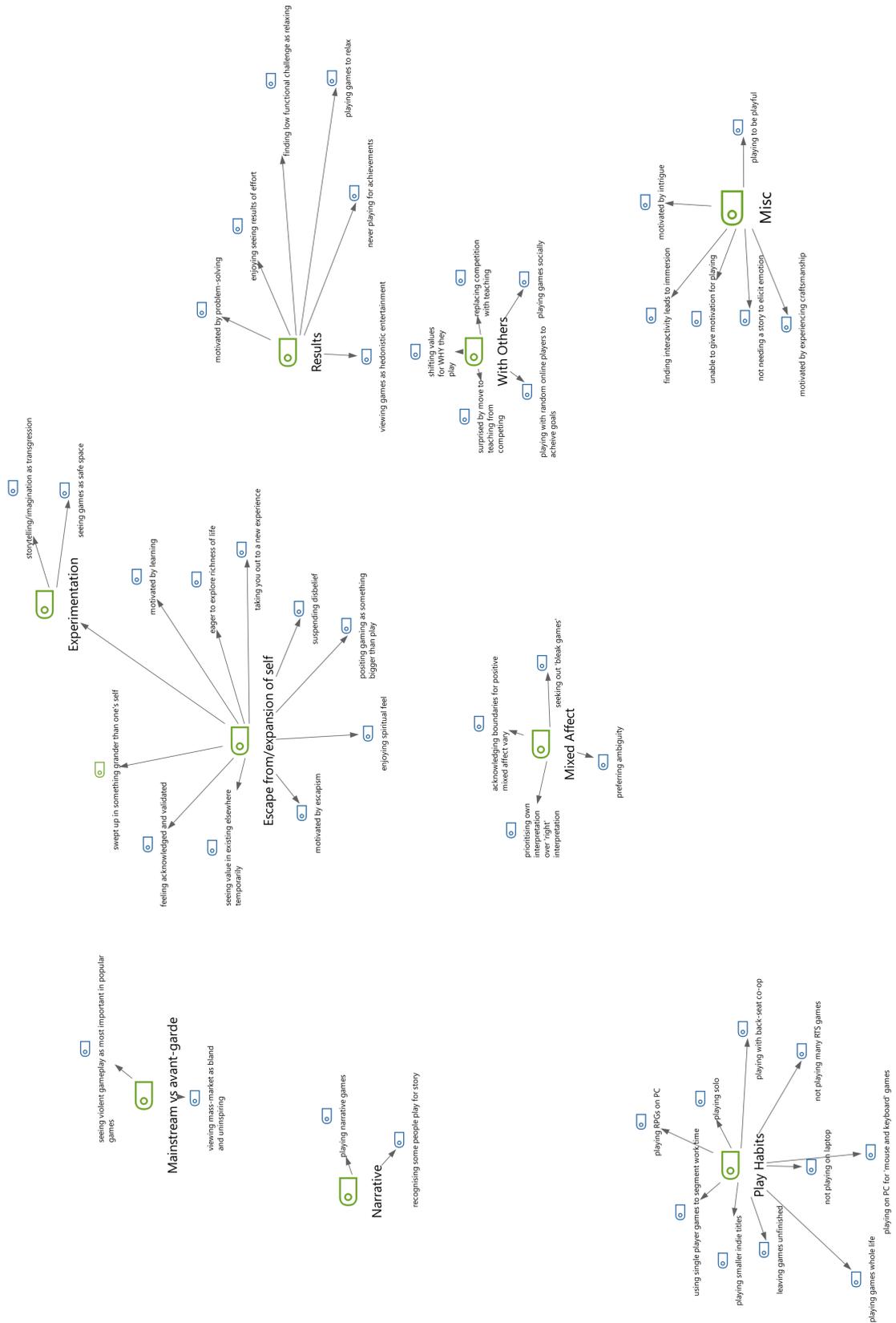


Figure D.1: Related subsets of codes after initial/open coding under 'Motivations'. The 'escape from/expansion of self' and 'mixed affect' sections in particular would be used to form focused codes

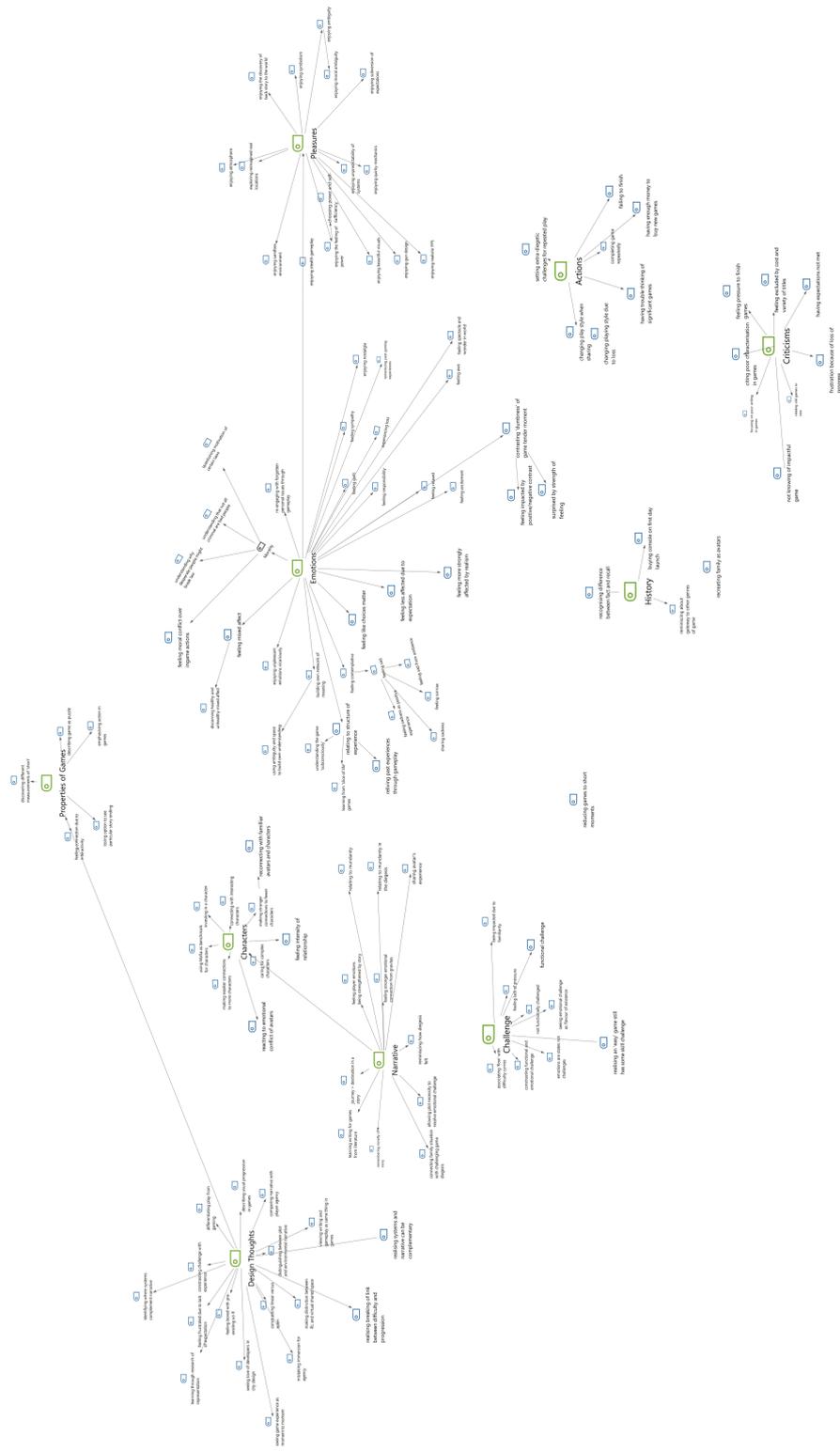


Figure D.3: Related subsets of codes after initial/open coding under 'Experiences'. The 'emotions', 'challenge' and 'pleasures' section in particular would be used to form focused codes.

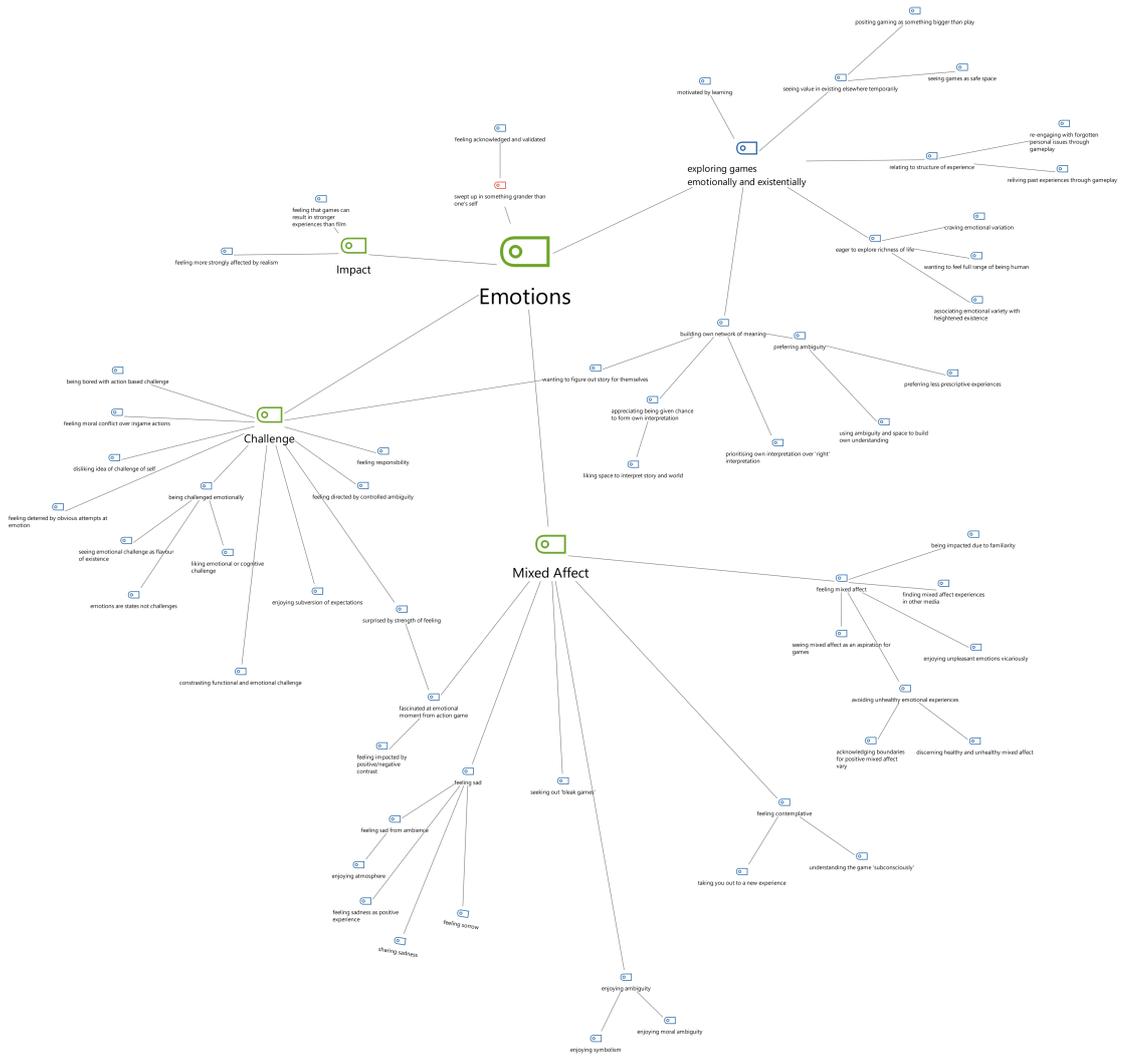


Figure D.4: Emotion Codes compared and sorted relative to one another.

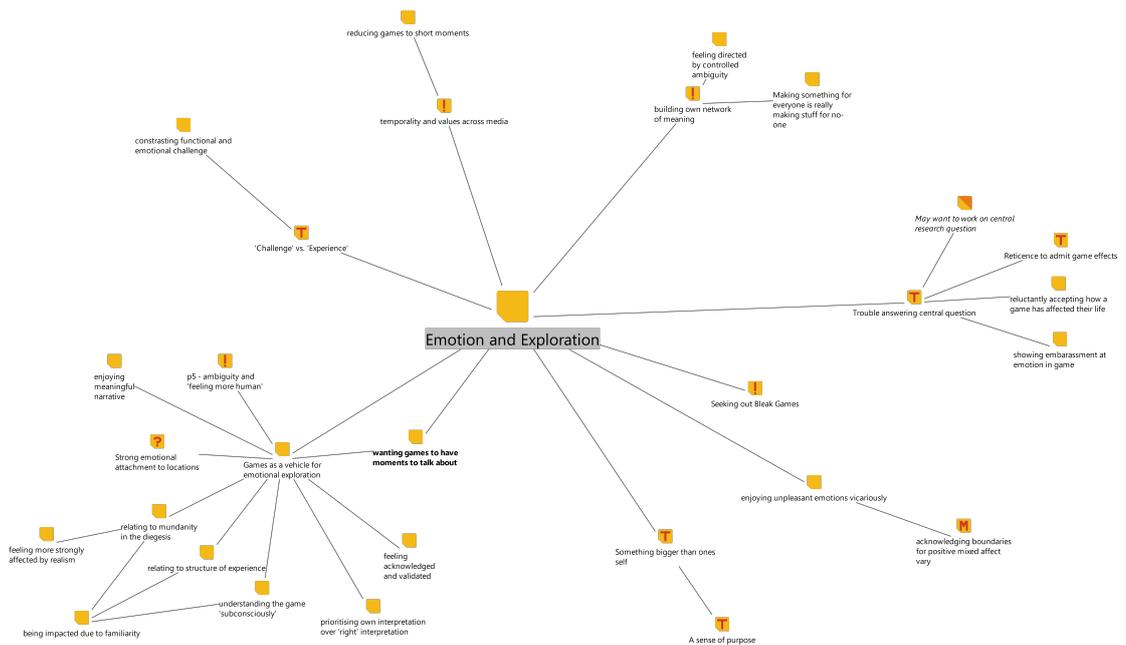


Figure D.5: Sorted memos after interview nine.

